Ideation Phase
Brainstorm & Idea Prioritization

Date	22 September 2022
Team ID	PNT2022TMID14566
Project Name	Estimate the Crop Yield using Data Analytics
Maximum Marks	4 Marks

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Step-2: Brainstorm, Idea Listing and Grouping

Veena K

Take the average production of any crop during recent years.

Analyse every single factor that influences the yield and produce the result.

Estimate production by asking farmers to estimate or recall the yield for an individual plot.

Estimate yield by sampling a small subplot within cultivated field

Shravanth E

Simply, harvesting the entire field to determine crop yield(Whole Plot Harvest)

Get estimation from experts who estimate the yield by visually assessing the crop condition such as color,density,etc.,

Use allometric models (mathematical relationship between plant morphological characteristics and crop yield) and determine the production estimate.

For the chosen seed variety, take the past productions of that variety and give its average as result.

Dinesh Kumar

Estimate by comparing current crop performance to previous crop performances

Find the correlation between yield and environmental factors from long term datasets and estimate the yield.

Finding yield per unit area and multiply with the total area of harvest.

Analyse the possibilities for yield deterioration and hence estimate the yield.

Tharun Kumar

Use remote sensing (based on the principle of spectral reflectance of green plants) and determine the yield/ production

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With favorable environmental factors increase the estimated yield and vice-versa to obtain an average estimate of the yield.

Estimate crop area using GPS and hence evaluate yield by (total area*yield per unit area)

Estimate using past records: 👍 👍

Take the average production of any crop during recent years.

For the chosen seed variety, take the past productions of that variety and give its average as result.

Estimate by comparing current crop performance to previous crop performances

Estimate by sampling a small area: 👍 👍 👍

Estimate crop area using GPS and hence evaluate yield by (total area*yield per unit area)

Estimate yield by sampling a small subplot within cultivated field

Finding yield per unit area and multiply with the total area of harvest.

Predict by asking experts to predict: 👍

Estimate production by asking farmers to estimate or recall the yield for an individual plot.

Get estimation from experts who estimate the yield by visually assessing the crop condition such as color,density,etc.,

Estimate by analysing external factors influence on crop yield: 👍

Analyse every single factor that influences the yield and produce the result.

With favorable environmental factors increase the estimated yield and vice-versa to obtain an average estimate of the yield.

Find the correlation between yield and environmental factors from long term datasets and estimate the yield.

Analyse the possibilities for yield deterioration and hence estimate the yield.

Estimate by Whole Plot Harvest:

Simply, harvesting the entire field to determine crop yield(Whole Plot Harvest)

Estimate by periodic recording of yield :

Regular entry of extracted yield for plants with extended period of harvest like banana, can be used in estimation of the future yield.

## Prediction by analysing morphological characteristics: 👍

Use allometric models (mathematical relationship between plant morphological characteristics and crop yield) and determine the production estimate.

Use remote sensing (based on the principle of spectral reflectance of green plants) and determine the yield/ production

Step-3: Idea Prioritization

Importance

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?
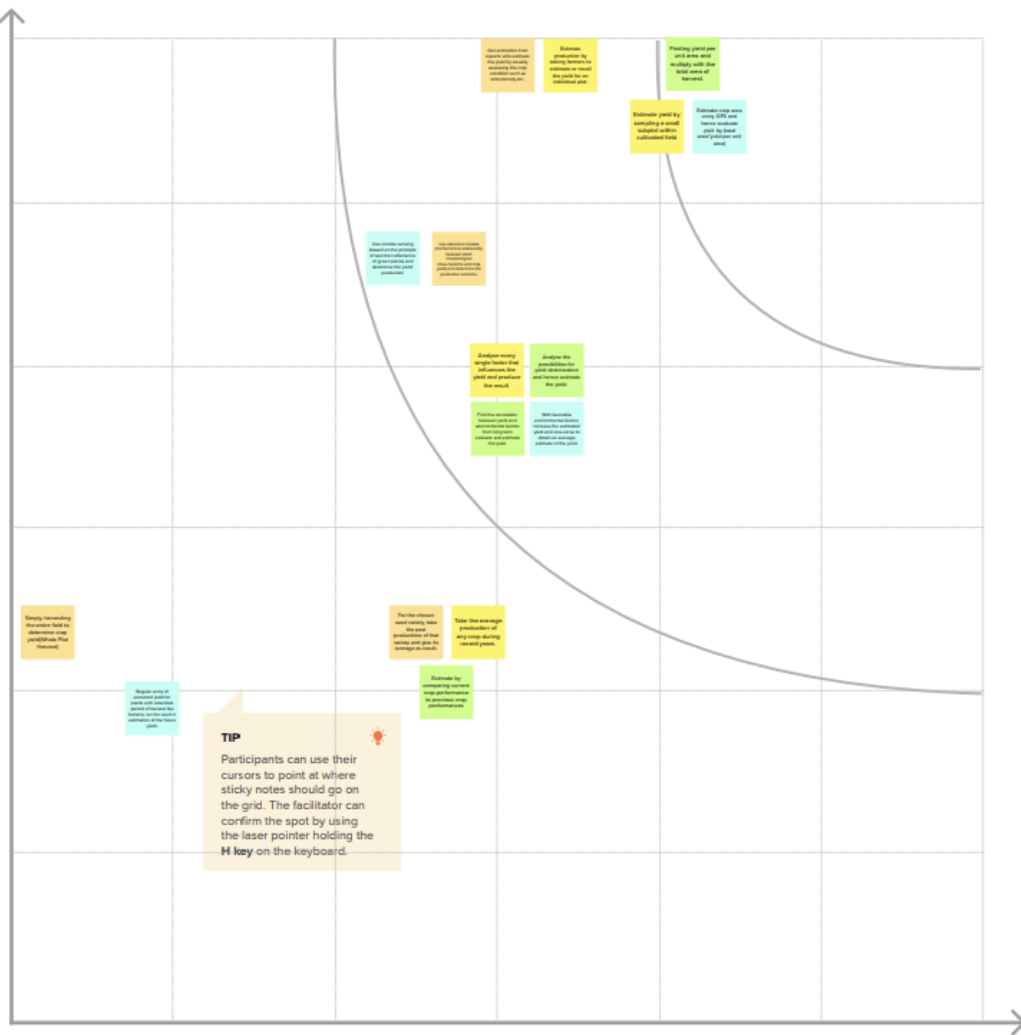
Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.