

Why do Vertical Farms fail in India? Stop copying the west.

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During our journey in CityGreens, we have met many Consultants, Competitors, Collaborators, Govt. Dignitaries, Investors, Entrepreneurs, Aspirants, and so forth. These encounters have helped us develop deep insights into the industry. It will not be an understatement to say that the Vertical Farming industry in India is still in its infancy. The way this industry shapes up will depend upon a lot of factors, primarily being the establishment of a few



In this series starting today, we will share with you a few insights (specific to Indian context) that we have gained over time. These insights are based on our understanding and the inferences we have drawn. These may not be directly applicable in your specific set of circumstances. However, we do hope that these will help you think more in-depth about the issues that you may face in your journey of Urban Farming.

The first insight that we will cover today is the one that we have observed most commonly and has the potential to inflict



maximum damage on the success potential of a farm.

Aping the West

Agriculture in India, per se, is way behind the western world when it comes to using technological advancements. One such technology that was promoted and supported by various Governments and vehemently abused by some unscrupulous Farmers (to misuse the subsidy system and make undue financial gains) was that of Greenhouse.

The reason for failure - aping the west. If you consider polyhouse or Greenhouse technologies, their roots are in Europe. The primary reason these were created was to protect the crops from cold weather. The climate/weather profile in India is very different. Blindly copying the technology to tropical parts of the country resulted in disastrous consequences in many states. (the technology does work well in the colder climatic regions of the country)

When it comes to Vertical Farming, one can observe a similar phenomenon is taking place.

Most of the vertical farming aspirants we talked to had two things in common

They wanted to use LEDs



They wanted to grow Lettuce

The reason? Because that is what they have seen everyone doing the world over. Let us evaluate both of these in the Indian context, one by one.

1. Use of LEDs: Take a step back and look at the problem that LEDs solve; they help you grow indoors. And why do you want to grow indoors?

- a. the land cost is too high.
- b. The temperature outdoors is not conducive to growth (its either sub-freezing or too hot).
- c. one wants to grow in multiple vertical layers (say 10 - 15 levels at least).



In the Indian context, the first two will not hold. What LEDs result in, in such a scenario, will be a manifold increase in the C_c

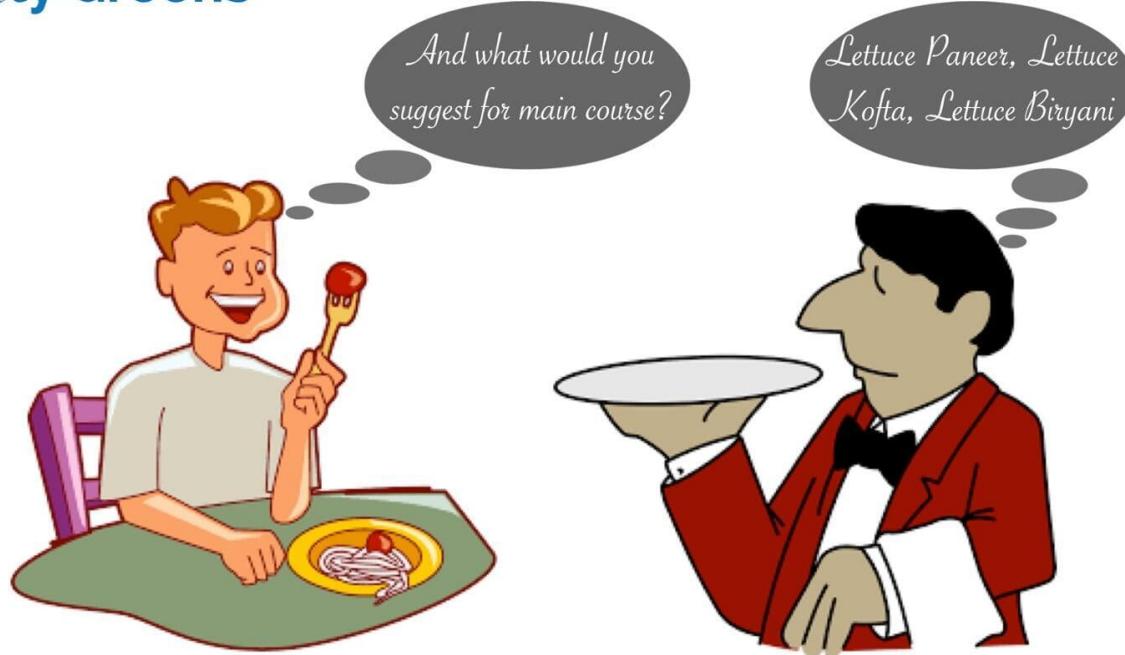


Ex and the Op-Ex, thus pushing away the break-even period further, or increasing the input cost so much that the output product becomes uncompetitive in the market. The third reason may still be the right reason for someone to set-up an LED-based farm in India. But it is cap-ex heavy and should be pursued if one is willing to wait for a long gestation period to break-even.

2. Growing Lettuce: Surprisingly, we rarely come across any Urban Farming aspirant who does not want to grow Lettuce. The question we like to ask is, after all, how much lettuce can Indian's consume? People in the west grow lettuce because they eat lettuce day in and day out (as a part of salads or sandwiches which form their staple diet). Indian's don't.

If one observes, one will see that the palate preferences that get developed over time, do so based on the demographic dividends. In semi-arid and desert regions of western India, when our ancestors had to travel long distances, they needed the food that can stay edible for long periods in the hot environment. And you see a lot of gram flour-based snacks in those cuisines (think Gujarati / Rajasthani cuisines). Similarly, in the economically lesser developed eastern parts of the country, potato served as one of the cheapest sources of quick energy, and you can see that influence even today (think Bengali Chicken biryani) in most of the eastern cuisines. Similarly, when it comes to greens, the Indian palate prefers the one that can be grown in tropical regions. Lettuce is definitely not the one.





Unless India transforms into a salad eating nation or lettuce becomes a part of mainstream Indian cuisines (think lettuce paneer instead of Palak Paneer), the market for lettuce will remain limited. In such a scenario, if all the vertical farms start producing lettuce, it will flood the market and lead to price erosion.

To grow lettuce or other exotics not native to Indian weather, one needs to make a significant investment in temperature control infrastructure, which makes the cost excessive. You can save on that investments and keep both your Cap-Ex as well as Op-Ex considerably lower if you grow the Indian greens like spinach. (You can still grow lettuce in the winter season and command market price). Having said that, In case you do have an assured market for the supply of lettuce that comes out of your farm (through B2B rate contracts or otherwise), please go ahead and set-up a lettuce factory. But if you are doing it just based on the assumption that you will find the market later, better go small and test the hypothesis first.



This brings us to our second observation, which we will cover in the next part of this series. Till then,

Happy Growing!

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Malathi

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