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Research Paper Commerce

Constraints in Grapes Production: An Experience of Tamil Nadu Grapes Growers

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Keywords :

INTRODUCTION:
India is second largest fruits producer in the world (10 Per Cent), and fruits production in India shows significant growth with compound growth rate of 4.8 per cent per annum increasing from 28.63 million tonnes in 1991-92 to 72.30 million tonnes in 2009-2010. A large variety of fruits are produced in India at tropical, mild-tropical, sub-tropical and temperature groups, of which Mango, Banana, Grapes, Citrus, guava, pineapple and apple are major fruits. Grape is one of the commercially important fruit crops grown in India, which contributes nearly 17 per cent of foreign exchange realization among foreign exchange earnings of fruits exports. It leads to the central and state Governments to give importance for the grapes production in their policy decisions. With this result, India came to ninth position in terms of world grapes production and first position in the terms of productivity in the year of 2009.

REVIEW OF LITERATURE
Dr. Olawepo (2010) conducted a study in Nigeria on constraints of productivity in food grains in rural areas and the problems faced by growers such as high cost of human labour, lack of credit facility and high cost of inputs.

Saravanakumar (1996) conducted a study on mango growers in Dharmapuri district of Tamil Nadu and reported that majority of the respondents faced problem like inadequate irrigation facilities, high cost of inputs and non- availability of labour.

Govinda Gowda (2002) in his study on sustainable grape cultivation reported that the important constraints in grapes production and marketing are non-availability of credit in time and inadequate quantity of credit.

Lakshmisha (2000) in his study on cashew reported that there is need for integrated pest management (IPM) approach to manage the pests effectively in long period.

Shreeshail .H. Gotyal (2007) in his study on major constraints perceived by the grape growers found that irregular and insufficient power supply, high rate of interest on credit, non-availability of credit in time and lack of information on demand and supply are their major problems.

The studies on constraints associated with production and marketing of agricultural produce indicate the problems of inadequate credit facilities, lack of storage facilities, lack of input availabilities, lack of trained labour, lack of knowledge and lack of irrigation and the like. So it would be worthwhile to study the problems associated with grapes cultivation by grape growers in Tamil Nadu.

OBJECTIVES OF THE STUDY
- To study about the Production and Productivity of the grapes in Tamil Nadu.
- To find out the Constraints associated with grapes cultivation.
- *To offer suitable suggestions based on the findings of the study.*

METHODOLOGY:
This section is dealing with choice of the study area, sampling design and data collection, period of study and tools of analysis used in the present study.

Choice of the study area
In the present study, Tamil Nadu is selected as the study area, as it is one of the most important grapes producing states in India. Muscat and Thomson Seedless varieties of grape are grown widely in the study area.

In Tamil Nadu soil and climate conditions are highly suitable for grape cultivation. In the state important grapes, growing areas are Theni, Coimbatore, Dindigul and Krishnagiri Districts, which are having perennial water supply facilities. The climate prevailing in the areas is also suitable for grapes cultivation. The acreage under grape cultivation also keeps on increasing in the above districts. Hence, the Tamil Nadu is selected as the study area.

Sample design and data collection
Stratified multistage random sampling is used in the study with Tamil Nadu as the universe, grape growing districts as the primary unit and the grape growers as the ultimate units. Though Tamil Nadu has the sixteen grapes growing districts, out of sixteen districts, three districts namely Theni, Coimbatore and Dindigul cover more than 80 per cent of area and production of grapes. In each of these districts, grape growing villages were arranged in a descending order of area under grapes cultivation and the first five villages in each district were selected. The proportionate probability sampling technique has been used to select 300 grape growers from these 15 villages. Primary as well as secondary data was used in the present study. Based on the information gathered at vineyard level, a well-designed schedule was drafted, pretested and used during the field survey to collect primary data through personal interviews.

Tools for analysis:
i. Trend and Compound Growth Rate
The trend in growth with regard to area, production and productivity has been estimated based on the semi-log or exponential function.

$$\text{Log } Y = a + bT$$

Where,
Y = Area/ Production/ productivity
T = Time

'a' and 'b' area the parameters to be estimated.

Compound growth rate = [(anti log b-1) x 100]

ii. Garrett's Ranking Technique

To analyse constraints in the yield of grapes in the study area the Garrett's Ranking Technique was used. The factors, which are limiting the grapes production in the study area, are collected from the farmers. The order of merit thus given by the respondents was converted into rank by using the following formula:

$$\text{Per cent position} = \frac{100\ (Rij - 0.5)}{Nj}$$

Where
Rij = Rank given for ith factor by jth farmer and
Nj = Number of factors ranked by jth farmer

The percent position of each rank there obtained was converted into scores referring to the table given by Garrett. The scores of individual respondents for each factor added together and divided by the total number of respondents for whom the scores added. The mean scores for all the factors are analyzed in ascending order as per, 'ranks assigned and the important factors identified.

GRAPES PRODUCTION IN TAMIL NADU

The major portion of grape production in Tamil Nadu is contributed by the three major grape growing districts namely Theni, Coimbatore and Dindigul. The grape is now also grown in some pockets in Krishnagiri, Dharmapuri, Thirunelveli and Vellore districts of Tamil Nadu. The area under cultivation and production of grapes are slowly showing increasing trend. However, productivity of grapes showing negative trend in the recent years and area under cultivation of grapes showing downward trend in some grape growing region like Coimbatore district. Table 1 shows the production of grapes in Tamil nadu during 1999 -2000 to 2008 -09

TABLE 1
PRODUCTION OF GRAPES IN TAMIL NADU

Year	Production (,000 Tonnes)	Increase/ Decrease	Percentage Increase/ Decrease	Trend Value
1999-00	41.0	-	0.00	36.6
2000-01	47.0	6.0	2.82	43.04
2001-02	51.7	4.7	2.43	49.48
2002-03	35.7	-15.0	-5.36	-55.92
2003-04	59.9	24.2	14.50	62.36
2004-05	69.7	9.8	6.83	68.8
2005-06	84.8	15.1	12.80	75.24
2006-07	91.6	6.8	6.23	81.68
2007-08	83.5	8.1	6.76	88.12
2008-09	91.0	7.5	6.83	94.56
CGR	10.7			

Source: Directorate of Horticulture and Plantation Crops of Tamil Nadu.

Table-1 shows that the production of grapes in Tamil Nadu over the last decade which was on increase from 41000 tonnes to 91000 tonnes. The increase is more than 100 percent during the study period. In the year 2002-2003, the trend value of production of grape had a negative trend of 55.92. In general, the grape production in Tamil Nadu shows the positive trend. The compound growth rate of the grape production was 10.7 per annum.

Productivity of Grapes in Tamil Nadu

The average yield of grapes per hectare, the percentage increase or decrease, trend values and compound growth rate was presented in table -2

TABLE 2
PRODUCTIVITY OF GRAPES IN TAMIL NADU

Year	Productivity ('000/hectare)	Increase/ Decrease	Percentage Increase/ Decrease	Trend value
1999-00	20.491	-	-	22
2000-01	23.495	3.004	0.71	23.18
2001-02	25.866	2.371	0.61	24.36
2002-03	17.833	-8.033	-1.43	25.54
2003-04	29.950	12.117	3.63	26.72
2004-05	34.850	4.900	1.71	27.9
2005-06	28.267	-6.583	-1.87	29.08
2006-07	32.714	4.447	1.45	30.26
2007-08	29.821	-2.893	-0.86	31.44
2008-09	29.355	-0.466	-0.14	32.62
CGR	**4.7**			

Source: Directorate of Horticulture and Plantation Crops of Tamil Nadu

The above table illustrates that the yield of grapes per hectare in Tamil Nadu had a fluctuating trend during the study period. The table exhibits that the productivity of grape per hectare ranged from 17.833 tonnes to 34.850 tonnes. During the period of 2002-2003, 2005-2006, 2007-08 and 2008-09 productivity shows negative trend and in other period show the positive trend. In general, the trends of grape productivity in Tamil Nadu witnessed decreasing trend after 2006-07 and the compound growth rate of productivity was 4.7 per annum.

CONSTRAINTS OF GRAPES CULTIVATION

The factors that affect the cultivation of grape in the study area is broadly classified into two major heads: They are

A. Bio-physical constraints, and
i. Water shortage
ii. Soil fertility
iii. Pest attack
iv. Weeds
v. Variety and
vi. Cultural practices

B. Socio-economic constraints
i. Credit
ii. Economic behavior
iii. Knowledge
iv. Traditions
v. Lack of input availability
vi. Risk aversion
vii. Laboratory & institutions

Apart from the above mentioned constraints some there are some other common constraints also which include lack of trained Labour, lack of infrastructure, high investment, and lack of storage facilities. As these problems are common to all agricultural products which are not taken into account for this study. In Muscat grape cultivation, the factors identified as yield constraints are given under Table-3.

Table.3
YIELD CONSTRAINTS IN MUSCAT VARIETY

S.No	Constraints	Mean Score	Rank
1	Pest attack	64.15	I
2	Weeds	61.04	II
3	Water shortages	49.34	III
4	Credit	46.10	IV
5	Lack of input availability	38.37	V

Source: Sample Survey (2011)

Table 3 shows that the problem of pests attack are ranked first followed by weeds. The water shortage was ranked third; credit facility was ranked fourth and lack of input availability was given fifth rank.

In Thomson Seedless grape cultivation, the factors identified as yield constraints are given in table.4.

Table.4
YIELD CONSTRAINTS IN THOMPSON SEEDLESS VARIETY

S.No	Constraints	Mean Score	Rank
1	Water shortage	57.06	I
2	Pest attack	56.00	II
3	Weeds	50.10	III
4	Lack of input availability	48.90	IV
5	Credit	47.93	V

Source: Sample Survey (2011)

In Thomson Seedless variety, water shortage found to be the major constraint which affect the potential yield in the study area. Pest attack pointed out to be the second factor affecting the achievement of maximum yield. The problem of Weeds ranked third followed by lack of input availability, which ranked fourth. Poor credit facility given fifth rank.

FINDINGS & SUGGESTIONS:

- In general, Grapes production in Tamil Nadu shows the positive trend.
- Grapes production in the study area has increased more than 100 per cent during the last decade
- During the last three years grapes productivity shows that the negative trend.
- Pest attack is playing dominant impact on yielding of grapes in the study area.
- Water shortage is a major problem in Thomson seedless variety production.
- Both the varieties of grapes growers are facing Credit availability problems in the study area.
- In order to reduce problems associated with the grapes production the Government, Horticultural board and other institutions wants to provide technical and non technical training to the farmers
- Farmers of grapes have to take the association themselves to get technical guidance from other farmers who has accomplish something.

CONCLUSION:

As the grapes are having good export market, there should be good encouragement to farmers to go for grape cultivation at large level. For this, the Tamil nadu government should assist the farmers by removing bottlenecks in grape cultivation. There is a immediate need for increasing the productivity in grape cultivation which ultimately results more revenue to the farmers. The farmers should be encouraged to go for application of scientific and modern methods in the grape cultivation. In this regard, the government should conduct workshops to the farmers to make them aware of modern cultivation techniques in production of grapes. Such a measures results in more production and productivity which ultimately attracts more ad more farmers towards the cultivation of grapes in Tamil Nadu

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