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PROBLEMS AND PROSPECTS IN MAIZE CULTIVATION WITH REFERENCE TO PERAMBALUR DISTRICT - A STUDY

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ABSTRACT

Background of the study: *Maize and it's by products are getting attention due to its wide range of usage. Invention of Polylactide (PLA), a biodegradable polymer made from corn is being used successfully in the manufacturing of a wide variety of everyday items such as clothing, packaging, carpeting; recreational equipment and food utensils. This has increased the demand for Maize to further level. The raise in demand has persuaded the farmer to go for Maize cultivation.*

Objective of the study: *The interested Maize cultivators have difficulties and as well as certain unique advantages in Maize cultivation. This study is an attempt to analyze the precedence in Maize cultivation and the problems faced by the Maize cultivators of Perambalur District.*

Methodology: *The researcher had adopted diagnostic research design and collected 192 data with simple random sampling technique. Kruskal Wallis test and ANOVA are the tools used to analyze the collected data.*

Key-findings: *As the cultivation of Maize requires less water and investment and considerably good yield, the farmers are interested in maize cultivation. However the problems in marking and exporting are the major hesitant.*

Conclusion: *Maize has extensive usages, so the cultivation of maize has to be motivated to increase the national income. Government has to take necessary steps to reduce the problems in maize marketing and export so that the formers will eagerly come forward to cultivate maize.*

Key words: Maize Cultivation, Motivation, Farmers Problems, Agriculture

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1. INTRODUCTION

Agricultural marketing is a flourishing industry; it includes all those activities that the farmer needs to do before the product reach the consumer. The activities include grading, processing, cleaning / sorting, drying, threshing, bagging, storing, and transporting. Producers have a number of marketing channels through which to sell their products to consumers. These marketing channels can be classified in two broad categories namely; direct marketing and indirect marketing. Direct marketing is where the producer himself sells to the consumer or user of the product whereas indirect marketing is when the producer sells his product to an intermediary who has intention to resell the product (Gopinath, 2019 a; Gopinath & Kalpana, 2019). When the producer resorts to direct marketing has takes care of all the marketing activities involved, but if producer uses indirect method of marketing he passes on some marketing activities to the intermediary (Gopinath, 2019 b). Agriculture is our Nation's backbone and the prosperity of the agricultural sector depends on agricultural marketing.

Cultivation and Marketing of Maize is getting attention nowadays. Maize is one of the most important cereal crops in the World. It is next to rice and wheat in respect of area and production in India (Gopinath *et al.,* 2016). The importance of maize is due to its wide diversity of uses. It is used both as food for human and feed for animals. Although used primarily to feed livestock, corn is a versatile grain with a wealth of uses. It is also processed into a multitude of food and industrial products, including starches, sweeteners, corn oil, beverage and industrial alcohol and fuel ethanol. Thousands of foods and other everyday items - from toothpaste and cosmetics to adhesives and shoe polish - contain corn components. Even Corn products are rapidly replacing petroleum in many industrial applications. Maize is grown throughout the year due to its photo thermo insensitive character and highest genetic yield potential among the cereals. Farmers affected by price volatility of sugarcane, turmeric and vegetables were shifting to maize cultivation. The immediate liquidity in the market, store-and-sell facility and high demand has prompted Tamil Nadu farmers to increase maize cultivation in the recent seasons. Moreover, maize has gained popularity with farmers in Tamil Nadu as a more remunerative crop due to its lesser water requirement, higher yield, a good market price and simple management practices and farmers have begun to cultivate 2-3 crops in a year (Unnamalai, 2016). Even though cultivation of Maize has foresaid precedence, the farmers are having a proportion of hesitation to cultivate Maize because of inadequate marketing and export facilities, insufficient source of finance, tedious export procedures and scanty storage facilities (Gopinath, 2019 c). Usharani and Gopinath (2020) deciphered on Consumer Behaviour on Green Marketing to Organic Food Products. Gopinath (2011 a&b) focused that employees' problems has a vital in the workplace. This paper is an attempt to explain the unique benefits of Maize cultivation and also the problems faced by the Maize cultivators of Perambalur District.

2. REVIEW OF LITERATURE

Blackie (1990) has pointed out that, in recent years maize has become a major food staple in the East and Southern African region. National average yields of maize remain low and yield gains are generally below population growth rates. Agricultural policy (particularly maize pricing, marketing and trade) is examined and it is noted that, despite an objective of maize self-sufficiency, many countries in the region continue to face erratic supplies. It was conclude

that the groups of smallholders who are unable to meet their annual household food requirements.

Babatunde and Oyatoye (2005) have examined problems of food marketing and security in Nigeria, using maize marketing in Kwara State as a case study. The data collected were analyzed using descriptive and inferential statistics. Market margin, distribution of total market margin and marketing efficiency were estimated. The results indicate that the average farm gate price of maize was N755 per 50kg bag of maize. The average marketing cost was N105.3/bag and the average net marketing margin was N158.2/bag. The average marketing efficiency was 143.5% in the study area. The distribution of total marketing margin shows that the wholesalers' share was 68.1% and the retailers' share was 31.9% on the average. When compared with the farmer's return, the middlemen's share of total marketing margin was higher. This is perceived as market exploitation because not much value is added to the food by the middlemen to justify the very high margin collected. This ''exploitation'' directly or indirectly leads to loss of interest in farming and subsequently food insecurity in the country. Responses of the selected respondents show that the major problems of food marketing are; transportation problem, inadequate market infrastructure, inadequate funding; shortage of processing facilities; seasonality and possibility of food produce. To improve food marketing and food security situation in Nigeria, it is recommended that adequate transportation facilities, in terms of good roads and functional vehicles should be provided by government, private individuals and cooperative groups. Also, research into post-harvest storage and processing techniques should be intensified and finally, fund should be made available, through both formal and informal sources, to food marketers so that they can take advantage of bulk purchasing, market expansion and post-harvest processing.

Tripathi *et al.* (2003) in their study have studied that apart from the non-existence of economic rationality of cropping pattern and crop diversification, the biotic factors play a major role in limiting the production of Maize and pulses in north eastern hill region. Technological stagnation is primarily responsible for the backwardness of these crops in the region. The socio-economic survey indicated that the slow growth of these crops is due to the fact that production did not raise in relation to rise in the support prices. Either price signal may not reach the farmers or the farmers do not respond to these signals probably due to absence of procurement system or other reasons.

Wangia *et al.* (2002) have briefed that the degree of policy implementation and the impact of liberalization of maize marketing on stakeholders between 1989 and 1999. The method of the study included review of available literature, conduct of interviews with stakeholders and the authors' personal observations of maize marketing activities. Results indicate that liberalization was implemented without the formation of alternative marketing institutions. Also, maize prices fluctuated substantially according to competitive market forces with limited moderating effects from the Government through open market interventions and import tariffs. But soon the rules of regional and worldwide trading organizations will render this impossible. Private sector participation at all levels in the marketing system increased substantially. There is easy maize flow and supplies to all parts of Kenya. One recommended intervention is to form maize farmer-based institutions for the marketing of maize, provision of maize market information and credit.

Larson and Mbowa (2004) in their study on Strategic marketing issues and challenges face maize seed marketing firms as farmers increasingly adopt hybrid varieties in a modernizing third world country such as Uganda. The maize seed industry of Uganda has changed dramatically from a government owned, controlled, and operated industry to a competitive market oriented industry with substantial private firm investment and participation. The new maize seed industry is young, dynamic, growing and very competitive. The small maize seed

market is already crowded with six firms and the possibility of new entrants including more foreign firms.

Chahal and Poonam (2010) have examined constraints in the production and marketing of maize in Punjab. A representative sample of 300 maize growers was drawn from the three districts of Punjab by using multi-stage random sampling technique on the basis of concentration of area under maize. The findings of the study revealed that the selected maize growers faced constraints as the maize crop specific technology adoption was concerned. The institutional, marketing and socio-economic constraints were found to be impediments in the production of maize. More specifically the sample farmers suffered on account of non-availability of credit, poor marketing facilities, lack of storage facilities, non-availability of seed suitable to the local needs, late sowing of crop etc. The detailed analysis of the constraints impediment to production and marketing of maize reflect the urgent need for overhauling of the entire marketing system. This in turn helps in the allocation of resources to maize crop in the state like Punjab where groundwater is depleting very fast, needs to be diversified in favor of less water requiring crops like maize. Further, Unnamalai and Gopinath (2020) outlined that brand preferences and level of satisfaction in consuming noodles among working women.

Objectives

- To study the benefits of Maize cultivation in Perambalur District
- To study the problems in Maize cultivation in Perambalur District
- To study the association between cultivation related factors and problems faced by the Maize cultivators

3. RESEARCH METHODOLOGY

To study the aforementioned objectives the researcher has used descriptive cum diagnostic research design. For the purpose of collecting primary data, structured interview technique has been used and secondary data was collected from Magazines and Newspapers. From Perambalur District 192 samples were selected with simple random sampling technique. The data collected were analyzed with the usage of Chi-Square, ANOVA and Correlation.

4. ANALYSIS

Precedence of Maize Cultivation

Table 4.1 Rank order of Reasons for Maize Cultivation

Unique Reasons for Maize Cultivation	Rank Order
Availability of hybrid seeds.	6
Short period of cultivation	7
Labor less work	9
Minimum investment	1
Requirement of less water	3
Suitable for soil and climate condition.	8
High Harvest	2
Market potential	4
Requirement of less storage facilities	5
Transport cost are minimum	10

Table 4.1 Elucidates the rank of reasons for preferring maize cultivation. The top preferred reason is minimum investment followed by high harvest and Requirement of less water. Good

market potential and requirement of less storage facilities are also considered as prominent reason for maize cultivation. Respondents rank, less labour requirement and requirement of less transportation cost as the least preference (Gopinath & Kalpana, 2019).

4.2. Opinion and Rank about the Problems of Maize Cultivation

Table 4.2 reveals that one fourth (27.3 per cent) of the respondents were neutrally agreed about too many government regulations, 25.5 per cent were agreed, 22.9 per cent were strongly agreed, 16.4 per cent were strongly disagreed and remaining 7.8 per cent were disagreed with respect to first statement.

The second statement shows that one third (34.6 per cent) of the respondents were strongly agreed about unreasonable customs duty & formalities, 24.2 per cent were neutral, 21.1 per cent were agreed, 13.8 per cent were strongly disagreed and remaining 6.3 per cent were disagreed.

The third statement find out that one third (33.6 per cent) of the respondents were strongly agreed about inadequate market centre, 24.7 per cent were agreed, 23.2 per cent were neutral, 9.4 per cent were strongly disagreed and remaining 9.1 per cent were disagreed.

The fourth statement reveals that one third (35.9 per cent) of the respondents were strongly agreed about lack of marketing facilities, 21.1 per cent were agreed, 18.8 per cent were neutral, 14.6 per cent were strongly disagreed and remaining 9.6 per cent were disagreed.

The fifth statement shows that nearly one third (29.2 per cent) of the respondents were strongly agreed about lack of marketing skills, 27.3 per cent were neutral, 24.7 per cent were agreed, 13.3 per cent were strongly disagreed and remaining 5.5 per cent were disagreed.

The sixth statement shows nearly one third (29.7 per cent) of the respondents were strongly agreed about tough competitions, 26.3 per cent were agreed, 24 per cent were neutral, 11.5 per cent were strongly disagreed and remaining 8.6 per cent were disagreed.

The seventh statement reveals that more than one fourth (27.9 per cent) of the respondents were neutrally agreed about marketing procedure is high, 24.2 per cent were strongly agreed, 22.9 per cent were agreed, 15.9 per cent were disagreed and remaining 9.1 per cent were strongly disagreed.

Table 4.2 Opinion and Rank about the Problems of Maize cultivation

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Mean Rank
Too many government regulations	32 (16.4%)	16 (7.8%)	51 (27.3%)	49 (25.5%)	44 (22.9%)	3.31	*14th*
Unreasonable customs duty & formalities	26 (13.8%)	13 (6.3%)	47 (24.2%)	40 (21.1%)	66 (34.6%)	3.57	*2nd*
Inadequate market centre	18 (9.4%)	19 (9.1%)	44 (23.2%)	45 (24.7%)	65 (33.6%)	3.64	*1st*
Lack of marketing facilities	28 (14.6%)	18	36 (18.8%)	41 (21.1%)	69 (35.9%)	3.54	*4th*
Lack of marketing skills	20 (13.3%)	09 (5.5%)	54 (27.3%)	48 (24.7%)	61 (29.2%)	3.51	*5th*
Tough competitions	22 (11.5%)	15 (8.6%)	46 (24%)	51 (26.3%)	52 (29.7%)	3.54	*16th*
Marketing procedure is high	17 (9.1%)	31 (15.9%)	54 (27.9%)	44 (22.9%)	46 (24.2%)	3.37	*12th*
Slackness of demand	19 (9.9%)	20 (10.4%)	44 (25.3%)	47 (24.5%)	62 (29.9%)	3.54	*17th*
High rejection rate	27 (14.1%)	25 (13.3%)	42 (21.6%)	38 (19.8%)	60 (31.3%)	3.41	*10th*
Price fluctuations	25 (12.8%)	28 (14.6%)	45 (23.4%)	37 (19.3%)	57 (29.9%)	3.39	*11th*

Lots of export restrictions	44 (22.9%)	31 (15.9%)	48 (25%)	33 (17.2%)	36 (19%)	2.93	*18th*
Inadequate export facilities	40 (21.1%)	55 (28.6%)	33 (17.2%)	38 (19.8%)	26 (13.3%)	2.76	*19th*
Inadequate transport facilities	34 (12.5%)	22 (6.5%)	35 (26.3%)	46 (23.4%)	65 (31.3%)	3.54	*4th*
High cost of transit insurance	28 (15.4%)	23 (11.2%)	45 (23.4%)	44 (22.9%)	52 (27.1%)	3.35	*13th*
Inadequate storage facilities	29 (15.1%)	16 (7.8%)	48 (25%)	45 (23.7%)	54 (28.4%)	3.42	*9th*
Lack of information about market available	31 (16.1%)	13 (4.7%)	44 (24.7%)	46 (24.2%)	58 (30.2%)	3.48	*6th*
Non availability of interpersonal skilled labour	23 (12%)	9 (4.7%)	53 (27.6%)	52 (27.1%)	55 (28.6%)	3.56	*3rd*
High wage rates	29 (15.1%)	38 (19.8%)	34 (18%)	40 (21.1%)	51 (26%)	3.23	*15th*
Inadequate finance	21 (12%)	16 (9.6%)	51 (26.3%)	48 (25.8%)	55 (26.3%)	3.45	*8th*
High rate of credit transactions	26 (14.1%)	13 (6.5%)	51 (26.3%)	46 (24.2%)	56 (28.9%)	3.47	*7th*

Table 4.2 reveals that the eighth statement reveals that nearly one third (29.9 per cent) of the respondents were strongly agreed about slackness of demand, 25.3 per cent were neutral, 24.5 per cent were agreed, 10.4 per cent were disagreed and remaining 9.9 per cent were strongly disagreed.

The ninth statement shows that one third (30.3 per cent) of the respondents were strongly agreed about high rejection rate, 21.6 per cent were neutral, 19.8 per cent were agreed, 14.1 per cent were strongly disagreed and remaining 13.3 per cent were disagreed.

The tenth statement reveals that nearly one third (29.9 per cent) of the respondents were strongly agreed about price fluctuations, 23.4 per cent were neutral, 19.3 per cent were agreed, 14.6 per cent were disagreed and remaining 12.8 per cent were strongly disagreed.

The eleventh statement shows that one fourth (25 per cent) of the respondents were neutrally agreed about lots of export restrictions, 22.9 per cent were strongly disagreed, 19 per cent were strongly agreed, 17.2 per cent were agreed and remaining 15.9 per cent were disagreed.

The twelfth statement reveals that more than one fourth (28.6 per cent) of the respondents were disagreed about inadequate export facilities, 21.1 per cent were strongly disagreed, 19.8 per cent were agreed, 17.2 per cent were agreed and remaining 13.3 per cent were strongly agreed.

The thirteenth statement shows that one third (31.3 per cent) of the respondents were strongly agreed about inadequate transport facilities, 26.3 per cent were neutral, 23.4 per cent were agreed, 12.5 per cent were strongly disagreed and remaining 6.5 per cent were disagreed.

The fourteenth statement reveals that more than one fourth (27.1 per cent) of the respondents were strongly agreed about high cost of transit insurance, 23.4 per cent were neutral, 22.9 per cent were agreed, 15.4 per cent were strongly disagreed and remaining 11.2 per cent were disagreed.

The fifteenth statement shows that more than one fourth (28.4 per cent) of the respondents were strongly agreed about inadequate storage facilities, 25 per cent were neutral, 23.7 per cent were agreed, 15.1 per cent were strongly disagreed and remaining 7.8 per cent were disagreed.

The sixteenth statement reveals that one third (30.2 per cent) of the respondents were strongly agreed about lack of information about market available, 24.7 per cent were neutral,

24.2 per cent were agreed, 16.1 per cent were strongly disagreed and remaining 4.7 per cent were disagreed.

The seventeenth statement shows that more than one fourth (28.6 per cent) of the respondents were strongly agreed about non availability of interpersonal skilled labour, 27.6 per cent were neutral, 27.1 per cent were agreed, 12 per cent were strongly disagreed and remaining 4.7 per cent were disagreed.

The eighteenth statement reveals that one fourth (26 per cent) of the respondents were strongly agreed about high wage rates, 21.1 per cent were agreed, 19.8 per cent were disagreed, 18 per cent were neutral and remaining 15.1 per cent were strongly disagreed.

The nineteenth statement shows that each one fourth (26.3 per cent) of the respondents were neutral and strongly agreed about inadequate finance, 25.8 per cent were agreed, 12 per cent were strongly disagreed and remaining 9.6 per cent were disagreed.

The twentieth statement reveals that more than one fourth (28.9 per cent) of the respondents were strongly agreed about high rate of credit transactions, 26.3 per cent were neutral, 24.2 per cent were agreed, 14.1 per cent were strongly disagreed and remaining 6.5 per cent were disagreed.

4.3. Association between cultivation related factors and problems faced by the Maize cultivators

Table 4.3 portraits the association between selected cultivation related factors and problems in Maize cultivation. Since the P value is higher than 0.05, there is no significant relationship was assumed between, variety of maize cultivated, number of times of cultivation per year, size of land; ownership of land and the number of years of farming with problems of maize cultivation. On the other hand, as the p value is less than 0.05, noteworthy relationship was found between traditional forming and the problems of maize cultivation (Unnamalai, 2014).

Table 4.3 Association between cultivation related factors and problems faced by the Maize cultivators

Traditional farming	**Overall Problems of Maize Cultivation**						**Statistical inference**
	Low		High		Total		
	n	*%*	*n*	*%*	*n*	*%*	
Yes	58	58.3%	55	59.5%	113	58.9%	X^2=0.054 Df=1 p<0.05 Significant
No	42	41.7%	37	40.5%	79	41.1%	
Total	100	100.0%	92	100.0%	192	100.0%	
Number of years farming	Low		High		Total		X^2=2.846 Df=2 p>0.05 Not Significant
	n	*%*	*n*	*%*	*n*	*%*	
Below 5 yrs	40	40.2%	31	33.5%	71	37.0%	
6 to 9yrs	27	27.6%	25	26.5%	52	27.1%	
Above 10 yrs	32	32.2%	37	40.0%	69	35.9%	
Total	99	100.0%	93	100.0%	192	100.0%	
Ownership of land	Low		High		Total		X^2=2.900 Df=1 p>0.05 Not Significant
	n	*%*	*n*	*%*	*n*	*%*	
Own	38	77.4%	64	69.7%	102	73.7%	
Lease	13	22.6%	77	30.3%	90	26.3%	
Total	51	100.0%	141	100.0%	192	100.0%	
Size of land	Low		High		Total		
	n	*%*	*n*	*%*	*n*	*%*	

Marginal (Upto 0.99.5)	18	8.0%	8	8.6%	26	8.3%	X^2=1.754 Df=4 p>0.05 Not Significant
Small (1.00.0 to 1.99.5)	26	25.6%	35	24.3%	61	25.0%	
Small-medium (2.00.0 to 3.99.5)	15	15.6%	13	15.7%	23	15.6%	
Medium (4.00.0 to 9.99.5)	22	42.2%	22	45.9%	44	44.0%	
Large (10.00.0 & above)	19	8.5%	12	5.4%	31	7.0%	
Total	100	100.0%	92	100.0%	192	100.0%	
No. of times cultivated per year	Low		High		Total		X^2=1.037 Df=2 p>0.05 Not Significant
	n	*%*	*n*	*%*	*n*	*%*	
Once	43	43.2%	43	45.9%	86	44.5%	
Twice	30	30.2%	29	31.9%	59	31.0%	
Thrice	27	26.6%	21	22.2%	48	24.5%	
Total	100	100.0%	92	100.0%	192	100.0%	
variety of maize cultivated	Low		High		Total		X^2=3.638 Df=3 p>0.05 Not Significant
	n	*%*	*n*	*%*	*n*	*%*	
Hishell	16	16.6%	19	21.1%	35	18.8%	
Pioneer	47	47.2%	35	37.8%	82	42.7%	
Bioseed	17	18.6%	20	21.6%	37	20.1%	
Kaveri 244	20	17.6%	18	19.5%	38	18.5%	
Total	100	100.0%	92	100.0%	192	100.0%	

5. FINDINGS

The results of the research explains that, the formers are Permablur District are interested in maize cultivation, as it requires less water, investment and labor force and it provides high yield and profit. Even still they consider inadequate market center (Babatunde and Oyatoye, 2005) and complicated export procedures and inadequate skilled labor for cultivation are the major issues and constraints of maize cultivation (Wangia *et al.,* 2002**)**. The research further found that, the factors like number of times of cultivation per year, size of land; ownership of land and the number of years of farming are having significant impact on the problems of maize cultivation, whereas the method of farming, that is whether you go by traditional farming methods or modern techniques has considerable influence in mitigating the problems of cultivation. And even steps have to be taken to market the product through on line sauces, which will considerably reduce the marketing issues (Gopinath, 2019 d). Karthick *et al.* (2020) inferred that on the Problems faced by Farmers in Paddy Marketing. Similar Study authenticated on Motivational factors behind the Cultivation of Maize in Perambalur District (Rajalakshmi *et al.,* 2020).

6. CONCLUSION

Maize has become one of the most important crops with its every part having economic value and immense scope for value additions. It is rightly called the queen of cereals. Capacity of Managing Challenges faced by the women entrepreneurs of informal sector, people's attention on consuming cereals has increased and the demand for these items has also boosted up (Gopinath & Chitra, 2020). Maize has the peculiar trait of adaptability under varied agro climatic conditions. Maize has most of the major nutrients which are essential for health and hence it is a staple food in many parts of the country. In India, maize is emerging as third most

important crop after rice and wheat (Rajalakshmi & Unnamalai, 2016). Maize has its significance as a source of a large number of industrial products besides its uses as human food and animal feed. The cultivation of maize has started increasing in the few recent years. The water requirement for this crop is very less (Unnamalai, 2013). This has encouraged many farmers to convert many areas of paddy, ragi crop into maize cultivation. The present study has brought into focus various issues relating to production and marketing. If the policy implications suggested are implemented properly, it will help to increase the levels of production and productivity in maize cultivation.

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