THINK INDIA (Quarterly Journal)

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

A Study on Productivity Efficiency of Sugaracane Cultivation in Pudukottai District of Tamilnadu

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ABSTRACT

Now-a-days the farmers are growing with a compound growth rate in India which contributes nearly 23.25 consistent with the per cent of the world's production of sugarcane. Sugarcane production in India multiplied from 226 million tonnes to 280 million tonnes because of growth within the area and yield in the course of the period among 1999-2000 and 2007-08. Between 1999-2000 and 2007-08, the region beneath sugarcane cultivation increased from 3.4 million hectares to 3.9 million hectares. The yield of sugarcane rose from 65.6 tonnes consistent with hectare in 1999-2000 to 71.1 tonnes in 1997-98, showing a marginal increase in the yield. During the year 1998-99, the vicinity, manufacturing, and yield of sugarcane within the global had become 4.1 million hectares, 296 million tonnes and 72.6 tonnes in step with hectare respectively. There are lot of factors that have an impact on sugarcane cultivation. Pudukkottai has to go forward from their iconic position; there is every opportunity which compares the impact of sugarcane cultivation, depending on the parameters of the farmers. The legacy of this observation is motivated to the productivity efficiency of Sugarcane Cultivation in Pudukkottai District, Further the examine enables to investigate the crucial underlying factors which influences manufacturing and to Productivity Efficiency of Sugarcane Cultivation. The observe covers sugarcane cultivation of the chosen block in Pudukkottai District. The study is based on secondary data. The data is collected based on area, production and yield of sugarcane in Pudukkottai District. And also to understand the socio-financial background of the sugarcane cultivating farmers within the examine area. And finally to suggest the remedial measures for the problems of sugarcane cultivation based totally on the principle findings of the examine study area.

Keywords: Sugarcane, Growth Production, Productivity Efficiency

1. INTRODUCTION

Sugarcane is an essential coins crop grown in India. Sugarcane cultivation and expansion of sugar industry runs similar to the growth of human development and is as old as agriculture. The importance and use of sugarcane and sugar within the socio-financial history is deep fixed and massive. In current day rural economic system, the set up sugarcane cultivation and sugar industry has been an essential point for socio-financial expansion in rural areas through mobilizing rural sources, producing carrier and higher income, shipping and assertion facilities. About 7 million sugarcane farmers and wide variety of agricultural workers are involved in sugar cane cultivation and supplementary sports. Apart from this, the sugar enterprise affords employment to 5 lakh skilled and semi-skilled workers in rural regions. Sugarcane is a perennial grass of the genes Saccharum. It is cultivated for its fruit drink, from which sugar is processed. Most present-day

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industrial canes are the off springs or hybrids of the species of Saccharum Officinarum, which was advanced from a wild cane genes. Sugarcane cultivation calls for a steamy or subtropical climate, with at the very least 24 inches of annual rainfall. Sugarcane cultivation is propagated from cuttings which have become a common method of imitation. Each slicing ought to comprise at least one bud, and the slicing is generally planted by means of hand. Once planted, a stand of cane may be harvested numerous times. After every harvest, the cane sends up new stalks, known as ratoon. Usually, every successive harvest gives a smaller yield and finally the declining yields justify planting. Depending on agricultural exercise, 2 to 10 harvests may be viable among plantings. In India sugarcane is bought as Jaggery and is also subtle into sugar in most cases for consumption in tea, coffee, and chocolates and for the production of alcoholic beverages. Uses of sugarcane encompass the manufacturing of sugar, molasses, rum, soda, and ethanol. The sugarcane crushing can be burned to provide both warmth-used in the mill and strength, typically bought to the power grid. It may also, because of its high cellulose content material, be used as an uncooked material for paper, cardboard, etc.

GLOBAL SCENARIO

At gift, India, Brazil and the EU are international's biggest producers of sugar. They are observed by way of the US, China, Thailand, Mexico, Australia, Cuba, and South Africa. In June 2004, the International Sugar Organisation was awaiting a global sugar deflect of approximately 4-5 million tonnes in 2004-05. Of the input of sugar in Brazil raises via just 3% over the expected production, the impact would be 1/2 at 2.0-2 Five million tonnes. The ISO had estimated international sugar surplus at an insignificant zero.222 against 6.857 million tonnes in 2002-03.

In 2003-04 (Oct-March) Pakistan was predicted to provide 3.Eight million tonnes sugar against 3.6 million tonnes in 2002-03. The demand for sugar inside U. S., however, is simplest about three.3 million tonnes. In 2002-03, the Trading Corp of Pakistan (TCP) had purchased around 2.00 lakh tones sugar. Their sere plans to export 25,000-50,000 tonnes sugar in 2003-04. In 2004, the WTO ruled against the EU sugar export subsidies According to Thailand's Sugar Industry the EU will now be compelled to diminish its sugar exports via as a minimum 2 million tonnes a year and as a result, the sector sugar prices could pass up by 10%. Thailand is Asia's biggest sugar exporter. It ships round 7 million tons of sugar yearly, both uncooked and whites. In November 2004, USDA projected the arena sugar output at 141.7 million tonnes in 2004-05 and international sugar consumption at 140.Five million tonnes. The international sugar exports have been projected at 31.7 million tones and give up-year shares at 31.7 million tonnes. In 2004-05 the arena sugar production becomes expected to rise due to better manufacturing in Brazil, Australia, and China where the manufacturing changed into anticipated to upward push through 2 million tonnes, zero. Five million tones and zero. Four million tonnes respectively. Since 2003-03, Brazil's output of sugar has long past up by using four.6 million tonnes to twenty-eight. Four million tonnes, that's 20% of the sector output. The sugarcane production in Pakistan is anticipated to fall to 46 million tonnes in 2005-06 from 47 million tonnes in 2004-05 and the United States might also import about eight.0 lakh tons of sugar in 2005-06. In 2004-05 additionally, the sugarcane output became approximately a 21% decrease. U. S. A. Purchasers approximately 3.8 million tons of sugar yearly. In 2005-06 the U. S. is predicted to provide handiest 3.0 million tonnes of sugar. In February 2005, the import tax on sugar become scrapped in Pakistan and the U. S Had imported nine, seventy-three,000 tonnes of uncooked and delicate sugar in 2005. According to international sugar Organization the world output of sugar is anticipated to upward push to 149.7 million tones and world intake to a hundred and fifty.7 million tonnes in 2005-06. In 2004-05, the arena manufacturing become most effective a hundred and forty four.4 million tonnes. The sugarcane

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production in Brazils is anticipated to fall to 394.Four million tonnes in 2005-06 (May –April) from 397.1 million tonnes in 2004-05.

SUGARCANE PRODUCTION IN WORLD

Tamil Nadu state ranks 0.33 in sugarcane growing area (0.35 million hectares) accounting to eight. Five percent in the United States. It produces forty-six. Sixty-seven million tons of sugarcane 15.Eight percentage. Tamil Nadu tops the listing many of the states. In sugarcane productiveness with 134.2tonnes/ ha even as none of the alternative states even crossed 100t/a degree. But the average sugar healing in Tamil Nadu is most effective 8.83 percentage and of course, it's miles less than the country wide average. Tamil Nadu produces 1.73 million tonnes of crystal sugar and ranks third within the USA. Tamil Nadu additionally produces 1.20 million tons of ours. About forty four.6 percentage of the sugarcane produced by our within the United States of America.

The sugar venture is the second greatest agro-based absolutely industry consequent best to texture inside the U. S. There are 435 sugar plants introduced which use 40-50 percent of the stick delivered and generation around 15million tonnes of sugar roughly five lakh labourers are registry enlisted through the business aside from a large group of others picking up work in enterprises, which use by methods for results of sugar industry as uncooked substances. The sugar undertaking contributes over Rs. 1000 crores to the critical exchequer as extract obligation and charges every year. Additionally, about an equivalent amount is acknowledged by methods for the country specialists through purchase takes and so forth. At the overarching sugarcane charge, add up to estimation of sugarcane delivered at the U.S. is round Rs.15, 000 crores.

2. STATEMENT OF THE PROBLEM

To speak increase and manufacturing and productivity efficiency of sugarcane in Pudukkottai District within the sense that no attempt is made to extract the essential underlying factors effects of productivity efficiency of sugarcane in the workforce effecting boom and productivity, their relative significance and their courting among one of a kind socio monetary backgrounds of pattern sugarcane farmers. Now- a- days the sugarcane cultivation rely upon their diverse allocates. There are such a lot of factors that have an impact on their sugarcane cultivation. The Pudukkottai District has to development forward from their iconic position; there are every opportunity that choice regarding comparing the impact of sugarcane cultivation, depending at the parameters of the in line with farmers. Opinions concerning the difference socio-financial backgrounds of sample sugarcane farmers at the blessings of introducing adopted technology, procedure inventory and ware residence management, elements at the desires of manufacturing, asset possessions, Crop Details, Cost of cultivation of planted and ratoon vegetation of sugarcane likes Input price of planted sugarcane, Input price of ratoon crop of sugarcane, labour trouble, Constraints in processing & marketing of sugarcane, factories offer transportation, In this modern international, sugarcane cultivation is an important function of the sugarcane industries So, it's far essential to examine the problem of the procedure performance productivity gear and strategies used in the sugarcane cultivation, procedure directory and production practices, the connection between farmers and industries. The heritage of the observe is motivated to examine the production and productiveness performance of sugarcane in Pudukkottai District, Further the examine enables to investigate the crucial underlying factors influences of manufacturing and productivity performance of sugarcane in the team of workers control effecting farmers performance. The observe covers sugarcane cultivation of Pudukkottai District. This look at has undertaken the goal of providing in Pudukkottai District.

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3. IMPORTANCE OF THE STUDY

There is a fundamental alternate in sugarcane cultivation and impact of sugarcane era on business performance of client price advent and goal costing are big to sugarcane cultivation from the traditional methods to fashionable approaches, as seen within the past due 1960's. This change has showed the way for a new variety of boom and production on business overall performance to offer the wishes and pleasure of sugarcane cultivation and Growth and Productivity efficiency of sugarcane in Pudukkottai District. At the same time these studies through light on growth manufacturing and productiveness performance of sugarcane cultivation of farmers for proper coverage fixation that takes into account both the not unusual farmer as well as a client. This highlights the need and significance of study productivity efficiency of sugarcane cultivation to understand the effectiveness productiveness efficiency of sugarcane figuring out the region under sugarcane, the value and returns of sugarcane manufacturing at farm degree. The reason of this examine is to first perceive the extraordinary forms of effectiveness productivity efficiency of sugarcane process of the case industry. As the sugarcane boom and production could be very vital. This is the principle motive in the back of the researcher for deciding on the research subject matter A Study on the Growth Production and Productivity performance of Sugarcane Cultivation in Pudukkottai District

4. OBJECTIVES OF THE STUDY

- To Determinants of yield, yield gap and yield constraints in Pudukkottai District
- To examine the prices and benefits of sugarcane cultivation in the look at the location
- To confirm problems, prospects, and method of sugarcane cultivation

5. HYPOTHESIS OF THE STUDY

- H0= There isn't any prices and benefits of sugarcane cultivation
- Hi = There is any prices and benefits of sugarcane cultivation

6. THE METHODOLOGY OF THE STUDY

This takes a look at is based totally on boom and production and productivity performance of sugarcane and its effects on tools and techniques utilized in the selection-making procedure, each in analytical and descriptive nature. It depends upon each number one and secondary records. The method is the rationale section which governs the outcome of the research. It encompasses and directs the researcher to perform the studies in a methodical process which ensures and allows the truthfulness of the consequences. It deals with the statistics amassed for the observe, resources of facts, sampling plan of the populace of the take a look at, area of the studies, device used to accumulate information, approach of collecting data, analysis, and interpretation of the accrued information with one-of-a-kind statistical tools so that it will find out the strength of the accrued statistics and boundaries of the study for the purpose of accumulating the number one information.

7. SOURCES OF DATA

The researcher has made use of both number one and secondary sources to fulfill the targets. The number one information in Pudukkottai District. In addition to statistics accrued thru primary sources, different secondary statistics were additionally collected from farmers which include socio-monetary historical past farmer's, costs benefits strategies and overall problems and so forth.,

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the secondary records supplied by way of these corporations from their annual reviews and bulletin.

8. SAMPLING PLAN

The populace of the selected places for the research may be very massive and all the respondents couldn't be interviewed because of practical difficulties. Only decided on samples had been taken up for the observed. Many farmers sugarcane cultivation, Hence the facts were accrued from the respondents who had been willing to disclose the information. Two degrees of stratified random sampling technique is used for the take a look at. In order to have the example from exceptional demographical businesses is finished to pick out the respondents. The research becomes taken by way of two degrees of stratified random sampling approach.

9. LOCATION OF THE STUDY

In Pudukkottai District of Tamil Nadu has been selected for the observing, considering the agriculture as a supply of livelihood to the well sized populace and the significances of this look at to function a version to be replicated to different areas of the country. Therefore, the Pudukkottai District paperwork the universe of the look in Pudukkottai District.

STATISTICAL TOOLS FOR ANALYSIS

This research is primarily based on primary data which were accrued from the increase and manufacturing and productiveness performance of sugarcane of pick out blocks through the questionnaire. Secondary data are also utilized, which were collected from the posted source like books, journals, magazines, and annual reports. The facts accrued from each of the sources are inspected, edited and tabulated. The facts have been analysed the use of a statistical package for social sciences (IBM SPSS-21).

DETERMINANTS OF YIELD, YIELD GAP AND YIELD CONSTRAINTS IN PUDUKKOTTAI DISTRICT

To identify the input factors, which cause variation in the yield of sugarcane with respect to Traditional variety and High Yielding variety and also in the small and large farms producing these two varieties.

MULTIPLE LINEAR REGRESSION MODEL

In order to identify the determinants of yield of small and large farms, the following form of log-linear multiple regression model was used.

$$\log Y = \alpha_o + \beta_1 \log x_1 + \beta_2 \log x_2 + \beta_3 \log x_3 + \beta_4 \log x_4 + \beta_5 \log x_5 + U \ldots\ldots\ldots$$

CHOW'S TEST

In order to test the structural difference between small and large farms for Traditional and High Yielding variety, Chow's test was performed.

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SIZE - WISE ANALYSIS OF TRADITIONAL VARIETY

The results of the linear regression equation fitted to identify the determinants of yield using the five independent variables for the small and large farms cultivating Traditional variety are presented in Table below.

ESTIMATED REGRESSION RESULTS FOR SMALL AND LARGE FARMS CULTIVATING TRADITIONAL VARIETY

VARIABLE	SMALL FARMS	LARGE FARMS	TOTAL FARMS
Intercept	1.0916	1.0811	1.0821
Log X1	0.3216*	0.2811*	0.3166*
	(2.7216)	(2.7911)	(2.7516)
Log X2	0.2765*	0.2511*	0.2511*
	(2.2461)	(3.2511)	(3.2461)
Log X3	0.0314	0.1132	0.0891
	(0.0071)	(0.0862)	(1.1361)
Log X4	0.1964*	0.1761*	0.1732*
	(2.1751)	(3.0141)	(2.8361)
Log X5	0.1765*	0.2261*	0.1961*
	(2.1932)	(3.2261)	(2.1931)
R2	0.8162	0.7816	0.8261
F-value	27.9162	36.2611	32.1541
Residual sum of squares	0.0168	0.0039	0.0306
No. of observations	98	52	150

Figures in brackets represent t–value

* Indicates the co-efficients are statistically significant at 5 per cent level.

TABLE NO 1

In Table 1 the value of R^2 indicates that all the five independent variables included in the model are positive and they account for 82.61 per cent of the variations in the yield of total farms in Traditional variety. Out of the five independent variables, human labour, fertilizers, irrigation and capital flow were statistically significant at 5 per cent level. It implies that by one per cent increase in this variable, yield could be increased by 0.3166 per cent, 0.2511 per cent, 0.1732 per cent and 0.1961 per cent respectively. The F value shows that the fitted regression model is statistically significant at one per cent level. Among the various inputs human labour had a greater influence on the determination of yield.

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TESTS FOR STABILITY OF INTERCEPT AND SLOPE BETWEEN SMALL AND LARGE FARMS CULTIVATING TRADITIONAL VARIETY (TV) OF SUGARCANE

VARIABLE	PARAMETER ESTIMATE	T – VALUE
Intercept	1.2711	1.2211
Intercept dummy	0.1811	0.1919
Log X_1	0.2415*	3.2691
Log X_2	0.1821*	2.9696
Log X_3	0.0981	1.4564
Log X_4	0.2261*	2.9936
Log X_5	0.1361*	3.8162
D log X_1	-0.0499*	-3.0816
D log X_2	0.0113	1.0862
D log X_3	0.1361	0.9462
D log X_4	0.0891	1.0924
D log X_5	0.1189	1.1364
R^2	0.8361	1.0999
F – Value	29.1541	1.0696
No. of observation	150	

* Indicates the co-efficient are statistically significant at 5 per cent level.

TABLE NO 2

The results of the above Table 2 show that the intercept dummy coefficient has not been statistically significant at 5 per cent level. It implies that the nature of technical change is neutral for both the small and large farms. The co-efficient of human labour, fertilizers, irrigation and capital flow were found to be significant statistically at 5 per cent level. It indicates that an additional percentage of these variables could increase the yield by 0.2415 per cent, 0.1821 per cent, 0.2261 per cent and 0.1361 per cent respectively. The structural differences between the two groups of farms at the slope level were caused by the variable human labour. It shows that an addition made to this variable is capable of increasing the yield by 0.2415 per cent for small farms and 0.1880 per cent for large farms. The F test shows that the model is significant at 1 per cent level. It shows that the use of human labour highly influenced per acre yield of small farms than that of large farms.

SIZE-WISE ANALYSIS OF HIGH YIELDING VARIETY

The results of the estimated regression (5.1) relating to the determination of yield for small and large farms producing variety High Yielding variety are presented in Table 3.

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ESTIMATED REGRESSION RESULTS FOR SMALL AND LARGE FARMS CULTIVATING HIGH YIELDING VARIETY OF SUGARCANE

VARIABLE	SMALL FARMS	LARGE FARMS	TOTAL FARMS
Intercept	1.0414	1.0611	1.0399
Log X_1	0.3815*	0.3561*	0.3781*
	(2.7461)	(2.7991)	(2.7761)
Log X_2	0.2496*	0.1421	0.1899*
	(3.2215)	(0.2216)	(3.2261)
Log X_3	0.0172	0.1172	0.0891
	(0.0861)	(0.1791)	(0.0051)
Log X_4	0.1142*	0.0914*	0.1199*
	(2.9815)	(1.9762)	(2.9141)
Log X_5	0.1971*	0.2719*	0.2699*
	(2.1862)	(2.1962)	(2.1781)
$_R2$	0.8214	0.8162	0.8162
F-value	33.1541	29.1541	27.9111
Residual sum of Squares	0.0199	0.0062	0.0381
No. of observations	92	58	150

Figures in brackets represent t –values

* Indicates the co-efficients are statistically significant at 5 per cent level.

TABLE NO 3

In Table 3 the value of R^2 indicates that all the variables jointly explained 82.14 per cent of the variations in the yield per acre of small farms in High Yielding variety. The regression co-efficient of all the variables except pesticides were statistically significant at 5 per cent level. It implies that by one per cent addition in the variables namely, human labour, fertilizers, irrigation and capital flow, yield could be increased by 0.3815 per cent, 0.2496 per cent, 0.1142 per cent, 0.1971 per cent and 0.1969 per cent respectively. Among the significant variables, human labour had a greater influence on the determination of the yield. As per F value, the regression model is found to be significant at 1 per cent level.

YIELD CONSTRAINTS OF SMALL FARMS CULTIVATING TRADITIONAL VARIETY

YIELD CONSTRAINT	MEAN SCORE	RANK	NO. OF FARMS
Water shortage	31.15	V	33
Variety	37.64	III	49
Disease	49.65	II	52
Credit inadequacy	55.21	I	58
Traditional methods	33.15	VI	43

TABLE NO 4

It is observed from table 4 of the total sample of 94 small farms cultivating Traditional variety of sugarcane, 58 of them reported “credit inadequacy” as the main constraint to the potential yield at farm level. “Disease” was stated to be the second major constraint by 52 of them. Difference in yield among farm, due to “variety” was stated by 48 of them, to be the third constraint. The fourth

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constraint pointed out by 43 of the sample farms was the "traditional methods". They were followed by the other constraint "water shortage" (33) of the sample farms.

YIELD CONSTRAINTS OF LARGE FARMS CULTIVATING TRADITIONAL VARIETY

YIELD CONSTRAINT	MEAN SCORE	RANK	NO. OF FARMS
Water shortage	39.15	V	25
Variety	48.64	III	29
Disease	57.15	II	30
Credit inadequacy	45.22	IV	27
Traditional methods	50.15	I	31

TABLE NO 5

Out of 54 sample large farms cultivating traditional variety of sugarcane, 31 reported "traditional methods" The ranks assigned to the five identified factors are given separately for small farms producing High Yielding variety of sugarcane. It can be inferred that there is no association between yield gap and the yield constraint, "disease" as far as large farms producing High Yielding variety of sugarcane in the study area are concerned. The cross tabulation of yield gap and the yield constraint, "credit inadequacy", of large farms producing High Yielding variety of sugarcane are presented in Table 6

CONTINGENCY TABLE BETWEEN YIELD GAP AND CREDIT INADEQUACY WITH CHI-SQUARE VALUE, OF LARGE FARMS CULTIVATING HIGH YIELDING VARIETY

YIELD GAP	CREDIT INADEQUATE	CREDIT ADEQUATE	TOTAL
(in tonnes)			
Below 1.5	7	14	21
1.5 – 2.5	11	8	19
2.5 – 3.5	13	5	18
Total	31	27	58

Calculated Value of Chi-Square = 5.2906

TABLE NO 6

It clearly indicates that the calculated value is less than the table value and hence it is inferred that there is no association between yield gap and the yield constraint "credit inadequacy" in large farms producing High Yielding variety of sugarcane. Table presents the cross tabulation of yield gap and the yield constraint, "traditional methods", of large farms producing high yielding variety of sugarcane.

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CONTINGENCY TABLE BETWEEN YIELD GAP AND TRADITIONAL METHODS WITH CHI-SQUARE VALUE, OF LARGE FARMS CULTIVATING HIGH YIELDING VARIETY

YIELD GAP	TRADITIONAL METHODS	MODERN METHODS	TOTAL
Below 1.5	14	9	23
1.5 – 2.5	12	9	21
2.5 – 3.5	8	6	14
Total	34	24	58

*Calculated Value of Chi-Square = 0.1769

*Table Chi-Square value with 2 degrees of freedom at 5 per cent level = 5.991

TABLE NO 7

It means that there is no association between yield gap and the yield constraint, "traditional methods" of production, as far as large farms producing High Yielding variety of sugarcane in the study area are concerned.

DIRECT AND INDIRECT ESTIMATES OF PRODUCTION ELASTICITIES OF TV AND HYV SUGARCANE VARIETIES

	DIRECT	INDIRECT	DIRECT	INDIRECT
Human Labour	0.1849*	0.1965	0.1763*	0.2162
	(4.0915)		(3.1561)	
Fertilizers	0.1349*	0.1761	0.1811*	0.1621
	(3.9916)		(2.1121)	
Pesticides	0.0493*	0.0511	0.0416	0.0311
	(3.6415)		(0.0513)	
Bullock Pair	0.0085	0.0188	0.0045	0.0462
	(0.0018)		(0.0029)	
Land	0.4315*	0.4215	0.4011*	0.4274
	(2.6516)		(3.1121)	
Capital	0.3261*	0.1731	0.2510*	0.1543
	(3.7516)		(2.9915)	
Sum of Elasticities	1.0993	0.9961	1.0162	1.0034
R2	0.7969		0.8261	

Note: Figures in brackets represent t-values. * Major at 5% level

TABLE NO 8

The indirect estimates are preferable over direct estimates because the latter is subject to simultaneous equation bias. The amount of indirect estimates for the production function elasticity's seemed to be the rather logical and reliable with a priori hopes of the economic theory. The notable feature was the dominance of the production elasticity of land with 0.42 for TV variety and 0.43 for HYV variety. In TV and HYV variety, human labour was the next important factor with an elasticity of 0.19 and 0.21 respectively. This highlighted the importance of land and labour as factors of production, with the respective share of more than 40 per cent and 18 to 20 % in the

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total output for the two varieties. In brief, the indirect estimates indicated the dominance of land and labour as the important factors of production with respect to both TV and HYV varieties of sugarcane. The sum of the elasticities direct the farms producing TV, HYV variations were under the constant returns for scale in the study area.

10. SUGGESTION

To aggregate up, it is discovered that for the little and expansive ranches developing High Yielding assortment of sugarcane the limitations, for example, water deficiency, assortment, infection and credit insufficiency had huge Chi-Square an incentive with 2 degrees of flexibility at 5 for every penny level. The critical ascertained Chi-Square esteem uncovers that ranches, which encountered the previously mentioned limitations, had more yield hole than the homesteads without these requirements. Likewise, as on account of Traditional assortment, "conventional techniques" had the unimportant Chi-Square an incentive for both little and expansive homesteads delivering High Yielding assortment of sugarcane. It is obvious from the investigation that the limitations, for example, "malady" and "assortment" were the most critical requirements on account of High Yielding assortment delivered by little and vast ranches in the examination territory.

11. CONCLUSION

It is seen from the investigation that HYV assortment of sugarcane and little ranches (cultivates under 5 sections of land) of both TV and HYV assortments had profited both physical and financial shrewd as far as yield contrasted with TV assortment and vast homesteads developing both TV and HYV assortments (ranches equivalent to and in excess of 5 sections of land) in the examination zone. Further, supply responsiveness, work ingestion, and wage dissemination have additionally discovered good effect on account of HYV assortment and for the situation little ranches in both TV and HYV assortments in the examination zone. Along these lines, it might be inferred that HYV assortment and little ranches for both TV and HYV assortments were more productive and gainful in the investigation territory.

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