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Economic analysis of tomato cultivation in Kolar district of Karnataka

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Abstract

Tomato is an essential vegetable crop and it has greater financial importance among the veggies since it's far one of the main commodities in agricultural exports. The agricultural commodity prices affect the level of residing of each consumers and farmers. This studies paintings most important targets are to have a look at the cost and returns shape of tomato cultivation for small and massive farmers in look at place and to analyse the character of the distribution of in keeping with acre net income and the volume of inequalities in the net earnings according to acre of small and massive farmers. This work additionally focuses to discover the determinants of yield and factors causing yield hole with reference to small and massive farmers in Kolar taluk of Karnataka. This have a look at based on primary data and secondary facts. Primary information collected from 300 pattern respondents the use of stratified random sampling approach and Secondary information analysis from Agricultural Department Reports, District Statistical Report and numerous price range files of Government of Karnataka. This look at unearths to the most of the farmers engaged small agro tomato cultivators in have a look at location. Small farmers are facing many difficulties like mortgage, weather, marketplace charge and fertilizer cost in marketplace. This examines gives to movement orientated tips for enhancing the tomato cultivation and advertising data to farmers.

Keywords: Agricultural economics, tomato cultivators, market, price

1. Introduction

India is one of the few countries in the world wherein nearly all forms of fruits and veggies (tropical, sub-tropical and temperature) can be grown in a single or the alternative region. Fruits and veggies lessen the demand on cereals and are one of the most inexpensive and richest sources of herbal protecting ingredients, contributing lots needed proteins, carbohydrates, mineral, salts and nutrients within the human diet. There has been full-size and non-stop growth inside the domestic consumption of end result and veggies in our usa attributable to the general rise in client spending on food as a result of the increased consistent with capita earnings.

The tomato is one of the most critical "defensive meals" each due to its unique nutritive price and also of its extensive manufacturing. It is the world's largest vegetable crop after potato and sweet potato, but it tops the listing of canned veggies. Tomatoes have been used as meals through the inhabitants of critical and South America given that pre-ancient time. It has originated in Peruvian and Mexican areas. It turned into delivered via the Spanish explorers within the early sixteenth century. It turned into perhaps delivered by means of the Portuguese into India although there's no exact report of when and the way it got here to India.

2. Statement of Problem

Tomato is an important vegetable crop and it has greater economic significance the various veggies because it is one of the leading commodities in agricultural exports. The agricultural commodity prices have an effect on the extent of living of each customers and farmers. It is regularly desirable to growth the returns to farmers and decrease prices to consumer so as to help improve the usual of dwelling of each. Low farm earning discourages the usage of contemporary manufacturing technologies and acts as disincentives to provide more. Similarly, high retail costs increase the fee of dwelling and set in motion a wage-price spiral. In the conflicting state of affairs, a super aggressive market guarantees a just charge, to

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shield the interests of manufacturers in addition to consumers. But this best marketplace structure is rarely discovered within the real international specifically for agricultural commodities.

3. Objectives of the Study

The main objectives of the present study are:

1. To study the cost and returns shape of tomato cultivation for small and massive farmers in Karnataka.
2. To become aware of the determinants of yield and elements inflicting yield hole with reference to small and large farmers in study area.
3. To analyze the existing channels of distribution of tomato and to assess the marketing cost, marketing margin, price-spread and marketing efficiency of various channels in look at region.
4. To provide suitable suggestions for enhancing the tomato cultivation and marketing of tomato in Karnataka.

4. Pattern of the Study

In this research, cultivations of tomato in each of the six taluk in Kolar district were found from the records of the District Statistical Office. Among the eight taluks, Kolar

taluk which has the largest area under tomato farming has been selected as the study area for the collection of primary data. Stratified multi-stage random sampling is adopted for the choosing of sample respondents. There are 28 revenue villages in Kolar Taluk. These villages contribute to 60 per cent of tomato cultivation in Kolar district. The proportionate probability sampling this technique has been used to select 150 farmers in this study area.

5. Method of Analysis

Interview approach become used to achieve the objectives of the observe. Three hundred sample farmers have been stratified into classes, particularly small and big. The farms with much less than five acres have been grouped as small farms and farms with 5 or greater acres have been grouped as massive farms. Out of a hundred and fifty pattern farmers, 118 (seventy nine in line with cent) got here under the category of small farmers and the closing 31 (21 in line with cent) come beneath the group of large farmers. The Analysis of Variance approach changed into carried out to check the homogeneity of the small and massive companies of farmers with appreciate to net earnings consistent with acre and the consequences are provided in Table – 1.

Table 1: Homogeneity Test of Two Categories of Tomato Farmers

Sources	Total Sum of Squares	Degrees of Freedom	Mean Sum of Squares	Calculated F-value	Table F Value at 5 % level
Between Sample	30271000	1	30271000	2249.18*	4.38
Between Villages	318479.43	14	22748.53	1.69**	2.16
Error	188421.36	14	13458.67		
Total	30164193.63	15			

* Not Significant

** Significant at 5 per cent level.

Populations are normally distributed with mean and variance. F-Value is highly associated with sampling distribution. The probability associated with the chi square statistic of 2.16 at 5 per cent level for villages and respondents sample size associated with chi square calculation 4.38 at 5 per cent level. This model suitable for verify that the hypothesis that population variances of tomato cultivations in small and large farmers in Kolar taluk cannot be rejected at 5 per cent level of significance. This analysis indicating there is a strong relationship between yield of tomato cultivation and the size of land holding of farmers.

Determinants of Yield of Tomato Farming in Kolar Taluk

This log linear regression model helps to identify the major determinants of yield of tomato with respect to small, large and pooled categories of farmers selected for the present study. The structural differences are to be examined between small and large farmers. In this regression model, yield is treated as a dependent variable and input factors, namely human labour (X1), bullock labour (X2), fertilizer (X3), farm yard manure (X4), pesticide (X5) and capital flow (X6) are included as independent variables.

Table 2: Estimated Regression Results of Factor Influencing the Yield of Small and Large Farmers Cultivating Tomato

Variable	Parameter Estimate		
	Small Farmer	Large Farmer	Pooled Category
Intercept	2.8213	3.7948	2.3541
log X1	0.2891* (3.7243)	0.2443* (5.1009)	0.2651* (2.0651)
log X2	0.0722 (0.0068)	0.0430 (0.0102)	0.0616 (0.0421)
log X3	0.1898* (4.4214)	0.1614* (0.0414)	0.1617* (2.9416)
log X4	0.1141* (3.66314)	0.1218* (2.7244)	0.1124* (3.0122)
log X5	0.0945 (0.1005)	0.0653 (0.0614)	0.0704 (0.0393)
log X6	0.3348* (2.7341)	0.4141* (3.0818)	0.3927* (2.7694)
R ²	0.7828	0.7943	0.7726
F- value	19.8314	26.1621	26.3341
Residual sum of Squares – Σe^2	0.0788	0.0463	0.3206
No. of observations	237	63	300

*Indicates that the coefficients are statistically significant at 5 per cent level (Figures in parentheses are t-values)

There are numerous remedies recommended in the farming of tomato cultivation. Since the ordinary least square estimators are so long as collinearity is best, it's far regularly suggested that the best treatment is simply too organic farming of tomato cultivation the effects of the element are influencing the yield of small and huge farmers cultivating tomato.

Most of the variables are actually statistically enormous at the ten in keeping with cent or decrease stage of importance and the make economic experience, the exception being yield of tomato that is enormous at about eleven in step with cent level of importance. The corresponding human labour and fertilizer factors for the coefficients in the tomato farming in this regression version suggests that large farmers earn high earnings examine to the small farmers. But small farmers are facing low chance evaluate to the huge farmers engaged in tomato cultivation.

6. Findings

The following are some of the specific findings in this research work.

- ✓ As per the findings, 58 per cent of the farmers attended training conducted by Indian Council of Agricultural Research.
- ✓ 64 per cent of the respondents are earning more than Rs. 7,000 per month.
- ✓ This research reveals that 72 per cent of the respondents are illiterates and 28 per cent of them are literates, but they are completed up to higher secondary education level.
- ✓ In our study area, 85 per cent of the respondents received loan from money lenders to farming needs.
- ✓ All the farmers are facing the problems of environmental affects, soil erosion and reduction to crop yielding.

7. Suggestions

The following suggestions are made on a pragmatic basis and with a view to provide a new base-line of action.

1. The outbreak of pests and diseases played a major role in reducing the yield of tomato and the profit margin. Therefore, it is necessary to develop pest and disease resistant varieties of tomato by research agencies.
2. Government of Karnataka should establish disease forecasting centre in major tomato cultivations areas.
3. Exploitation of farmers by village merchants who take more profit constitutes another major problem. This could be eliminated by producers who would sell their produce in the regulated market through a co-operative marketing society. Hence, primary co-operative societies should be encouraged to arrange for sale of produce of its member's in the regulated market through Taluka Agricultural Produce Co-operate Marketing Society (TAPCMS) via a system of pooling.
4. Lack of technical knowledge in tomato cultivation is an important lacuna. Therefore, the Agriculture department should arrange for periodical training programme for tomato cultivators in order to disseminate technical know-how of recently developed research in tomato and improve their knowledge.
5. The government has to give support to the tomato cultivators by providing subsidies, proper prices and market facilities.

8. Conclusion

Tomato farming is based on an incorporated dating amongst soil, mineral, water, plant life, micro plants, insect's animals and people. Tomato farming control is based on nearby human assets and expertise to decorate herbal aid techniques, respecting ecological bring capacities. By decreasing dependence on off-farm inputs and growing extra balanced nutrient and energy flows, surroundings resilience is bolstered food protection is multiplied an extra incomes are generated. Organic farming respondents undoubtedly to all sustainable agriculture and rural development goal and enables in maintaining soil fertility, enhance tomato manufacturing and socio-economic situations of the farmers.

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