



ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY

AUTONOMOUS INSTITUTION

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DEPARTMENT OF AGRICULTURAL ENGINEERING

AI3701 – REMOTE SENSING AND GEOGRAPHICAL INFORMATION SYATEM

UNIT 5 APLPLICATION OF REMOTE SENSING AND GIS IN AGRICULTURE

5.1 APPLICATION OF REMOTE SENSING AND GIS

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OBSERVE OPTIMIZE OUTSPREAD

5.1 APPLICATION OF REMOTE SENSING AND GIS IN AGRICULTURE

Crop Production Forecasting: Remote sensing is used to forecast the expected crop production and yield over a given area and determine how much of the crop will be harvested under specific conditions. Researchers can be able to predict the quantity of crop in a given farmland over a given period.

Assessment of Crop Damage and Crop Progress: In the event of crop damage or crop progress, remote sensing technology can be used to penetrate the farmland and determine exactly how much of a given crop has been damaged and the progress of the remaining crop in the farm.

Crop Identification: Remote sensing has played an important role in crop identification especially in cases where the crop under observation shows some mysterious characteristics. The crop data collected will be taken to labs where various aspects of crop including the crop culture are studied.

Crop Acreage Estimation: Remote sensing has also played a very important role in the estimation of the farmland on which a crop has been planted. This is usually a cumbersome procedure if it is carried out manually because of the vast sizes of the lands being estimated.

Crop Yield Modelling and Estimation: Remote sensing also allows farmers and experts to predict the expected crop yield from a given farmland by estimating the quality of the crop and the extent of the farmland. This is then used to determine the overall expected yield of the crop.

Identification of Pests and Disease Infestation: Remote sensing technology plays a significant role in identification of pests in farmland and gives data on the right pests control mechanism to get rid of the pests and diseases on the farm.

Soil Moisture Estimation: Soil moisture can be difficult to measure without the help of remote sensing technology. Remote sensing gives the soil moisture data and helps in determining the quantity of moisture in the soil and hence the type of crop that can be grown in the soil.

Soil Mapping: Soil mapping is one of the most common yet most important uses of remote sensing.

Through soil mapping, farmers are able to tell which soils are ideal for which crops and which soil require irrigation and which ones do not. This information helps in precision agriculture.

Monitoring of Droughts: Remote sensing technology is used to monitor the weather pattern of a given area. The technology also monitors drought patterns of the area too. The information can be used to predict the rainfall patterns of an area and also tell the time difference between the current rainfall and the next rainfall which helps to keep track of the drought.

Water Resources Mapping: Remote sensing is instrumental in the mapping of water resources that can be used for agriculture over a given farmland. Through remote sensing, farmers can tell where water resources are available for use over a given land and whether the resources are adequate.

