**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**

1. 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.

1. The MDO can view and update the performance indicators in the program details but cannot create a program.

**Board Member**

1. Can create new programs but not update them.

**Terminologies**

1. **Tons Cane**
2. Refers to the harvested sugarcane crop.
3. **LKG**
4. 50 kg sack of produced sugar from the mill.
5. **HA**
   1. Refers to area of the field in hectares.
6. **Yield**
   1. Refers to the productivity of the field by means of Tons Cane over Hectares(Area).
7. **MDO**
8. Mill district officer or the agriculturist assigned to the district.

**Crop Assessment**

1. Crop Assessment Report is done weekly
2. **Estimated Production**- refers to the total production forecasted for the year.
3. **Estimated Area**- refers to the total area based from the previous crop year.
4. **To-Date**- refers to the cumulative sum of the production of the previous weeks.
5. **Week Ending**- refers to the last day of the week.
6. When the system is logged in outside the milling phase/period, there will be no crop assessment report.

**Crop Estimate**

1. Refers to the yearly forecast of sugar cane harvest(Tons Cane) for the whole district.
2. The formula used for the crop estimate is Multiple Linear Regression.
3. 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.
4. The data used for crop estimate are from previous crop years.
5. The data for average temperature is gathered from PAGASA.
6. There will be 3 forecasts generated for evaluation purposes and for the user to choose one.
7. The crop estimate can be adjusted when there are damages reported.
   1. The adjusted values will be the area and the tons cane.
8. The acceptable %difference for the crop estimate is 11%.
9. The crop estimate that was previously done yearly can now be done weekly.
10. Board members are able to generate forecast in LKG.
11. Crop estimate for the following crop year is done after the milling phase.

**Disaster Survey**

* 1. has no frequency and is done as needed.

**Crop Validation Survey**

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

**Farm Comparison**

1. The blue color indicates the selected farm. The green color indicates the farm with higher yield and red for lower.
2. The selected tags refer to the similar field details and properties.
3. The MDO can choose to create a comparison or send recommendation and determine problem to the selected farm only.

**Programs**

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

**Forum**

1. The MDO may approve or reject a post from the farmer.
2. If a post is rejected, the MDO may tag the post to a problem or recommendation
   * 1. A rejected post means that the topic of the post is already existing.
     2. The MDO cannot comment on the post.
3. If a post is accepted, the MDO may create a new problem or recommendation.
   * 1. An accepted post means that the posts is new.

**Recommendations**

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

**Crop Calendar**

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

**Municipality and Barangay Summary reports**

1. are only generated as needed.
2. The threshold in the bar graph is taken from the average production of the district.