Project Title: **Exploratory Analysis of RainFall Data in India for Agriculture**, Project Design Phase - I **: Problem Solution Fit**, Team ID: **PNT2022TMID22613**

Define CS, fit into CC

1. CUSTOMER SEGMENTS CS

- Mainly Farmers
- Employees/Workers associated with Agricultural activities
- Departments of the government or news organisations seeking agricultural rainfall forecasts

6. CUSTOMER CONSTRAINTS CC

- To estimate the duration and volume of rainfall beforehand and take decisions accordingly
- To get a prediction with 100% accuracy
- Cost factors for applications with high prediction accuracy and value
- Limited time to make use of digital devices to get the prediction information
- Unstable network connection

5. AVAILABLE SOLUTIONS AS

- News on weather forecasting from various communication media like radio, news channels, etc.
- Announcements from the concerned authorities and notifications from connections [friends and families] on upcoming rainfalls affecting the agriculture

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS J&P

- Get proper analysis from previous data
- Achieve correct and accurate predictions
- Sudden change in weather and immediate rainfall or showers
- Damage to crops due to heavy rainfall

9. PROBLEM ROOT CAUSE RC

- Irregular rainfall in various regions of India
- Drastic variability in climate change
- Biodiversity loss

7. BEHAVIOUR BE

- Take suggestions from concerned authorities, agricultural scientists, and other influencers to make decisions
- Take decisions as per previous experiences and self-analysis

Focus on J&P, tap into BE, understand RC

Identify Strong TR & EM

3. TRIGGERS TR

- Current losses and debts
- Yearly crop damage due to heavy rainfall
- Evolving market competition and change in demand-supply

4. EMOTIONS: BEFORE / AFTER EM

- Before : Paying debts, incurring losses, low crop production
- After : Increase in crop production, making effective decisions, experiencing growth and profits

10. OUR SOLUTION SL

- Region [district or sub-division] based analysis of previous years' rainfall data to get the seasonal patterns with respect to the production of different sorts of crops
- Building a low-cost or free ML-based application [consuming low bandwidth] to predict the rainfall of places in India with a high concentration of agricultural activities while taking care of the trends and analysis done already

8. CHANNELS of BEHAVIOUR CH

- ONLINE
  - Receive early notifications on their digital devices,especially mobiles or smartphones, through SMS or app alerts
- OFFLINE
  - Community forums, meeting where farmers and other people can share ideas, discuss and decide on crop activities

Identify Strong TR & EM