



# **Information System Analysis and Design of “Rajshahi Sugar Mills Ltd.”**

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# Introduction:

- Rajshahi Sugar Mills Limited aka Haryana Sugar Mills is a heavy industrial enterprise located in Harian Union of Paba Upazila in Rajshahi District of Rajshahi Division in northwestern Bangladesh. It is one of the major sugar mills in Bangladesh.
- The construction of this industrial plant started in 1962 and was completed in 1965 and it started producing sugar from 1965-66.



**Fig: Rajshahi Sugar Mills Ltd.**

**Fig: Sugar Cane Field**



# **Vision and Mission**

- **Vision**
- **Mission**
  - Increase profit by increasing quality of sugar.
  - To produce quality seeds of desired species of sugarcane and distribute them among the farmers.



# On-Site Observation and Problem Analysis:

- Onsite observation is the most useful way of information collection.





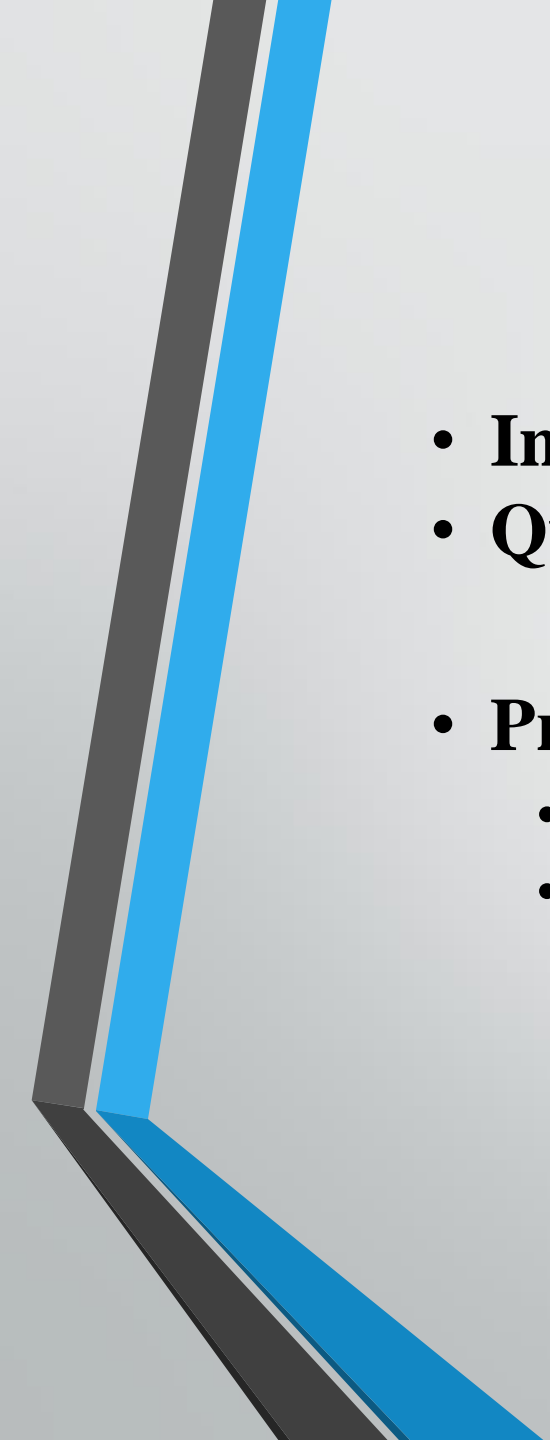
**Fig: Inside the factory (1).**



**Fig: Inside the factory (2).**



**Fig: Inside the factory (3).**

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- **Interviews**
  - **Questionnaires**
  - **Problem Analysis**
    - Machineries
    - High quality Sugarcane

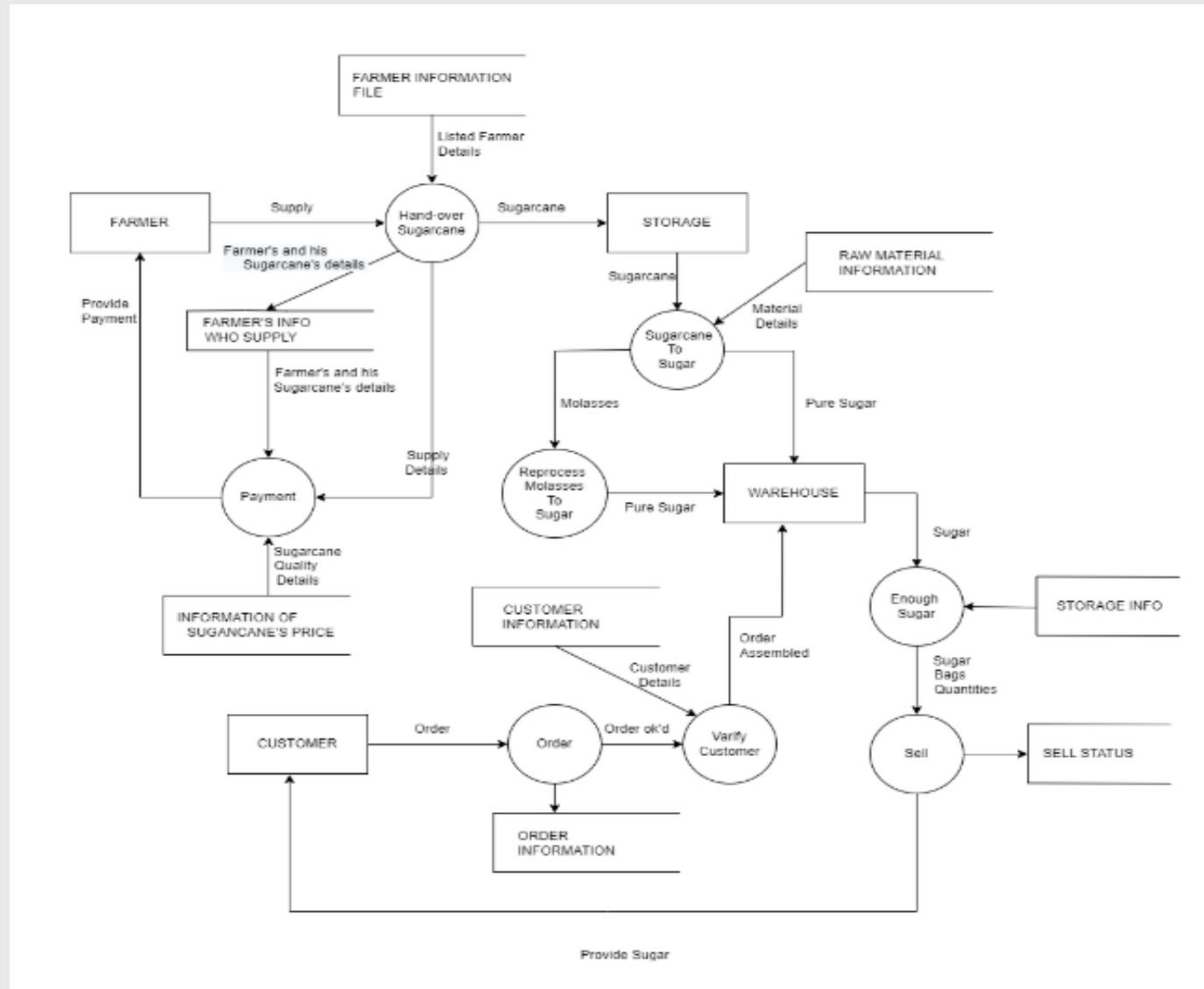


# Structured Analysis:

- Data Flow Diagram(DFD)
- Data Dictionary(DD)
- Decision Tree(DT)



# Data Flow Diagram(DFD):

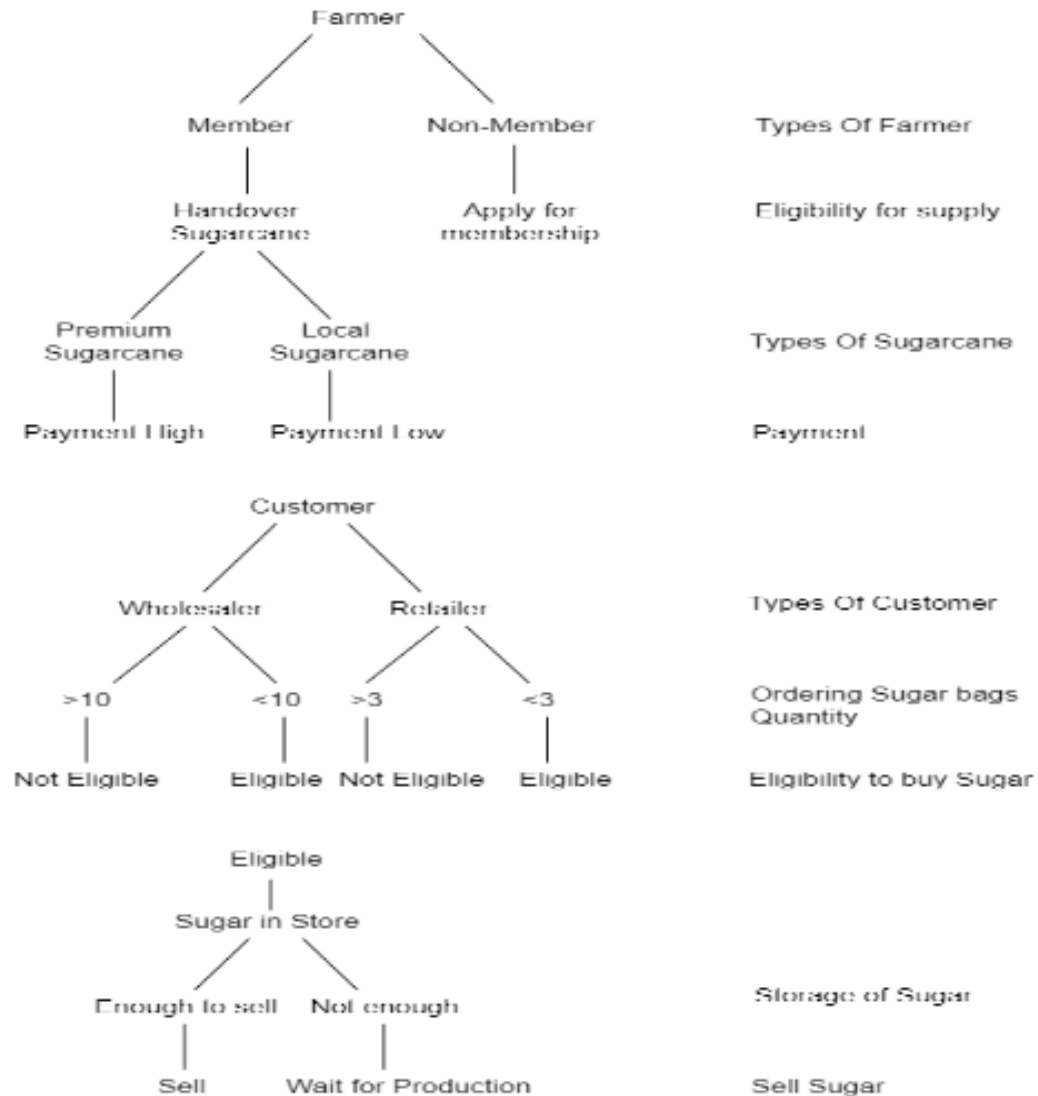


# Data Dictionary(DD):

Data Element	Abbreviation	Description
FARMER INFORMATION FILE	FIF	Farmer's Name, Mobile No., Address, Sugarcane's Species, etc are stored here.
HAND-OVER SUGARCANE	HOS	Only the listed farmer can hand over sugarcane to the sugar mill. This is checked here.
FARMERS INFO WHO SUPPLY	FIWS	The information of the farmers who supply sugarcane to the sugar mill is only stored here.
PAYMENT	PM	The sugar mill authority pays farmers according to sugarcane quality.
INFORMATION OF SUGARCANE'S PRICE	IOSQ	Price of sugarcane is stored here according to sugarcane's species.
CUSTOMER INFORMATION	CI	Customer's name, Mobile No, Customer Type, etc are stored here.
ORDER INFORMATION	OI	Order information is stored here.

VERIFY CUSTOMER	VC	It is checked whether the customer is eligible to order.
ENOUGH SUGAR	ES	It is checked that enough sugar is stored in the warehouse to sell.
SELL	SE	It is checked whether the customer is in a wait state or not.
STORAGE INFO	SI	It is kept the information of the storage of sugar.
SELL STATUS	SS	It is kept the information of whether the customer is in a wait state or not.

# Decision Tree(DT):





# Candidate System

- **Candidate System 1:**
  - Servicing machineries
  - Digital management system
  - digitalized payment system (Mobile Banking)
  - Collaboration with Bangladesh Sugarcrop Research Institute (BSRI)
  - Establish Sugarcane R&D department.
  - Provide good quality sugarcane species

# Candidate System

- **Candidate System 2:**
  - Replacing Machineries
  - Digital Management System
  - Bank based Payment System
  - Automated Production System
  - import better quality sugarcane species

# Comparison between two Candidate System:

**Table: Characteristics of two potential candidate system:**

Characteristics	Candidate System 1	Candidate System 2
Management System	Computerized	Computerized
Payment System	Mobile Banking	Renown Bank
Production System	Manually	Automated
Distribution System	Digitalized	Digitalized
Storage management	Computerized	Computerized



# Comparison between two Candidate System:

**Table: Qualitative Evaluation Matrix**

Evaluation Criteria	Candidate System 1	Candidate System 2
Working Environment	Good	Very Good
Efficiency	Good	Very Good
Payment System	Good	Good
Employee Training	Fair	Good
Research Opportunity	Very Good	Not Good
System Management	Good	Good

# Comparison between two Candidate System:

**Table: Performance/Cost Evaluation Matrix**

Evaluation Criteria	Candidate System 1	Candidate System 2
Efficiency	60%	80%
Employee Satisfaction	70%	90%
Machine cost	4-5 lac BDT	1-1.5 crore BDT
Payment system	70% satisfied	50% satisfied
Research Cost	50-60 lac	N/A
Import Cost	N/A	70/80 lac

# Comparison between two Candidate System:

**Table: Weighted Candidate Evaluation Matrix**

Evaluation Criteria	Weighting Factor	Candidate System 1		Candidate System 2	
Management	2	4	8	4	8
Machine Cost	5	5	25	2	10
Working Environment	3	3	9	4	12
Research / import (New species)	4	4	16	3	12
Payment system	3	4	12	3	9
			Total=70		Total=51



# Conclusion:

## **Best Candidate System:**

The system which has the highest total is considered as the best system. We have found that the candidate system-1 has the highest value. So, **candidate system-1** is the best proposed system for Rajshahi sugar mill.



**Thank You!**

**Any Query?**