

# Growing a city

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Is the food you eat grown in your city? In 2052 it will be. Is your ability to put food on the table based on your hands-on involvement during the harvest season? Possibly (and how many harvests will there be in a year; one, two, fifteen?). Are food cathedrals and underwater grow beds part of the view from your window? Also, how do you like your jellyfish served?

The age old reality of our food being grown and harvested exclusively in rural areas will soon no longer be true. A number of factors contribute to a shift toward a shared responsibility between rural and urban areas in feeding our populations. The lack of fertile soil, the environmental impact, global heating, a need to minimise transportation, and of course the ever-growing size of our cities, are but a few.



Jellyfish; from invasive species to dinner table staple by 2052?



## Growing food

When food production moves in to cities our diets will have to change (availability), as will farming (where), harvesting (when, how often, by whom), processing (how) and distribution (by whom, how). To make this possible a set of self-sufficiency goals would be introduced: national, regional, local and hyper local. Much like the system already in use in Singapore.

The goals for growing locally would be clear and reflect our new food ingredients.

For example:

30% fruit and vegetable

30% plant based protein

15% seafood

25% mushrooms

The same model would be used regionally and nationally.

Needless to say sustainability will be at the heart of this. The whole flow from production, cultivation, harvesting, production, and delivery will need to be more or less circular.

## Two examples

Covering facades and roofs of buildings with plants is a proven and positive way to bring flora and fauna in to cities while cutting down on both heating and cooling costs. However, by thinking ahead — and doing so earlier in the planning and building process — the effects can be even more positive.

By designing buildings with irregularly shaped facades, with significant convex and deep concave sections, the true benefits of sun, shade, air flow and thus food producing conditions can be embraced. While a traditional flat facade is able to benefit from part of a daily light and climate cycle, an irregularly shaped surface is said to be effective for up to 70% of a 24-hour period. Add to this rooftop greenhouses powered by the buildings surplus heat and aquaponics (“food production system that couple aquaculture with hydroponics” — Wikipedia) and suddenly the building is a fully fledged 24-hour contributor.

Of course building regulation, architectural skills and, maybe above all, our tastes and our design preferences need to evolve to accommodate this.

Another example: Water.



In most urban centers waterways are woefully underused. Both as a transportation enabler, as space for floating homes, as places to produce food. Even when it comes to recreation water is marginalised.

Imagine using water for what it does very well (being liquid) and build plant beds under the surface. And we're not only talking sea weed or mussels. How about lotus, water spinach, swamp cabbage.

Nutritious, versatile plants that thrive under water, and use it to move nutrients within themselves as well as keeping pests at bay (the occasional duck nibble is unavoidable). And what if by 2052 an invasive species of jellyfish becomes a problem? We should eat it.

### **Plant comfort**

To benefit from this we will likely need to prioritise plant comfort over human comfort. Things will have to be less comfortable for us human beings. 24/7 air conditioning? No, but you won't starve. Higher moisture levels in shared spaces? Don't worry, your hair looks good frizzy.

This change in priorities will take effort and sacrifice; some of it will be difficult, some of it will not. Ultimately it's just change, which we all deal with as a constant in everyday life. An extra benefit of this adjustment is that it helps us compensate for fragile supply chains, as seen during the Covid-19 pandemic and the war on Ukraine.

If we can imagine food production as part of life in cities, as part of urbanism, as part of our shared future, the step to all of us taking an active part in the growing and harvesting our food can only be a small step away.

It's about taking responsibility and bringing the places where food is grown closer to our homes. That's not a big ask.

Now grab the underwater cabbage from the pond around the corner and come over for lunch. I have some splendid *pisum sativum* we've grown above the bike shed I want you to taste. It's from the year's fifth harvest!