CLIMATE CONTROLLED GARDEN

ABSTRACT

Population growth, urbanization, water scarcity, climate change is leading to a decrease in arable land. Furthermore increase in dryland, reduction in freshwater, climate change and population growth subsequently shrink farmland to feed the growing population. Vertical farming in a controlled environment using the latest technologies and automation can be effective in land optimization, higher productivity, and lessen the environmental footprint. n this project, we acknowledge various factors affecting CEA and design a controlled environment system. Characteristic considerations to be obliged while designing a CEA system include the structure of the frame, climatic conditions, microclimate control systems, light(natural and artificial), and power. The design scrutiny for covering materials for CEA incorporates foundation, shape, material, amount of light entering, the direction of the light entrance, load, volume. Crop yield is contingent on atmospheric temperature, carbon dioxide levels, nutrient availability, relative humidity, and light.

Block Diagram