



Appendix K- Business Rules

Users

There are three users in the system: Mill District Officer (MDO), Farmer and Board member

Farmer

- a. The farmers will have a mobile application with their accounts to login
- b. A farmer can have many farms.
- c. Cannot access the web application

MDO

- a. The MDO will also have a mobile application and can be used for the survey if the farmer does not have one or unable to.
 - i. The MDO will not be able to do a disaster survey that can be done by the farmer.
- b. The MDO can view and update the performance indicators in the program details but cannot create a program.

Board Member

- a. Can create new programs but not update them.

Terminologies

1. Tons Cane

- a. Refers to the harvested sugarcane crop.

2. LKG

- a. 50 kg sack of produced sugar from the mill.

3. HA

- a. Refers to area of the field in hectares.

4. Yield

- a. Refers to the productivity of the field by means of Tons Cane over Hectares(Area).

5. MDO

- a. Mill district officer or the agriculturist assigned to the district.

Crop Assessment

- a. Crop Assessment Report is done weekly
- b. **Estimated Production**- refers to the total production forecasted for the year.



- c. **Estimated Area**- refers to the total area based from the previous crop year.
- d. **To-Date**- refers to the cumulative sum of the production of the previous weeks.
- e. **Week Ending**- refers to the last day of the week.
- f. When the system is logged in outside the milling phase/period, there will be no crop assessment report.

Crop Estimate

- a. Refers to the yearly forecast of sugar cane harvest(Tons Cane) for the whole district.
- b. The formula used for the crop estimate is Multiple Linear Regression.
- c. The parameters used in the formula or the ff: **Area, Rainfall, Tiller Count and Average Temperature** of the District/Province. The forecasted production will be compared to the actual using historical data to measure the accuracy of the formula.
- d. The data used for crop estimate are from previous crop years.
- e. The data for average temperature is gathered from PAGASA.
- f. There will be 3 forecasts generated for evaluation purposes and for the user to choose one.
- g. The crop estimate can be adjusted when there are damages reported.
 - a. The adjusted values will be the area and the tons cane.
- h. The acceptable %difference for the crop estimate is 11%.
- i. The crop estimate that was previously done yearly can now be done weekly.
- j. Board members are able to generate forecast in LKG.
- k. Crop estimate for the following crop year is done after the milling phase.

Disaster Survey

- a. has no frequency and is done as needed.

Crop Validation Survey

- a. The crop validation survey is done every quarter for the farm details and weekly for production data.
- b. The MDO may choose to plot the area of the farm/field if the farmer is unable to do so.

Farm Comparison

- a. The blue color indicates the selected farm. The green color indicates the farm with higher yield and red for lower.



- b. The selected tags refer to the similar field details and properties.
- c. The MDO can choose to create a comparison or send recommendation and determine problem to the selected farm only.

Programs

- a. **Performance Indicator**- Refers to quantitative set of targets and/or objectives in the program.
- b. The basis of the board members for creating programs are problems.

Forum

- a. The MDO may approve or reject a post from the farmer.
- b. If a post is rejected, the MDO may tag the post to a problem or recommendation
 - i. A rejected post means that the topic of the post is already existing.
 - ii. The MDO cannot comment on the post.
- c. If a post is accepted, the MDO may create a new problem or recommendation.
 - i. An accepted post means that the posts is new.

Recommendations

- a. **Aims to solve a problem**- the user must select problem/s to link to the recommendation
- b. **Aims for Improvement** – the user will input a duration and not choose a problem.
 - i. This is categorized and based from crop phases.

Crop Calendar

- a. The dates of the crop phases can be edited by the MDO.
- b. Milling phase is not part of the crop growth phases thus overlaps the crop phases.

Municipality and Barangay Summary reports

- a. are only generated as needed.
- b. The threshold in the bar graph is taken from the average production of the district.