ISSN NO: 2279-543X

# PLANT DISEASE DETECTION USING IMAGE PROCESSING

Mrs.G. Saranya, *Assistant Professor*, Deepthi M, Bhuvaneshwari M, Gomathy R

*Electronics and communication Engineering, SSM institute of Engineering and Technology, Dindigul*

***Abstract-*** **In recent days, agriculturalists faces many problems because of the disease that affected on plants. Due to the crop disease, Year productivity of farmers gets lower. Manual monitoring of plant disease tends to require tremendous amount of work and also require the excessive processing time. Hence, the method used in this paper is image processing. The steps that are implemented here is image acquisition, segmentation, feature extraction and classification of plant diseases.**

***Keywords-*** **plant disease, image processing, feature extraction, manual monitoring, and segmentation.**

## I. INTRODUCTION

Agriculture is the most significant sector of Indian Economy. Indian agriculture sector detailed for 18 percent of India's gross domestic product (GDP) and provides employment to 50% of the countries workforce. India is the world's bulkiest producer of pulses, rice, wheat, spices and spice products. India has emerged as the second most essential producer of fruits and vegetables in the world. India is an agricultural based country, where more than 50% of population is depend on agriculture. This structures the main source of income. The commitment of agribusiness in the national income is all the more, subsequently, it is said that agriculture is a backbone for Indian Economy. The crops in India have been divided into Rabi, Kharif and Zaid crops on the basis of season moving on. The major crops can be divided into four categories.

i. Food grains(Rice, wheat, Maize, Millet and pulses)
ii. Cash crops(Cotton, Jute, Sugarcane, Tobacco and oilseeds)
iii. Plantation crops(Tea, coffee, coconut and rubber)
iv. Horticulture crops(Fruits and vegetables)

Inorder to yield the crops, farmers spend billions of dollars are on disease management, often without adequate technical support, resulting in poor disease control, pollution and harmful conditions. If agriculture is to be active and sustainable, it is essential to have healthy crops. There are number of steps to reduce the chances of disease affecting the crops. The basis remedies that have been taken by the farmers are pests. It may losses some nutrients. Hence, that may leads to reduction in both quality and quantity of agricultural products. Inspite of providing pesticides to the crops, we must go for monitoring plants. Monitoring the plants is prior solution to overcome these problems. Manual monitoring is not an easy way to monitor whether the crop gets affected or not. The course of plant disease refers to visually observable patterns on the plants. This paper provides image processing technique used for disease detection. In these technique, digital images are captured using digital cameras or any android mobile cameras or any other capturing devices that provided in the form images are given to image processing method to extract effective information for further analysis. The photographic image of this disease are recognised to enhance are invaluable in research, detecting and teaching, etc. Earlier detection may help to farmers to avoid huge productivity loss. Hence, the support of technology would help them in early detection of plant diseases, no cost of using pesticides, and efforts of them may not be useless. We can make use of robot that are made for agricultural purposes. The agricultural robot will capture the image of leaf using webcam tends unable to provide appropriate result. Because the webcam is unable to give accurate and clear image. But here clarity is most important feature for enhance the affected areas on leaves.