



# A COMPARATIVE STUDY OF KNOWLEDGE LEVEL BETWEEN SUGARCANE GROWERS OF GOVERNMENT AND PRIVATE SUGARCANE FACTORIES OF MEERUT DISTRICT (U.P.)

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## ABSTRACT

A study was conducted in Meerut district of Uttar Pradesh to compare the knowledge level and adoption of improved sugarcane technology between growers of government and private sugarcane factories of Meerut district, U.P. In this study, A sample of 150 respondents (75 respondents of each sugar factory) randomly selected from the both government and private sugar factories, were interviewed with the help of a well structured schedule. The results revealed from the study indicates that mostly farmers (44%) of the government sugar factory showed low level, while maximum growers (52%) of private sugar factory showed medium level of knowledge of recommended package of practices of sugarcane. It also shows that average knowledge level of government and private sugar factories cane growers were found 41.13 percent and 48.40 percent, respectively .

**Key Words :** Knowlege level Private and Goverenment Factory.

Sugarcane (*Saccharum officinarum*) is the main source of sugar in India and holds a prominent position as a cash crop. Sugarcane is one such crop as not only has a strong bearing on agro based economy of the country and industrial uses but has ample scope of improvement by way of production and productivity. Sugarcane is one such crop of which every part of the plant is ultilized for industrial production and human/ animal food. The sugarcane juice is used for extracting the sugar, brown sugar (Khandsari) and jaggery (Gur).

In the world, India ranks II<sup>nd</sup> after Brazil (I<sup>st</sup>) in area of sugarcane crop and production of sugarcane and sugar. India has 5.04 million hectare area and 361.0 million tonne production of sugarcane (2011-12) while Brazil has 9.07 million hectare and 717 million tonne, respectively. But India ranks only XIV<sup>th</sup> in world in sugarcane productivity (tonne/ha) with field levels of 71.7 tonne/ha (2011-12) after Peru (137.49 t/ha), Maldives (121.42 t/ha), Zimbabwe (121.21 t/ha), Egypt (119.0 t/ha), Zambia (117.89 t/ha), Ethiopia (113.33 t/ha),

Guate Mala (95.4 t/ha), Columbia (94.8 t/ha), Australia (88.9 t/ha), Indonesia (84.41 t/ha), Brazil (79.04), USA ( 78.10) and Mexico (73.30 t/ha). (Source- Cooperative Sugar statistics, 2013)

In India, Uttar Pradesh ranks Ist in area and production of Sugarcane. Uttar Pradesh has 2.16 million hectare area of sugarcane while all India has 5.04 million hectare. Uttar Pradesh has 128.8 million tonne production of sugarcane, while all India has 361.0 million tonne. (In 2011-12, source-cooperative sugar statistics). The state Uttar Pradesh constitute 42.94 percent of total area of sugarcane in India, while it produced 35.67 percent of total sugarcane. The productivity of sugarcane in Uttar Pradesh is very lower than whole India and many states. The productivity of sugarcane in Uttar Pradesh is 59.6 tonnes/ha while Average productivity in all India is 71.7 tonne per ha. Uttar Pradesh ranks XIIth in India after Tamil Nadu (111.4 t/ha), West Bengal (104.6 t/ha), Kerala (101.2t/ha), Karnataka (90.3 t/ha), Maharashtra (84.9 t/ha), Andhra Pradesh (81.8 t/ha), Haryana (73.3 t/ha), Punjab (70.7 t/ha), Rajasthan (70.3 t/ha), Jharkhand (69.2 t/ha) and Gujarat (63.1 t/ha). In Uttar Pradesh, Western U.P. region along produces 38.6 percent of the cane produced in the state and 13.68 percent of the cane produced in the country. (Source- Cooperative Sugar statistics, 2013)

So, It is found that in comparison to South Indian states as Tamil Nadu, Kerala, Karnataka, Maharashtra and Andhra Pradesh as well as West Bengal, the yield productivity in Uttar Pradesh and Western Uttar Pradesh is very low. It is due to less knowledge and adoption of new improved sugarcane technology generated by the scientists and research institutes, of farmers with climatic variables. It was under this assumption that present study was taken up.

The study was undertaken in Meerut district of Western Uttar Pradesh because state and Meerut region are the leading sugarcane growing belts in the country. The present study is an attempt to compare the knowledge level between government and private sugar factories cane growers.

## MATERIALS AND METHODS

The present study has been conducted in Meerut district of Uttar Pradesh. Out of six sugar factories working in Meerut district, two sugar factories Mohiuddinpur and Nanglamal Sugar Mill were selected randomly from government and private categories, respectively. From each selected sugar mill, three village were selected, randomly. So in all, 6 villages were selected as sample villages for this study. A list of sugarcane growers of each of the six selected villages was prepared. These cane growers were classified into three categories marginal (<1 ha), small (1-2 ha) and above (medium & large) farmer (>2ha) on the basis of land holdings. Further, a proportional sample of 75 farmers from each of both selected sugarcane factory was randomly selected from each of category. Thus, a total of 150 respondents or cane growers were finally selected for the study. The sample respondents were interviewed by the investigator personally and individually with the help of a well structured interview schedule.

## RESULTS AND DISCUSSION

In this section, an attempt is made to assess the knowledge level of cane growers about the recommended package of practices of sugarcane cultivation.

**Knowledge** is a body of understood information possessed by an individual or by a culture (**English and English, 1961**). **Knowledge** as a factor influencing the adoption behaviour of the farmers has been studied by **Hess and Miller (1954)** have been found positive and significant in association of knowledge with adoption. It is, therefore, expected in this study that the knowledge will be positively associated with the adoption of sugarcane innovations.

**Rogers and Shoemaker (1971)** while explaining the model of innovation decision process, considered knowledge as a function or stage of process and remarked “at this stage, the individual is exposed to innovation’s existence and gains some understanding of how it functions.”

The definition of Rogers and Shoemaker has been

used as operational for the purpose of present study. In order to measure this concept, a knowledge schedule was prepared on the basis of recommended sugarcane package of practices. This schedule contained 20 questions covering all the aspects of recommended practices of sugarcane cultivation. A maximum weight age of 1 mark was allotted to each question. Thus the possible range of knowledge score varied from 0 to 20.

The knowledge level of the respondents was categorized into three levels low, medium and high according to obtained scores by respondents. The respondents were categorized as obtaining a score range up to 7, as 8-13 and above 13 were placed as those having low, medium and high level of knowledge respectively.

The data collected and analysed in respect to the knowledge level of the various categories of cane growers of Government and Private Sugarcane factories are delineated in Table 1 and 2 respectively. The results revealed from the comparative study are showed in Graph-1.

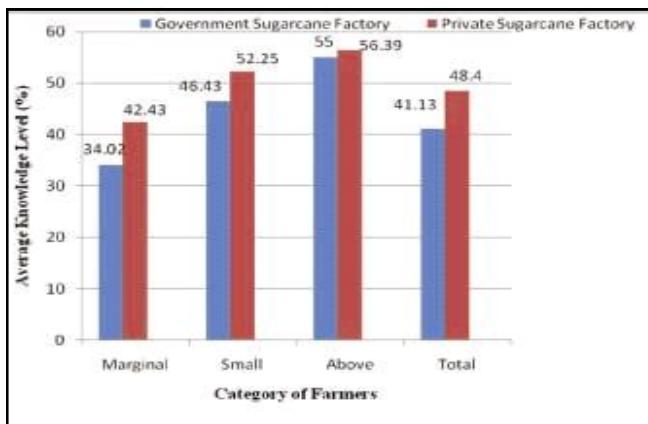


Fig 1 : Knowledge Level of Cane Growers of Government and Pricate Sugarcane Factory

According the results of analysed data in Table-2, the frequency distribution of three categories of respondents revealed that 52.00 percent of respondents of private sugarcane factory had a medium level of knowledge in recommended package of practices. The three constituents i.e. marginal, small and above

(medium and large) farmers of this category showed slight deviation 51.35, 50.00 and 55.56 percent respectively. The percentage of low knowledge level was determined to be 28.00 percent which consisted of marginal farmers (37.84%), small farmers (25.00%) and above i.e. medium & large (11.11%).

Table-2 further revealed that only 20.00% of respondents had high knowledge level. It reports also that 10.81% of marginal category, 25.00% of small and 33.33% of Above (medium & large) category respondents fill in this category of high knowledge level.

In comparative study of both table, it showed that maximum respondents (52.00%) of private sugarcane factory had medium knowledge level while in government sugarcane factory, maximum respondents (44.00%) had low knowledge level.

The study also shows that percentage of high knowledge retainers of private sugarcane factory (i.e. 20.00%) is greater than the high knowledge retainers of government sugarcane factory (i.e. 13.53%)

The study further revealed that 42.67% of respondents of government sugarcane factory had medium knowledge level and 28.00% of respondents of private sugarcane factory had low knowledge level of recommended package practices of sugarcane cultivation.

### **The Average Knowledge Level of respondents**

These tables also present the average knowledge level of the respondents. According the results of analysis as depicted in Table-1, the large percentage of marginal farmers (54.67%) have low average knowledge level (34.02%). It also shows that small farmers (28.00%) have medium average knowledge level (46.43%) and above (medium & large) farmers (17.33%) have high average knowledge level i.e. 55.00%. **Poswal (2004)** found that small cane farmers had the highest 59.60 percentage knowledge level followed by other farmers (57.80%) and marginal farmers (48.45%)b in Muzaffarnagar district.

The overall average knowledge level of cane growers in study area of government sugarcane factory was found to be 41.13%. However, **Tyagi (1988)** and **Mishra, Singh & Chaturvedi (2008)** found very short

knowledge level in their studies in sugarcane (23.77%) and rural we men (24.10%) respectively.

By the study of respondents of private sugarcane factory, it was noted that marginal farmers (49.33%) have low average knowledge level (42.43%) and small farmers (26.67%) have medium average knowledge level (52.25%). It also indicates that above (large & medium) farmers of private sugarcane factory have maximum average knowledge level i.e. 56.39%. **Tyagi (2011)** searched the high, medium low level of knowledge by 16, 64 and 20 percent orchard owners respectively.

The overall average knowledge level of cane growers of private sugarcane factory was found to be 48.40%. **Poswal (2004)** and **Gautam, Chand and Singh (2008)** determined 53.30 percent about sugarcane cultivation and 86.3 percent about the during in Varanasi distt. Overall knowledge level respectively.

By comparison of both type of factories respondents, we can say that the respondents of private sugarcane factory have more average knowledge level (48.40%) than other respondents of government sugarcane factory (41.13%). the average knowledge level of above (medium & large) farmers of private sugarcane factory (56.39%) have slight deviation from the respondents of government factory in same category (i.e. 55.00%) while small farmers of private sugar factory (52.25%) shows large deviation the small farmers of government sugarcane factory (46.43%).

It is interesting to note that marginal farmers of private sugarcane factory (42.43%) shows greater deviation from the marginal farmers of government sugarcane factory (34.02%) in a overage knowledge level. the study also indicates that small and above (marginal & large) farmers have been found possessing higher level of knowledge than the marginal farmers.

Table 1: Knowledge level of cane growers of Government Sugarcane factory

| Sr.<br>No. | Categories of farmers               | Knowledge Level |       |                  |       |                    |       | Average<br>Knowledg<br>e<br>Level % |  |
|------------|-------------------------------------|-----------------|-------|------------------|-------|--------------------|-------|-------------------------------------|--|
|            |                                     | Low<br>(upto 7) |       | Medium<br>(8-13) |       | High<br>(above 13) |       |                                     |  |
|            |                                     | No.             | %     | No.              | %     | No.                | %     |                                     |  |
| 1.         | Marginal (41) (54.67%)              | 24              | 58.54 | 14               | 34.14 | 3                  | 7.32  | 34.02                               |  |
| 2.         | Small (21) (28.00%)                 | 6               | 28.57 | 12               | 57.14 | 3                  | 14.29 | 46.43                               |  |
| 3.         | Above (13) (Medium & Large)(17.33%) | 3               | 23.08 | 6                | 46.15 | 4                  | 30.77 | 55.00                               |  |
| Total =75  |                                     | 33              | 44.00 | 32               | 42.67 | 10                 | 13.53 | 41.13                               |  |

Table 2 : Knowledge level of cane growers of Private sugarcane factory

| Sr.<br>No. | Categories of farmers                | Knowledge Level |       |               |       |                    |       | Average<br>Knowledge<br>Level % |  |
|------------|--------------------------------------|-----------------|-------|---------------|-------|--------------------|-------|---------------------------------|--|
|            |                                      | Low (upto 7)    |       | Medium (8-13) |       | High<br>(above 13) |       |                                 |  |
|            |                                      | No.             | %     | No.           | %     | No.                | %     |                                 |  |
| 1.         | Marginal (37) (49.33%)               | 14              | 37.84 | 19            | 51.35 | 4                  | 10.81 | 42.43%                          |  |
| 2.         | Small (20) (26.67%)                  | 5               | 25.00 | 10            | 50.00 | 5                  | 25.00 | 52.25                           |  |
| 3.         | Above (18) (Medium & Large) (24.00%) | 2               | 11.11 | 10            | 55.56 | 6                  | 33.33 | 56.39                           |  |
| Total =75  |                                      | 21              | 28.00 | 39            | 52.00 | 15                 | 20.00 | 48.40                           |  |

## CONCLUSION

It is concluded that the respondents of private sugar factory, have high knowledge level than government sugar factory. According the results revealed from the study, mostly farmers (44%) of government sugarcane factory showed low level of knowledge of recommended package of practices of sugarcane followed by medium (42.67%) and high (13.53%) cane growers. The marginal, small & above cane growers reported 34.02, 46.43 and 55.80 percent knowledge levels, respectively. More than half (52%) cane growers of private sugar factory elicited a medium level of knowledge in sugarcane package practices followed by low (28%) and high (20%) levels of knowledge. The marginal, small and above (medium & large) cane growers drawn out 42.43, 52.25 and 56.39 percent, respectively. The average knowledge levels of government factory cane growers and private factory cane growers were found to be 41.13 and 48.40, percent respectively.

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