CHAPTER-IV
IMPLEMENTATION OF SYSTEM
APPLICATION PRODUCT (SAP)
MATERIALS MANAGEMENT
(MM-MODULE) IN SUGAR CULTIVATION
& HARVESTING
4.1 TRADITIONAL METHOD OF CULTIVATION AND HARVESTING OF SUGAR CANE

Normal procedure followed for cane cultivation by almost all sugar industries is initially farmers approached cane section of sugar industry for getting information about cane cultivation. There he is register his name for crop loan (if required) by giving RTC with gurantor, Savings Bank account No. signed on demand pronote and agreement.

4.2. DATE OF PLANTING

Based on this, the Ryot number, plot no, and area of the land all these information/data has been feeded to computer system.

4.3. PROCEDURE FOR GETTING CROP LOAN

After agreement filled crop loan form submitted to factory for approval (tie-up letter).after obtaining tie-up approval letter from the factory is submitted to Bank for further procedures. After submission of tie-up letter to the bank it has been look after by Field assistant/cane inspector of cane section. Then it is forwarded to Assistant Manager (cane) and finally it is...
IMPLEMENTATION OF SYSTEM APPLICATION PRODUCT(SAP)MATERIALS MANAGEMENT(MM-MODULE) IN SUGAR CULTIVATION & HARVESTING

wetted by General Manager(cane) of the company. All the data/information is recorded in the accounts department, cane section, weigh bridge and EDP section of the company for feature process.

4.4. CANE HARVESTING

After completion of 12 months of plantation, cane section has issued cutting orders on seniority basis. In the meantime labourers will also arranged by the company on gang system. At present Rs.300/- per metric tonne will be charged for cutting labour. Cutting orders wetted & issued from General Manager (cane) to Divisional office Assistant Manager(cane) and cane section in charge to intimate the concerned formers.

4.5. SHIFTING OF CANE

After completion of cutting process, there also some procedures for lifting of cane to the factory. i.e the former has to come to Divisional office to collect trip sheet with cutting order and make arrangement for lorry/trucks. Then it will go to weigh bridge to get weighment ticket (2 Nos) one for lorry and other one for formers. After completion of supply, plot over seal has been made on the cutting order and trip sheet and now it is ready for payment. After words payment will be released from weekend to next fort night.

4.6. IMPLEMENTATION OF SAP IN CANE CULTIVATION AND HARVESTING

Information is integrated within an organization using an ERP system

4.7. MATERIALS AND METHODS

The information’s for implementation of SAP in various fields of sugar industry were
IMPLEMENTATION OF SYSTEM APPLICATION PRODUCT(SAP) MATERIALS MANAGEMENT(MM-MODULE) IN SUGAR CULTIVATION & HARVESTING

collected from different sugar industries situated in Karnataka state. On the basis of the information's received from the said industries, analyses were made for implementing SAP from basics. i.e cane cultivation.

4.8. SAP PRODUCTS AND SERVICES FOR SUGAR INDUSTRIES

The Technologies has developed on software for providing Pre-Implementation, Implementation, End User Training & Documentation and Support & Maintenance services to its clientele on SAP Suite of Products and with a team of Sugar Technologists and Cane Procurement & Management Officers, has started offering a comprehensive Sugar Industries solution based on SAP. It comprises of

- Pre-Configured & ‘Templatized’ SAP Solution
- Web based Cane Procurement and Management System, Integrated with SAP through Net weaver Technology. Add-on Utilities such as
  - Smart Card Solution for Farmers
  - SMS Utility

4.9. PRE-CONFIGURED SAP SOLUTION

Sugar Technologists with SAP Implementation experience and BASIS Consultants, has pre-configured SAP Solution suiting most of the Business Functions and its Information needs of Sugar Industries with Best Practices in Business Processes and their Diagramming also included. This templatized solution also addresses the monitoring of By-products such as Molasses, Ethanol, Bagasse & FC along with monitoring and accounting of Co-gen as well. This templatized solution helps in reduced Implementation times and also, will be of great help to the end users.
Chapter IV

IMPLEMENTATION OF SYSTEM APPLICATION PRODUCT(SAP)MATERIALS MANAGEMENT(MM-MODULE) IN SUGAR CULTIVATION & HARVESTING

4.10. CANE MANAGEMENT SYSTEM

Sugar industry is unique in its working process. Sugar industry’s production activity is seasonal in nature and a Sugar manufacturing company employs a large number of temporary work forces to participate in the production process. This has got a bearing on the inventory holding and accounting practices. The sugar industry has always needed critical real-time information, especially in the cane department. This is because sugarcane has to be crushed soon after it has been harvested. The time delay between harvest and inventory in the yard (for sugarcane to be crushed) cannot be more than 6-8 hours. Anything beyond that can lead to a stock-out, and will lead to spoilage of sugar content and the subsequent reduction in the yield from the cane. Further, the complexity increases since cane is harvested continuously from a few hundred centres across various remote locations.

4.11. UNIQUE REQUIREMENTS OF SUGAR INDUSTRY

- Cane Management system
  - Plantation Details
  - Fertilizer subsidy details
  - Crop loans
  - Cutting order details
- Cane Pricing management system
- Cane weighing and crushing management system
- Cane calendaring systems
- Cane accounting system tightly integrated with Cane management system
- Chemical laboratory reporting
4.12. FUNCTIONS AND OBJECTIVES OF THE APPLICATION PACKAGE

The objective of the application is to cater to the complete business requirements of sugar mills, in an integrated manner and ensure absolute integration with ERP Packages like SAP, because these scenario like cane management can’t be addressed in SAP system, in order fill the gap’s by developing a tool for cane management system on JAVA/J2EE Technology so that it can be interfaced with SAP system on Net weaver platform or otherwise it will work as a standalone system on separate server according to various user process requirements. The modules are integrated into one another by way of data integration capabilities and a few modules to the extent of process integration. The application ensures low redundancy of data entry, thereby improving speed and ease of operations. The application has been built with enhancing productivity and competitiveness of the user organization by adopting process maturity in each of the modules. It provides unique practices thereby facilitating easy adoption at units without much of customization.

4.13. TECHNICAL FEATURES OF CANE MANAGEMENT SYSTEM

- Has Interfaces to other Tools & Utilities such as
  - Smart Card
  - SMS
  - MIS Dashboard
Chapter IV

IMPLEMENTATION OF SYSTEM APPLICATION PRODUCT(SAP) MATERIALS MANAGEMENT (MM-MODULE) IN SUGAR CULTIVATION & HARVESTING

4.13.1. SMART CARD FOR FARMERS

The smart card consists of all the informations about the former which is embedded and stored in a microchip. The specimen copy of the schematic view of smart card is as below.

Farmer’s details such ID, Photo, Electronic Signature, Address and related details can be stored in the Smart Cards which can be give to Farmers. Their Cane Supply, Payments made & pending and all other related details can be stored and tracked in the Smart Card which can be read / written at various centers / factories of the organization. Smart card is unique identification for each former and this cannot be transferred because all the information's about the former i.e name, address, Account No. date of cultivation etc everything will be incorporated in the electronic chip which is embedded in that card.

4.13.2. SMS UTILITY

With wireless telecom revolution, most of the farmers in remotest parts of India are equipped with Mobile phones, most of the data needed to be communicated to the farmers can be sent through SMS and if need be, they can be given access through web browsers as well on their mobile.

4.14. CLEAN DEVELOPMENT MECHANISM

SAP has been working on a tool to track, document and manage Carbon Credits, its Details and Documentation to help Sugar Industries to track, maintain and gain from Carbon Credits.

4.15. RESULTS AND DISCUSSIONS

The solution from SAP is bound to get the following advantages in sugar industries.
IMPLEMENTATION OF SYSTEM APPLICATION PRODUCT(SAP) MATERIALS MANAGEMENT (MM-MODULE) IN SUGAR CULTIVATION & HARVESTING

- **Total integrated reliable and real time solution**
  
  SAP is user friendly i.e information will be obtained as and when required.

- **Continues maintaining and evaluation of performances**
  
  The complete process of cane cultivation to shifting of cane can be monitored and evaluate by system only.

- **Effective inventory control**
  
  The holding stock can be accessed and based on this, action can be taken for procurement of needy items.

- **Maximize the utilization of resource**
  
  With the help SAP solution we can utilize the existing resources in the company and avoid unnecessary losses.

- **Gain edge in global competence**
  
  By implementing of SAP, losses can be avoided, recovery has been improved and the company can compete in global level.

4.16. COMPLETE BENEFIT TO THE ORGANISATION

Once we implement SAP in sugar industry, the company can able to achieve the targets in the meantime formers can feel complete satisfaction regarding transparency in the process. In addition to that following advantages can be seen after implementing SAP.

- Increase in yield by timely crushing good quality and matured cane.
- Benefits from the supply of the inputs to the farmers.
- Farmers loyalty increase.
- Planning and budgeting and achievement have meager deviation.
Re-deployment of the human resources.

Staggered plantation helps the factory to crush throughout the crushing season.