1. INTRODUCTION

Deforestation is the clearing, destroying, or otherwise removal of trees through deliberately by the natural or mankind. It can occur in any densely populated areas but the majority of it is currently happening in the Amazon rainforest. The United States Environmental Protection Agency defines deforestation as the "permanent removal of standing forests." 70% percent of land animals and plants and many can’t survive. The deforestation that destroy their homes. Deforestation has decreased global vapor flow from land by 4 percent. The loss of trees and other vegetation can cause climate change, desertification, soil erosion, fewer crops, flooding, increased greenhouse gases in the atmosphere, and a host of problems for indigenous people. 80% of deforestation comes from small scale agriculture and cattle reading.

2. LITERATURE SURVEY

This paper explains as to how to restrict the smuggling activities and to save the forest-areas on Earth using some preventive measures. The system that was developed using a mini Sensor network using ZigBee module, Flex sensor, GSM Module and GPS using the platform of Visual Basic [1]. This paper proposed that main three units to be used in the Module to be designed like Tree Unit, Area/Sub Server Unit and Server Unit. It concentrates on Zigbee and GSM technologies while maintaining the Server on Visual Basic [2].
Android based Anti-Smuggling Module has been discussed in Anti-Smuggling Alarm System for Trees in Forest Using Android. The idea of using accelerometers and temperature sensors forming a mini sensor networking is introduced here. Also, Android based concept is very ideal for current scenario since almost all Mobile handsets are Android based. The anti-smuggling squad can immediately receive messages on their handsets during any interruption to the trees [3]. Accelerometers are based on MEMS Technology – Micro Electro Mechanical Systems. The paper in details discusses on MEMS accelerometer which is also referred as vertical capacitive torsion accelerometer (TXL) [4]. The main feature of this project is to protect these trees from smuggling by using GSM module along with RFID. In addition to GSM we use ZigBee protocol. RFID is used to identify the tag of the tree. GSM sends alert using satellite communication. And due to bad weather condition, if GSM fails to send alert then ZigBee send alert to nearby police station that particular tree is being cutting down. So that immediate action is taken [5].

This model was tested on real satellite time series available over a pilot area in Dry Chaco Forest, Argentina, where deforestation was common in the 2004-2016 periods. As validation, a comparison with a benchmark product based on LANSAT images is also presented, showing a 51.6% precision, 74.4% recall and a Score of 0.60 for deforestation in 2013. These results show the advantages of using an automatic algorithm to monitor break points in the time series and the potential of combining LST and EVI to identify deforestation events [6].

3. METHODOLOGY

Deforestation leads to a dramatic change of climate and reduce biodiversity. In this project we can prevent anti-smuggling by sending an alert via IOT to the forest officers. Here we are connecting a greater number of trees in a dense forest using nRf technology. Monitoring the tree unit using Internet of things. The sensor technology is used to know whether the trees are cut by smugglers. The microcontroller controls overall system.

Battery gives 12V power supply to the controller. IC7805 Voltage regulator is used to convert 12V to 5V DC. Vibration sensor connected to the Port A of the controller. The analog output of Vibration sensor is converted into 10-bit digital output using ADC which is inbuilt with the controller. Whenever the smugglers try to cut the tree, vibration sensor senses the vibration during they cut, the controller reads it and gives an alert via nRf transmitter to the monitoring unit of forest guard. Nrf transmitter connected to the UART port of pic controller at pin 25 and pin 26. The serial port is used to send the data bit by bit serially.

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The nRF24L01+ is a single chip 2.4GHz transceiver with an embedded baseband protocol engine suitable for ultra-low power wireless applications. The Nrf2401 is a half-duplex transceiver, so while it has the ability to send and receive data, it cannot do both simultaneously.

A GPRS modem is a GSM modem that additionally supports the GPRS technology for data transmission. GPRS stands for General Packet Radio Service. It is a packet-switched technology that is an extension of GSM. A key advantage of GPRS over GSM is that GPRS has a higher data transmission speed.

RESULT AND DISCUSSION:

With the help of GSM GPRS 900 the link has been provided. With the help of GSM GPRS modem (IOT) whenever any tree
cut down then we get the alert not only from register mobile but also wherever we want we can open it.

5. CONCLUSION AND FUTURE WORK

In the way we develop a system to control the smuggling of trees in the forest where the human being not able to provide security, as their habitat are farther away. By doing this we avoid deforestation, also save valuable trees and protect the Environment. Thus we can monitor the trees whenever and wherever using Internet. Thus it intimate to an Authority people about the conditions of trees on 24*7 bases. In future, we could create a hub by connecting multiple forests under one monitoring unit.

REFERENCES


