**Building sustainable and resilient food systems under climate vulnerable conditions in Africa for small scale farmers through climate smart agriculture**

**Solution description:**

The solution to the negative impact caused by climate change on food security and systems is to use digital sensors and a mobile application to incorporate climate smart agriculture into small scale farming. The digital sensors will have local private network (LPN) and it will be inserted in the soil. The sensors will connect with the LPN to a climate smart agriculture application that will be on the cellphone of the farmer. The app will run at zero data so that even farmers in the rural areas can utilize it. Any changes or abnormalities caused by the weather conditions on the soil or crops will be detected by the sensors and a notification will be immediately sent to the farmer's cellphone through the app.

The sensors will be able to detect and notify the application when:

> There is a need for soil irrigation.

> The soil is nutrient deficient and there is a need to add fertilizers.

> When the sensors can detect insects and pesticides so that pesticides can be sprinkled over the crops.

The app will also consist of a daily vegetable maintenance guide on how to take care of the different crops based on weather conditions so that the crops can be climate smart and produce better yields.

**Solution image url:**

<https://www.canva.com/design/DAF7wdwknKM/61CWb6jAv60p041wVE1_8w/edit>

**Solution demo video:**

<https://ai.invideo.io/watch/J9Y4H2-Dy41>

**Solution repository link:**

<https://github.com/zandibevu>