

Garden For India : **A Sustainable Urban Land-use Model**

Climate change, loss of biodiversity, and water and food droughts are alarming signals of the urgent need to develop models that use land in environmentally and socially sustainable ways.

To address these issues and carry forward the ideas of land-use change, **California Native Garden Foundation** (cngf.org), a non-profit based out of Northern California, USA, and **Edible Routes** (edibleroutes.com), an ecologically conscious business based in New Delhi, India, have envisioned a sustainable land-use model to sustain human populations using an integrated approach that restores the local ecology of soils, conserves water, and supports growing global needs for food.

The Vision

These organizations believe that rather than continue to search for bigger technological solutions to the problems that plague our cities and imperil our planet, the sources of sustainability can be found in the biological intelligence of our oldest, most elementary forms of life: the plant. Their vision centers around a biomimic design that draws upon biological intelligence to develop sustainable urban land-use.

After all, where better to get ideas for our long-term vision, than nature itself?

This design emulates the life cycle of a plant. A plant creates its own energy and food, absorbs water, recycles its own waste, and reproduces itself, all while staying in one place. By mimicking a plant's life cycle, cities can provide a sustainable environment that requires significantly less energy to meet all human needs.

Plants provide a point of cyclical connection between the soil, water, air, food, waste, and energy, meeting all their needs without changing geographic location. Soil, air, water, food, waste, native ecosystems, energy, transportation, human health and well-being, and eco-education can all be obtained by observation and replication of a plant's ability to complete this grounded life cycle. And, at the same time, we are expending as little energy as possible, reducing transportation, reducing infrastructure and protecting our local ecology.

Goals of the vision

- outlines an approach toward healthy land-use practices informed by biological intelligence;
- highlights the significance of land management to support the growing global needs for food and fuel;

Sustainability as defined by *Brundtland report*, is a global process of development that utilizes resources efficiently for present and future needs with minimum impact on the environment to eventually improve economic growth and the quality of life (UN World Commission on Environment and Development, 1987). Various international dialogues (recently announced Sustainable Development Goals (SDGs)) on climate change have highlighted the importance of sustainable landscapes as a tool to support local needs and as a source that would provide multiple societal, economic and environmental benefits

- presents strategies to support viable livelihoods through collaboration among multi-stakeholder groups in collective decision-making toward common goals;
- develops a methodology to measure, monitor, and record data so that this model may be replicated in different regional ecosystems worldwide.

CNGF has been working on garden models in Ghana, Africa, having achieved promising results with a network of local partners and strong community support. Also, CNGF is part of a collaborative team that will be implementing an Agrihood (housing developments centered around farms), to be constructed in the heart of Santa Clara, California, which will serve as a sustainable urban village that includes affordable housing for low-income seniors and immigrants.

Having achieved promising results in Africa and a huge support in Silicon Valley, this model is being introduced in India as the “Garden for India” Project that shares the same vision.

Garden For India Project

As a collaborative team, CNGF and Edible Routes will be developing a regenerative farm with teaching gardens on 2-acres of land located in New Delhi, India. The aim is to create a model that demonstrates a self-sustaining environment; it will include a working farm, native landscaping, innovative methods of water conservation and waste management, and a learning center with numerous programs on environmental education and urban farming for kids and adults. This piece of land will incorporate practices that can sequester more carbon, produce abundant food, clean the air, and promote biodiversity. This model for the healthy use of natural and urban resources aims to meet these key objectives: a) restoring local ecology and native plant communities; b) enhancing biodiversity; c) increasing carbon sequestration; d) restoring the connection to nature, particularly through education and training. The key features of this project incorporate a farm based on regenerative farming techniques with teaching gardens for community workshops, kids nature camps and hands-on learning activities. These teaching gardens will include primarily the components of CNGF’s Flagship ELSEE model in San Jose, California.

Deeksha Chopra, Project Manager for this project and a member of CNGF’s International team, believes that this model would work well in India. Due to rapid urbanization that has led to depleted groundwater levels and increased air and water pollution, there is an urgent need to adopt practices to restore the ecology of the land. At the same time, we need to demonstrate that such models are also commercially and economically viable. Therefore, one of her objectives behind this project is to record its environmental and social impact, and understand how these can be replicated in other parts of the country.

Edible Routes Team



From Left: Kapil Mandawewala (Founder, CEO); Anna Zimmer (Farm Manager and Workshop Coordinator); Nabanita "Julie" Bajaj (Operations- Farms & Urban Gardens); Shipra (Accounts); Fazal Rashid (Operations – Farms & Urban Gardens).