



Vertical Farming Helping to Ensure Food Security

PIPIP Feature Story

According to a recent report published by The Guardian, "Food production around the world must rise by half in the next 30 years to sustain a global population expected to top 10 billion by 2050. Compared with 2010, an extra 7,400 ton calories will be needed a year in 2050". If we analyze the situation critically that would possibly emerge in near future, the task is extremely huge and there is dire need to produce more food with less land for exponentially growing population. There is, however, a good news for all of us that many farmers of Punjab have already started vertical farming to get more production with less available lands.



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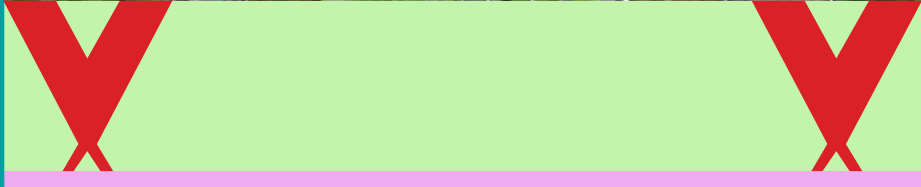
Mr. Ali Raza, a progressive farmer of Kamalia has been involved in vertical farming since 2012-13. While sharing his views, he told that "Vertical farming is the practice of producing food in vertically stacked layers, mostly under tunnels with drip irrigation. In Pakistan, majority of the vertical farmers grow cucumbers and tried to get more production with limited & small lands holdings. I acknowledge that Water Management wing of Agriculture Department has critical role in promotion of vertical farming in the Punjab because without drip irrigation and tunnel technology, vertical farming is just a day dreaming". He added that "I am growing cucumber with drip irrigation on commercial basis and have comparative difference in growing crops with flood irrigation vs drip irrigation in terms of crop yields @ 70,000 kg & 100,000 kg/acre, respectively".

While comparing high value agriculture with traditional farming, he indicated that before growing cucumber with drip irrigation, I used to grow sugarcane, maize, cotton etc. crops which were providing less profits from more land consuming huge quantities of agricultural inputs. So, I decided to grow high value crop (Cucumber) under tunnel with drip irrigation and earn more from less land and less agricultural inputs especially water and fertilizers.

Mr. Malik Muhammad Akram, Director General Agriculture (Water Management), Punjab opined that "as a matter of fact, agricultural land is decreasing while population is increasing day by day. Undoubtedly, vertical farming with drip irrigation may help the farmers to feed more people in the near future under water shortage and climate change scenario".

Mr. Ali Raza highlighted with smiling face that "Drip irrigation not only provides benefits in terms of savings in water, labor, fertilizer etc. but it also motivates and facilitates farmers to adopt agriculture as a profitable business". He further added that "Adopting vertical farming and growing highvalue crops under tunnel with drip irrigation has created more employment opportunities for the labor especially women on my farm. Currently, about 25 women and 15 men are working on my farm for different farm operations".

In fact, vertical farming is providing huge benefits not only to the growers in terms of more production but also to the farm workers in terms of daily wages, marketers in terms of better quality products and consumers in terms of good quality food. Putting it in a nutshell, vertical farming is helping to ensure food security in Pakistan.



Cucumber Yield

Drip irrigation
100,000 kg/acre

Flood Irrigation
70,000 kg/acre

**43%
Increase**

