Chapter 8
Peregrinating Gardens
From Traditional to Most
Advanced Handy Approach
for Avoiding the Unnecessary
Utilization of Resources

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ABSTRACT
We always say agriculture is a backbone of Indian economy. In this chapter, the authors have proposed a novel approach based on priority-driven scheduling-based irrigation model (for home garden) which supplies optimum and good quality water to the crops. Technology used in this proposed system is wireless sensor network. Proposed system will be very useful as it immediately irrigates the plants if the moisture level decreases to avoid the future losses. In this process, soil moisture values will be sensed and compared to find out the lowest value. Such systems will start a new era in agriculture and will prove this could be the major requirement in future due to many critical factors such as irregularity of monsoon, less availability of water, etc. Subtopics enlisted in this chapter such as literature survey, design and modeling, technical specification, sampling, results, and analysis will elaborate depth of proposed system.

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INTRODUCTION

The Scope of this proposed system is limited to smart home garden but it is applicable to a large field with few extensions i.e. nothing but expanding the hardware layer. Climate change is crucial and everyone is responsible for preserving our nature and needs to adopt the modification strategies in day-to-day life, which disturbs the climate. Reducing the utilization cost of natural resources is the important challenge and everyone should contribute to climate-resilient pathways for sustainable development. In day-to-day life, adaptation means to adapt current state of being adapted and moving onwards to the dynamic evolutionary process, which changes periodically that leads to the adaptation. Natural resources oil, water, trees etc. must be utilized in an effective way. Therefore, considering a longer-term perspective, in the view of sustainable development increases the likelihood more people to enhance future options and preparedness must adopt actions. WSN can be implemented where ‘n’ sensors equipped with various sensors will fetch real time values from the environment and pass them to the controller i.e. coordinator. Upon receiving these values coordinator takes place appropriate action. Systematically algorithm needs to take appropriate action. In the proposed system framework designed with X-Bee approach and all the nodes communicate with each other (Chen, Y, 2015; Waltenegus & Poellabauer, 2010; Karl & Willig, 2007; Sohraby et al., 2007). In future, there can be a requirement for developing a system which will decide how to irrigate, when to irrigate and where to irrigate. These are the upcoming trends in agriculture (Havlak, R. D. 2012).

“Water” Use It Wisely as It Is Important Natural Resource

“Water” is stimulant of life to survive and all developmental activities require water, whether it is agriculture sector or industrial purpose. The population is increasing which in turn results in the increase in domestic demand of water including all the resources. The water resources are available either in presence of surface water, which is less due to the irregularity of monsoon, and groundwater, which is reducing too. It is very important to differentiate between crop water requirement and irrigation, which is nothing but avoiding unnecessary utilization of the water. We have to make sure excess as well as less irrigation is harmful to the plants (Dukes et al., 2012; Aguilar et al., 2015). Strategy for sustainable development and management becomes a challenging task and research organizations, governments are continuously working on applying new strategies. We have proposed a scheme to tie up technology with the agriculture field. Indian economy depends upon the agriculture sector and it depends upon the monsoon. If the monsoon is irregular then it affects economy directly. We can observe region-wise analysis to conclude
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