ANEW ROOT

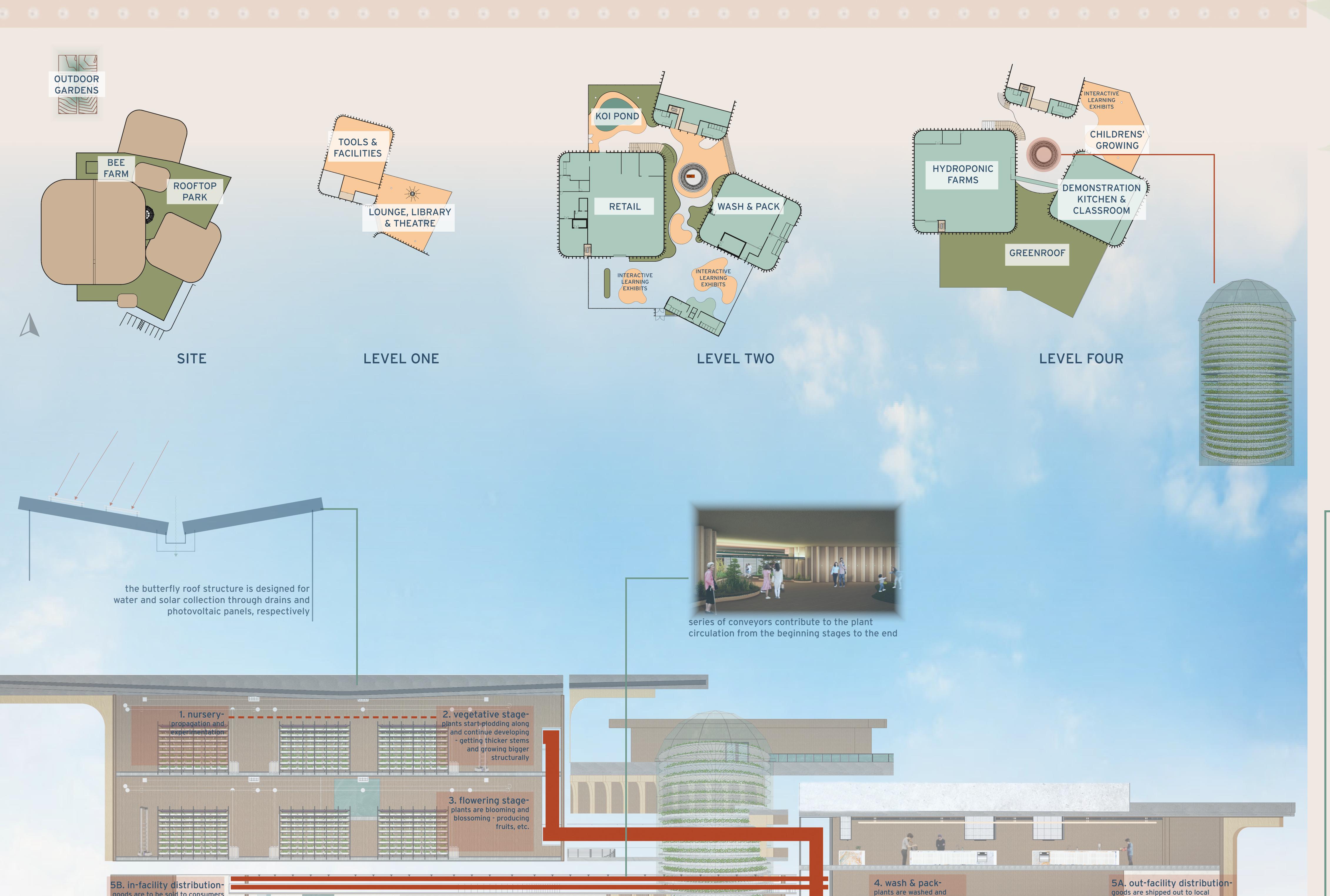
architecture for food

Only 17% of America's land is considered ideal for agricultural purposes. However, traditional agriculture ruins our land in the long run by depleting the soil of essential nutrients. By conserving the land, we can reap its many benefits. To name a few, conserving the land can play a role in reducing air and water pollution, preserving biodiversity, preventing soil erosion, and can aid in sequestering greenhouse gasses. Because land is such a vital resource, we can further preserve it by bringing vertical farming into urban environments. This yields the question:

How can architecture be designed for food production to have an impact on the health of people and the environment?

This project investigates how the benefits of vertical farming greatly outweigh any drawbacks. It examines how traditional, crop and till, agriculture is harming the environment by contributing to climate change, utilizing more than what is necessary of important resources like land and water, and the challenges that growing faces with urbanization and other environmental-related factors. Even further, research explores how urban, vertical farms contribute to the community, and provide more nutritious food to the people at a more readily available time and location. All of these explorations ultimately examine an issue that can be mindfully thought about and implemented in terms of architecture and urban planning.





packaged to be ready for

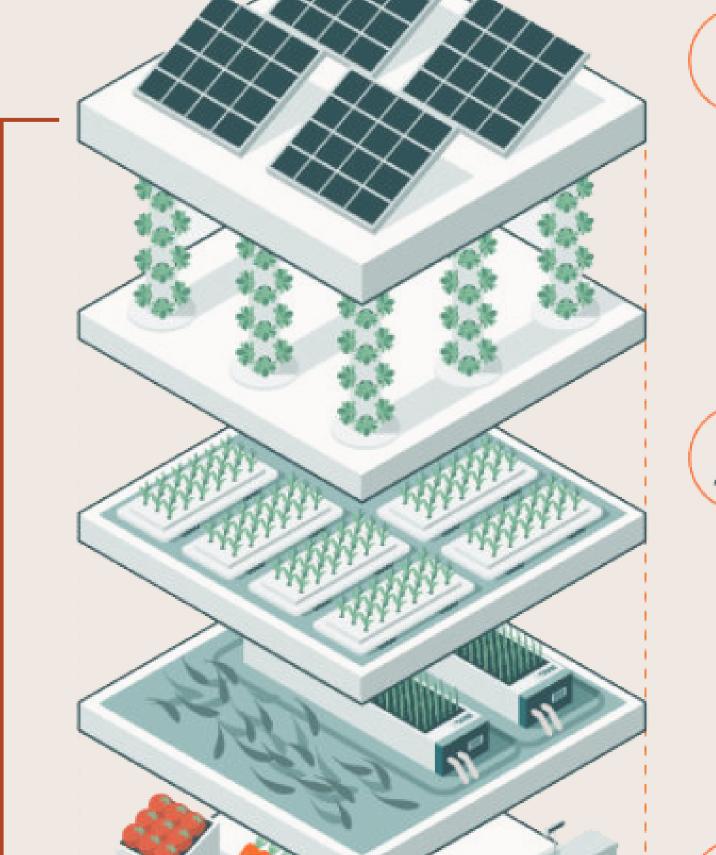
ovide for the facility





Indoor farming requires no pesticides, which in 71% of cases have been found to contaminate soil and reduce biodiversity







RENEWABLE ENERGY

systems require lots of energy

Artificial lighting and climate control

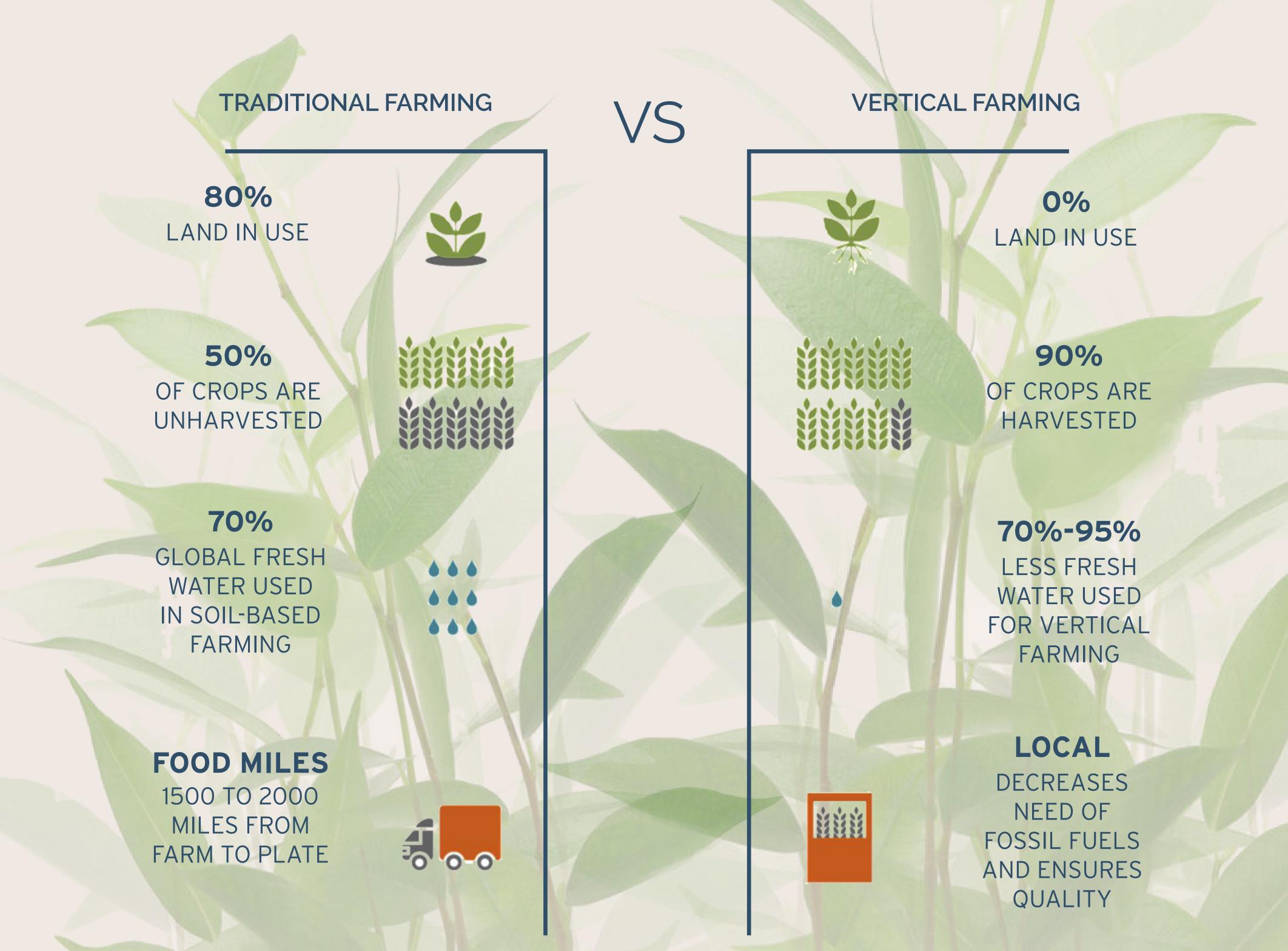
CEA refers to technologically advanced indoor farming



Closer proximity to urban areas can shorten the supply chain and reduce

			Light Crow Trou
			Overflow Plant Nutrients Filling Pipe
			Reservoir Solution Water Pump
			HOW DOES IT WORK?

THE FUTURE IS VERTICAL



The future is vertical. With a growing population and less and less land being available, we are being forced to build up. What is to say the same cannot go for farming? Much of the United States is suffering from the loss of land resources - cities and surrounding suburbs are among those with the fastest rates of loss. One particular loss is that of viable land goes to agriculture. Continuing with our current trajectory, the future is becoming less and less green. Vertical farming has far more advantages than traditional agriculture. Some of these benefits include greater production yields, require less space and less water, are considered climate proof, seasonally agnostic, and outdoor contaminant proof, they lead to far less food waste, and are the most sustainable form of agriculture.

