Abstract

The Tanzanian agriculture industry faces a great challenge caused by pests and diseases threatening food security. Pests such as tomato leaf miners, aphids, fall armyworms (FAW), and bean leaf miners devastate crops. Also, diseases such as maize streak virus, early blight, Powdery mildew, Leaf spot, Rusty brown leaf, foliar disease, Bacterial Wilt, Blossom end rot, Flower abortion, Leaf Curl and Black rot have caused the crop failure that leads to yield reduction. So, precisely and accurately detecting such pests and diseases to improve agriculture productivity in the country is paramount. However, manual detection is cumbersome, time-consuming and costly. So, automating the procedure using machine vision technologies is necessary for sustainable prosperous agriculture.

Therefore, this dataset presents the first Tanzanian agricultural classification dataset that contains 7992 healthy and unhealthy crops images (maize, beans, green peppers, onions, okra, watermelons, sunflowers, African eggplants, tomatoes, Chinese cabbage, hot peppers, wheat, leaf kale and cabbage). Images were collected in real-world conditions in Morogoro, Tanzania, in August and September 2022, using smartphones and professional GoPro Hero 9 cameras. The dataset is called YEESI Dataset. It is used as Open Data. The authors expect this dataset to revolutionize applications of Artificial Intelligence (AI) in agriculture for evaluating classification models related to crop pests, diseases and weed problems from open data.

citation:

Fue, Kadeghe, Barakabitze, Alcardo, Geofrey, Anna, Lebalwa, Bertha, Lyimo, Neema, Mwaipaja, Faraja, Jonathan, Joan, Mbacho, Susan, Sanga, Camilius, & Rains, Glen. (2022). The YEESI Lab Dataset (1.0) [Data set]. Zenodo. https://doi.org/10.5281/