**PROBLEM STATEMENT**

Fertilisers are formulations which may contain nitrogen, phosphorus and potassium compounds to promote plant growth. Fertilisers that supply all three elements are often called NPK fertilisers, after the chemical symbols for these three elements.

System is designed to be used by farmers for suggestion of fertilizers to be used based on a set of soil features e.g. soil moisture, Ca, Potassium, soil pH etc. The prediction model is supposed to be a cloud based system accessed by farmers.

Farmers will give soil features as input and the model will provide fertilizer predictions.

Fertilizer Prediction

Attributes Description

**Attribute** **Description**

Temperature Temperature in degree Celsius

Humidity Relative humidity in %

Moisture Ratio of the mass of water

Soil Type Types of Soils

Crop Type Type of Crops

Nitrogen Amount (%) of Nitrogen in Soil

Potassium Amount (%) of Potassium in Soil

Phosphorous Amount (%) of Phosphorous in Soil

**Fertilizer Name Various types of Fertilizers used for different types of Soils & Crops**

STEPS TO **CREATE A MODEL (Logistic Regression Vs KNN) – Model to be validated based on ACCURACY**

1. Collecting the data

2. Pre-processing the data

3. Visualization

4. Filtering the data

5. Splitting the dataset (training and testing data)

6. Predicting the data

7. Save and Load Machine Learning Models

References:

https://practicaldatascience.co.uk/machine-learning/how-to-save-and-load-machine-learning-models-using-pickle

https://machinelearningmastery.com/save-load-machine-learning-models-python-scikit-learn/

https://medium.com/@maziarizadi/pickle-your-model-in-python-2bbe7dba2bbb

8. Get an input (New Instance) from user and find the results - Some interactive way