

**Title:** Near real time crop health status monitoring and mapping using Sentinel Satellite image in Menjar Shenkora woreda

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### **Abstract**

Agricultural monitoring systems should be able to provide timely information on crop production, status and yield in a standardized and regular manner at the (sub) regional to the national level. Monitoring and mapping vegetation condition and vegetation health accurately is important for crop management, damage assessment and yield prediction. Crop health monitoring is one of the important items for tracking the general health status of any crop. The use of remote sensing and GIS is useful for crop health monitoring to obtain up to date information that is difficult to collect by traditional methods such as field survey and sampling questionnaires. Crop monitoring demands frequent and continuous data at regular time interval; such data needs to have better temporal and spatial resolution. In this research work NDVI time series data was prepared from Sentinel 2 satellite imageries. Using NDVI time series data crop phenology geo-information was generated for Teff, wheat, Onion and Sorghum. In addition, crop health status information was analyzed using Vegetation condition index in different time period during the growing season. Lastly, crop type mapping was done with the overall accuracy of 79.26% and Kappa Value of 0.737.

**Keywords:** Crop, GIS, NDVI & Sentinel