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A Revival Study of Existing Technology for Sugarcane Plantation Registration System with Special Reference to Solapur District

Dayanand Mhetre[1*], Sampada Gulavani[2]

[1]Dept. of Computer Application, Bharati Vidyapeeth Deemed University, Pune, Abhijit Kadam Institute of Management and Social Sciences, Solapur, India
[2]Dept. of Computer Application, Bharati Vidyapeeth Deemed University, Pune Institute of Management, Kolhapur, India

[*]*Corresponding Author: dayanand.mhetre123@gmail.com*

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***Abstract*—** The world's business environment has become volatile today. The industrial sectors have been struggling to make their mask. All manufacturing industries have been battling for their survival. In India agricultural sector too seems lying on death bed due to adverse weather conditions, less rainfalls, apathy of farmers and other numerous reasons. Sugar industry is one of the most important agro-based industries in India and ranks second amongst major agro-based industries. The sugar industry is not an exception it has been observed that sugar industries in India have been practicing old traditional methods and systems for even procuring sugarcane the essential raw material for production of sugar. There are infinite reasons for the gloomy picture of sugar industries in India. This industry faces many problems as short-margin, persistent losses in sugar recovery and losses in the sugar manufacturing due to old machinery and lack of new technology for producing of sugar. The registration system of sugarcane itself has many loopholes and needs to be upgraded. Thus the researcher has concentrated his whole study on methods, systems & technologies used by sugar industry today and the inbuilt lacuna in whole process and also want to upgrade whole process by this research, by finding out problems in registration system.

***Keywords*—** sugarcane registration system, technology, sugar industry, process.

I. INTRODUCTION

Sugar industry is one of the most important agro-based industries and ranks second amongst major agro-based industries in India. The sugar industry has been controlled and administrated by Government of India and respective states and therefore power of making decisions rest with the Government. This industry faces many problems as short-margin, persistent losses in sugar recovery and losses in the sugar manufacturing due to old machinery and lack of new technology for production of sugar. The main losses are accountable in losses in molasses, baggasse, and filter cake and undetermined. The big problem for this industry is the labour problem for sugar harvesting. As it affect the harvesting of the sugarcane which is also the major expenditure done by the sugar mills. Sugarcane plantation registration is an initial process to transport sugarcane to the sugar factory. Sugarcane Registration process is carried out by the sugar mills. The registration of cane to the sugar factory must be accurate and transparent.

The researcher has introduced the study in section I. He has also provided information about present sugarcane registration system. Followed by the statement of problem in which the researcher stated the problems from which sugar industry has been suffering. He has also specified the objectives of the study & methodology he has used to collect primary and secondary data. To support the study he has provided tables & graphs in section V. Finally he has registered finding & observations after revelling data.

II. ABOUT CANE REGISTRATION SYSTEM

Cane Plantation Registration System is a process carried out by the sugar mills. In this process sugar factory appoints authorized person (slip-boy) in different area to get the information of sugarcane harvesting. Cane plantation registration is the initial phase of transporting sugarcane to the sugar factory. In the cane plantation registration system, the role of slip-boy is to visit the different sugarcane plot and get the plantation details, farmer's detail, farm detail and village detail from the owner of the sugarcane and all this information will be sent to the sugar factory. The sugar factory will collect such information from the entire appointed authorized person and use that information for different process of sugar factory department.

III. STATEMENT OF THE PROBLEM

Sugar Cane registration to the sugar factory is an important activity to get the details of cane area as well as it is useful for the further financial activities. Researcher being a farmer has been observing the cane registration process and decided to study the different methods, systems adopted for the sugarcane plot registration. Hence the topic is entitled as ***"****A Revival Study of Existing Technology for Sugarcane Plantation Registration System with Special Reference to Solapur District****."***

IV. OBJECTIVES OF THE STUDY

1) To study the procedure of present cane registration system
2) To find out the problems in existing cane registrations system
3) To study the innovative technologies can be adopted for sugarcane registration system

V. RESEARCH METHODOLOGY

To fulfil the above mentioned objectives following research methodology adopted for the study. Survey Methods are adopted to collect relevant information of present cane plantation registration systems. The survey was conducted with the help of questionnaire. Also the interviews, schedules and observations were used in the study.

1) Primary Data: The data which is collected is fresh and original. The data was collected with the help of well-structured questionnaire along with formal interview, personal discussion with sugar factory agricultural department and cane grower farmer.

2) Secondary Data: This data was collected from published literature & company records and internal documentation. It was collected from the sources like sugar factory website, sugar factory legal documents, annual reports of sugar factory, various journals, newspapers and internet.

3) Sample Design: Researcher has selected convenient sampling method for the study purpose. There are total 11 talukas in Solapur district and total 5 sugar factories were selected from south Solapur, north Solapur and Akkalkoat taluka. From the 5 sugar factories, total 100 respondents were selected for the study purpose. The respondents are of two categories i.e. slip boy and cane grower farmers. In this study 60 slip boy and 40 cane grower farmers are selected for the study. The participants were asked to complete a questionnaire tested previously in a pilot study. The questionnaires consist of closed and open questions designed to collect data on all three objectives. Descriptive statistics used for the analysis of the study.

VI. DATA ANALYSIS AND INTERPRETATION

i) Tools used for Sugarcane Registration

Table 1: Showing Tools used for Sugarcane Registration

	Manual	By using s/w	By using mobile	Other device/gazette
Tools used for registration	90%	10%	0%	0%

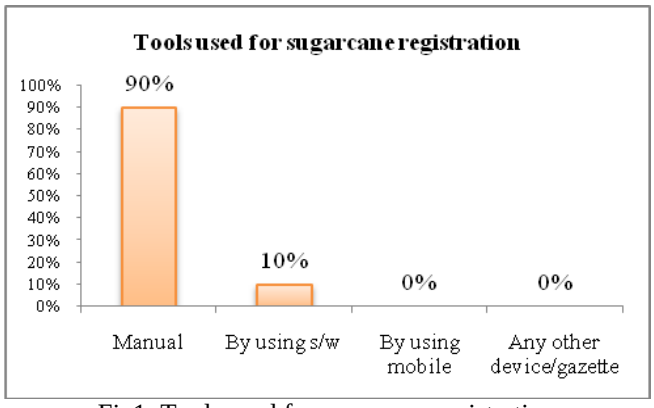

Fig1: Tools used for sugarcane registration

The above table indicates that the information related to the tools used for sugarcane registration. Majority (90%) of the respondents are saying that they are using manual tool for the registration. Few (10%) respondents are using software like ms-word, ms-excel for keeping the registered information. None of any respondents using any advanced software application or mobile applications.

ii) Use of Advance Technology for Sugarcane Registration

Table 2: Showing advance technology used for cane registration

	Yes	No
Do you use any advance technology for sugarcane registration	5%	95%

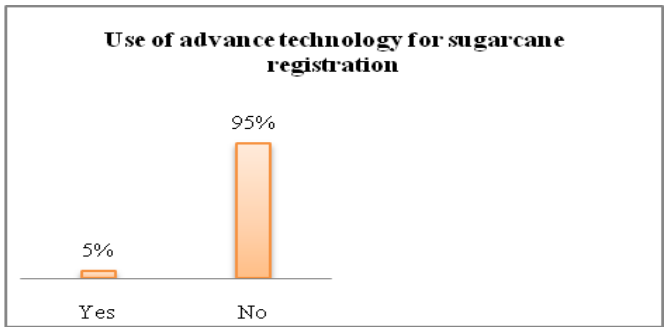

Fig 2: Advance Technology used for cane registration

The above table indicates that whether any advance technology is used for the cane registration. Maximum (95%) respondents are saying that they are not using any advance technology for the cane registration.

iii) Drawbacks of present cane registration system

Table 3: Shows drawbacks of existing cane registration system

	Time consuming	Inaccuracy	Possibility of Malpractice
Drawbacks of existing sugarcane registration system	83.33%	95%	70%

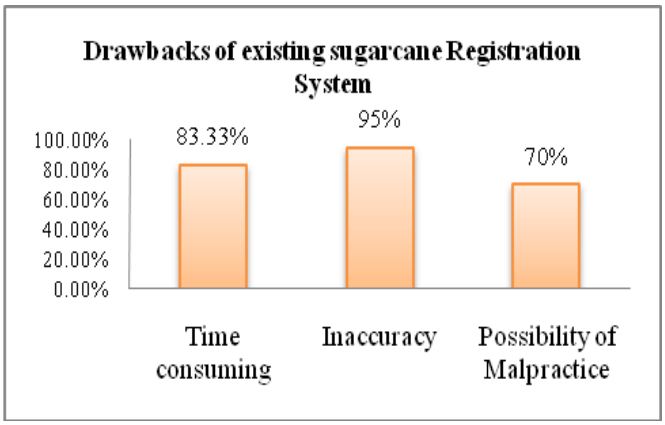

Fig 3: Drawbacks of existing sugarcane registration

The above table indicate the drawbacks of existing cane registration system. Majority (95%) of the respondents says that registration system has high inaccuracy and it is time consuming activity. It includes possibility of malpractices in registration.

iv) Methods of Cane Registration

Table 4: Showing method of sugarcane registration

	By filling form	Through oral communication	With the help of Software
Which method you use for sugarcane registration?	73%	10%	17%

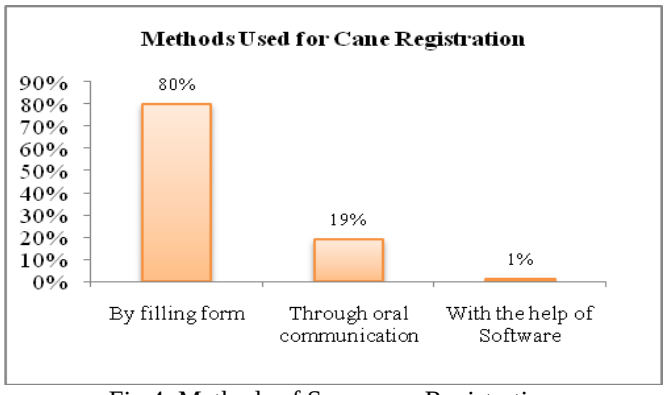

Fig 4: Methods of Sugarcane Registration

The above table 4 displays the method of doing sugarcane registration. Majority (80%) of respondents says that they fill the structured form. Few (19%) respondents say that they prefer oral communication with the slip boy.

iv) Opinion of cane grower farmers on existing sugarcane registration system

Table 5: Opinion of cane grower farmer about existing cane registration

Opinion of farmer on existing sugarcane registration system.	Yes	No
Do you get the proper tonnage	10%	90%
Do you get the maturity date of sugarcane	30%	70%
Do you get proper sugarcane cutting schedule	20%	80%

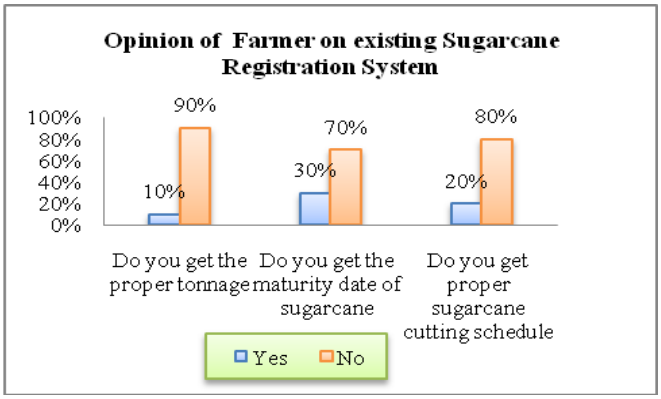

Fig 5: opinion of cane grower farmers

Above table shows opinions of cane grower farmers towards existing registration system. Due to traditional way of cane registration system, cane growers don't get idea about productivity and quality of cane. In addition to that cane growers are unable to get accurate date of sugarcane maturity and they also do not get the proper cane cutting schedule.

VII. EXISTING CANE REGISTRATION PROCEDURE

Cane plantation registration process is carried out by sugar factory. It is an initial step to carry sugarcane to the sugar factory. There are some common practices carried out for cane registration system. Sugar factory has provided a structured format for the registration. The slip boy or authorized person of the sugar factory is responsible for the cane registration.

- By filling form: A predesigned form is filled by the farmer.
- Oral Communication: Farmers communicate with the slip boy for the registration and slip boy register the cane plot area. Some of the farmers provide their 7/12 extract for the registration
- Finally slip boy collect all the information (by filling form, and oral communication) and record them in to the database or excel format and send it for the further use of su

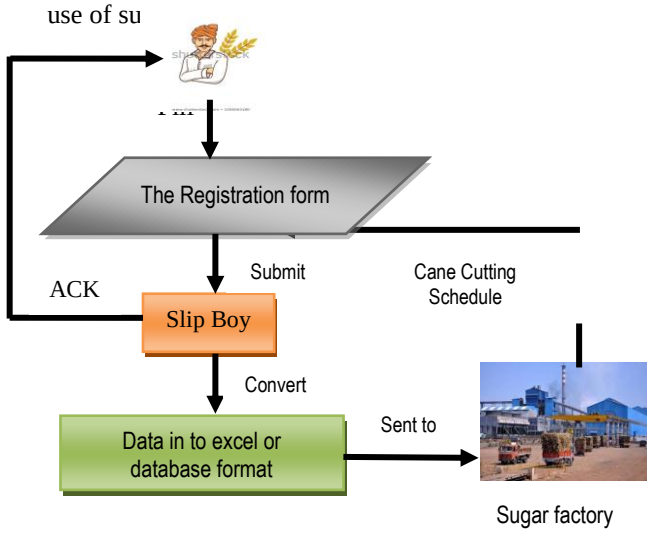

Fig 6: Sugarcane plantation registration procedure

VIII. KEY FINDINGS

i. A traditional procedure for sugarcane registration is applied manually like form filling and registration is made by oral communication.
ii. No advance technology has been yet adopted for sugarcane registration system.
iii. Existing cane registration system has many drawbacks like inaccuracy in size of cultivated land, date of cultivation and date of sugarcane maturity. In addition to that, existing system is time consuming process in which there are chances of malpractices
iv. Due to traditional way of working, agro officers are unable to provide proper guidelines about cultivation schedule as well as cane maturity schedule, which pertains to dropping down the productivity.

IX. SUGGESTIONS

In consideration of above study the following suggestions are made by the researcher

i. For cane registration advance technology like use of computer, use of basic software's and some extent advanced software applications are needed to equip.
ii. A proper awareness has to be made about use of advance technologies to the officers.
iii. Agro officers are needed to encourage using advance technologies.
iv. Easy way operational advance software applications are needed to develop which will be useful for agro officers and cane growers as well.

X. CONCLUSION

Due to the lack of advance technology and software's in agricultural sector, officers and Agro consultants are using traditional way of operations. Due to which cane growers are failing to estimate productivity as well as failing in producing quality cane. There is a need that officers and agro consultants should be equipped with advance technologies and software's, which will be helpful to the officers to give proper guidelines to the cane cultivators.

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Authors Profile

Mr. D.D. Mhetre pursed Bachelor of Science from Shivaji University, Kolhapur in 2001 and Master of Computer Application from Shivaji University, Kolhapur in year 2005. He is currently pursuing Ph.D and currently working as Assistant Professor in Department of computer application, Bharati Vidyapeeth Deemed University, Pune, Abhijit Kadam Institute of Management and Social Sciences, Solapur since 2005. He has published more than 10 research papers in reputed international and national journals. His main research work focus on sugar industry, android application. He has 14 years of teaching experience and 3 years of Research Experience.

Dr. S. Gulavani purse Master of Computer Application from Bharati Vidyapeeth Deemed University, Institute of Management, Kolhapur in 2003 and Ph.D. from Shivaji University, Kolhapur in year 2015.

And currently working as Associate Professor in Department of Computer Application, Bharati Vidyapeeth Deemed University,Pune. Institute of Management Kolhapur since 2005. She has published more than 20 research papers in reputed international and national journals. Her main research work focus on sugar industry, big data, and data mining. She has 15 years of teaching experience and 5 years of Research Experience.

