

International Conference on Advancements in Sustainable Technology **ICAST-2021**

Virtual Conference

17th - 18th December, 2021 | Bhubaneswar



Organized By
Gandhi Institute For Technology (GIFT), Bhubaneswar
in Association with
Institute For Engineering Research and Publication (IFERP)

ISBN : 978-93-92105-19-7

ICAST-21

**International Conference on
Advancements in Sustainable Technology**

**Bhubaneswar, India
17th – 18th December, 2021**

**Organized by:
Gandhi Institute For Technology (GIFT), Bhubaneswar
In Association with:
Institute For Engineering Research and Publication (IFERP)**

Integrated Smart Home Garden System: An Advanced Solution for Healthy Living

¹ Smruti Sudha Mishra, ²Subhalaxmi Mohanty, ³Saudammini Samantray

^{1,2,3} Student, Department of Agricultural Engineering, Gandhi Institute For Technology, BBSR

Abstract:

The impact of the increasing population on our environment has been a global concern, and hence, the most challenging thing is to feed this booming population with fresh and organic food. The major issue associated with it is neither everyone has their land, nor everyone is trained in farming. Therefore, home horticulture is a great intervention, even for those who have less gardening knowledge and experience. It also makes regulation of plant growing environment more convenient. Thus, a feasible monitoring system is developed to grow plants (mint, strawberry etc.) indoor with all the facilities required for its normal growth. It consists of LED grow lights, an auto irrigation system, solar panel, pest repelling technique, and soil health indicator. Hereby, the grow lights replace the need for sunlight and the self-watering facility detects the water requirement of the plant with the help of sensors and provides water to plants whenever necessary. Keeping in view, the energy efficiency and energy saving, solar power has been used as the alternative renewable power source. Further, to detect and protect the plant from potential challenges other facilities are provided. Likewise, it is possible to get fresh food in an indoor environment without consuming much space.