

Motivational factors for maize cultivators

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Abstract: A study was conducted to find out the motivational factors of farmers to grow maize. A motivation index was developed. The study revealed that high motivation and high motivation index was found with the factors namely presence of poultry feed units in the area, attractive price for the produce, minimum duration and easy marketability for the produce. Low to nil motivation and motivation index was found with respondents for the factors presence of Broiler Coordination Committee, amenability for value addition and availability of labour. Medium motivation was found with respondents for the factors of good high yielding varieties, high economic value of straw and less skill requirement. Among the broad categories of motivational factors studied the crop production factors stood first followed by economic factors, bio physical factors, input factors and other relevant factors.

Keywords : Motivation, maize, factors, farmers.

Introduction

Maize has got vast utility for domestic and industrial purposes. It is used in the production of industrial products like starch, alkaloid, acetic acid, lactic acid, glucose, paper, rayon, plastics, textiles, adhesive, tooth pastes, dyes, synthetic rubber etc., Maize in India is grown in a wide range of production environments, ranging from the temperate hill zones in Himachal Pradesh in the north to the semi arid desert margins in Rajasthan in the west to the humid tropical zones in Karnataka in the south. The total area planted to maize expanded at an average annual rate of more than 2.2%, causing national maize are to grow from 3.7 million hectares to almost 6 million hectares. A report entitled 'Department of Agriculture & Co-operation Statistics at a Glance' shows that the total area and production of maize in India was 6.51 million ha and 10.78 million tonnes during 2000-2001.

Maize area has expanded in traditional maize growing states of Madhya Pradesh and

Rajasthan. World demand in 2020 is predicted to rise to about 140 per cent. In India the demand for maize is expected to rise dramatically in the next two decades. As direct human consumption of maize has declined, feed and industrial uses have risen.

As non-vegetarian population is fond of broilers than any other meat, the poultry production has been rising. The poultry industries use maize as one of the main ingredient of feeds. This has created more demand for maize. Increased industrial demand for maize has come primarily from the starch industry. This being so, nowadays maize is increasingly recommended in dry farming areas which occupies a major part of agricultural lands in India. This is because maize is one of the less risky crops with good remuneration. Given these circumstances, it is pretty evident that the farmers need to be motivated to grow maize. Subsequently, the motivational factors which influence the maize cultivation should be identified. Keeping this in mind the present study was formulated with the objective of

Table 1. Factors motivating farmers to prefer maize cultivation

| S. No. | Motivating factors | (n=50) | | | | | | | | MI |
|-----------------------------------|---|-----------------|-------|-------------------|-------|----------------|-------|----------------|-------|-----|
| | | High motivation | | Medium motivation | | Low motivation | | Nil motivation | | |
| | | No. | % | No. | % | No. | % | No. | % | |
| <i>A. Economic factors</i> | | | | | | | | | | |
| 1. | Attractive price for the produce | 42 | 84.00 | 6 | 12.00 | 2 | 4.00 | - | 0.00 | 380 |
| 2. | Economic importance of straw | 35 | 70.00 | 10 | 20.00 | 5 | 0.00 | - | 0.00 | 360 |
| 3. | Lesser cost of cultivation | 30 | 60.00 | 15 | 30.00 | 3 | 6.00 | 2 | 4.00 | 346 |
| 4. | Minimum plant protection expenses | 32 | 64.00 | 8 | 16.00 | 7 | 14.00 | 3 | 6.00 | 338 |
| 5. | Easy marketability of produce | 40 | 80.00 | 5 | 10.00 | 5 | 10.00 | - | 0.00 | 370 |
| <i>B. Crop production factors</i> | | | | | | | | | | |
| 6. | Less water requirement | 35 | 70.00 | 5 | 10.00 | - | 0.00 | 10 | 20.00 | 330 |
| 7. | Suitability for all seasons | 40 | 80.00 | 10 | 20.00 | - | 0.00 | - | 0.00 | 380 |
| 8. | Less skill requirement | 36 | 72.00 | 6 | 12.00 | 8 | 16.00 | - | 0.00 | 356 |
| 9. | Minimum duration | 38 | 76.00 | 5 | 10.00 | 2 | 4.00 | - | 0.00 | 372 |
| 10. | Suitability for variety of soils | 40 | 80.00 | 5 | 10.00 | 5 | 10.00 | - | 0.00 | 370 |
| <i>C. Input factors</i> | | | | | | | | | | |
| 11. | Easy accessibility to input shops | 30 | 60.00 | 5 | 10.00 | 10 | 20.00 | 5 | 10.00 | 320 |
| 12. | Availability of good varieties | 36 | 72.00 | 10 | 20.00 | 2 | 4.00 | 2 | 4.00 | 360 |
| <i>D. Bio-physical factors</i> | | | | | | | | | | |
| 13. | Conducive climatic conditions | 29 | 58.00 | 15 | 30.00 | 4 | 8.00 | 2 | 4.00 | 322 |
| 14. | Good irrigation facility | 28 | 56.00 | 10 | 20.00 | 2 | 4.00 | 10 | 20.00 | 312 |
| 15. | Good labour availability | 20 | 40.00 | 10 | 20.00 | 10 | 20.00 | 10 | 20.00 | 280 |
| <i>E. Other relevant factors</i> | | | | | | | | | | |
| 16. | Presence of poultry feed units | 40 | 80.00 | 10 | 20.00 | - | 0.00 | - | 0.00 | 382 |
| 17. | Presence of Broiler Coordination Committee (BCC) | 4 | 8.00 | 2 | 4.00 | 3 | 6.00 | 41 | 82.00 | 118 |
| 18. | Amenability of maize grain for value addition | 2 | 4.00 | 5 | 10.00 | 38 | 76.00 | 5 | 10.00 | 208 |
| 19. | Good Extension linkage | 15 | 30.00 | 30 | 60.00 | 5 | 10.00 | - | 0.00 | 320 |

MI - Motivation index

ascertaining the most influencing factors for maize cultivation.

Why motivation is to be studied?

Motivation is the process of initiating a conscious and purposeful action. Motive means an urge, or combination of urges, to induce conscious or purposeful action. It is ordinarily a compound of feelings, appetites, inclinations and instinctive impulses. It becomes objectified as an interest and unless impeded by internal or external obstacles, leads to action in pursuit of that interest. Motivation is goal oriented and need satisfying behaviour. It explains why people do the things they do. It influences a person to do a thing in certain way.

If one go by this explanation of Dahama (1985), he or she would realize the importance of motivation for farmers to take up any agriculture or allied venture. If the urge or combination of urges to engage in a particular activity is ascertained it will help formulate development strategies which could carry the popular feeling of people. Once this is done, the farmers participation in any development programme would be enhanced. A knowledge on these feelings, inclinations of farmers towards a particular activity will help extension personnel to reinforce the psychological basis of the farmers and this in turn facilitate him in working with the farmers. Further identification of those influencing motivational factors would help the extension workers to replicate the same in other areas where those factors can be applied. Some earlier studies also augurs the importance of motivation. Some of them are given below.

Singh and Bhawe (1992) had identified farmers motives in adoption of cotton. They were of the view that the utilitarian motive play a significant role in the acceptance of new technology and to support their view they found that cotton farmers had given utilitarian

motive as their first priority followed by the other motives like economic motive, achievement motive etc.

Materials and Methods

In Tamil Nadu the requirement of maize per year is 8.1 lakh tons whereas the production is only 1.12 lakh tons. The land under maize cultivation is very meagre say about 0.70 lakh hectares only, when compared to the national average of 6.86 lakh hectares. For every tone the state Government is off-loading from neighbouring Andhra/Karnataka it needs to pay Rs.6,000/- per ton which amounts to Rs.40 crores on transportation alone. The Government is constrained to offload our maize requirement from the neighbouring states after paying a huge sum of transportation cost. This adds to the cost of the feed, which boosts the production cost of the broiler birds. Hence a serious thinking has to be devoted for the improvement of maize position in Tamil Nadu.

There are seven agro climatic zones in Tamil Nadu. Major area under maize is found in Coimbatore and Periyar districts of western agro climatic zone and Dindigul district in southern zone. Among this Coimbatore district was selected randomly. In Coimbatore district Udumalpet taluk was selected. This area is a maize belt with a very good market, which lacks sociological studies. A laser beam focus should be given in this area because of the following reasons:

1. In Udumalpet taluk there is a sudden surge in area and production of maize.
2. Coimbatore district stood second next to Dindigul in area and production of maize. In Coimbatore district, Udumalpet taluk is famous for maize cultivation as its market price influences the price all over Tamil Nadu. It has been popularly called as "Udumalpet maize" in market.

3. The presence of poultry feed units like "Suguna poultry feeds" has created a conducive atmosphere for maize cultivation.
4. Broiler Coordination Committee (BCC) is working in Udumalpet area which promotes maize cultivation.

Modus Operandi

As quoted elsewhere Udumalpet taluk was selected as study area. Purposive sampling was adopted to select villages and respondents. After consultations with Assistant Director of Agriculture, Agricultural Officers, Assistant Agricultural Officers two villages were selected based on highest area under maize and presence of poultry feed units. They were Deepalapatty and Vadugapalayam of Udumalpet taluk. Twenty-five respondents from each village were selected as respondents. Thus a total of fifty respondents were considered for the study.

In the present study, the motivation is operationalised as the drive or combination of drives which is responsible for farmers to take up maize cultivation. These drives are otherwise called as factors of motivation. An exploration of all possible motivational factors was done by pre survey visit to the study area and the researchers had informal consultation with Assistant Director of Agriculture, Udumalpet, Agricultural Officers, Assistant Agricultural Officers, other development department personnel of the study area, scientists of Tamil Nadu Agricultural University and progressive farmers of the study area. The explored factors were categorised into Economic factors, Crop production factors, Input factors, Bio-physical factors and other relevant factors. A total of nineteen (19) factors were identified.

These motivational factors were measured on a four point continuum namely high motivation, medium motivation, low motivation

and nil motivation. A scoring pattern of 4, 3, 2 and 1 were assigned for high, medium, low and nil motivation respectively. The response of farmers for each factor in each category was summed up and an index namely "Motivation Index" (MI) was exclusively framed for this study. Here the motivation index is conceptualized as the ratio of sum total of respondents in each level of continuum i.e., high, medium, low and nil motivation for a given factor to the total number of respondents multiplied by 100. This is given by the formula

$$\text{Motivation index (MI) for a given factor} = \frac{n_1Hm(4) + n_2Mm(3) + n_3Lm(2) + n_4Nm(1)}{\text{Total no. of respondents}} \times 100$$

Where,

$n_1(Hm)$ = no. of respondents with high motivation for a given factor

$n_2(Mm)$ = no. of respondents with medium motivation for a given factor

$n_3(Lm)$ = no. of respondents with low motivation for a given factor

$n_4(Nm)$ = no. of respondents with nil motivation for a given factor

Maximum score, a given factor could get is 400 and minimum could be 100.

So in this study the range of motivation index of maize growers to prefer maize cultivation is 400-100. The data was collected during March 2002. Each of the respondents was personally contacted and interviewed with the help of interview schedule.

Findings and Discussion

The findings were tabulated and given in table 1.

A. Economic factors

Among economic factors attractive price for the produce (380) and marketability of

the produce (370) were regarded as the prime motivating factors. It was found that 80-90 per cent of respondents fell in the category of high motivation to medium motivation for these two factors. This is parallel to the findings of Perumal (1970) who reported that hybrid maize grower had economic motivation as the prime one followed by other factors. Having toiled in the field in the scorching sun for hours together every farmer irrespective of crop and area eventually look forward to get good, remunerative price for their produce. This holds good for maize also. Attractive prices should go hand in hand with marketability. If the market is too far which would increase transportation cost and middleman involvement is more the farmer cannot fully utilise the advantage of getting attractive price. In the study area majority of respondents felt that they preferred maize than any other agricultural crop since maize market is somewhat stable and they used to get around Rs. 1500 per quintal and sometimes it goes upto Rs.2000.

An interesting trend the researcher could identify in the study area is that majority of cropped area which is being occupied by maize were once cropped with cotton. This is due to the non-remunerative nature of cotton cultivation characterized by high plant protection expenses, uncertain market, which is complex with many middlemen. This fact is emboldened as two third of respondents (70 - 80 per cent) were found with high and medium motivation for the two factors namely less cost of cultivation and minimum plant protection expenses. Three fourth of respondents (70 per cent) opined that they had been motivated by the value of maize straw. This might have been due to high nutritional qualities, high keeping quality, amenability for hay and silage making and its palatability for livestock. Sometimes the straw is sold to good price if the farmer does not own any milch animal.

B. Crop production factors

Among crop production factors, the motivation index was found to be high for suitability for all seasons (380), minimum duration (372) and suitability for variety of soils (370). Four fifth of the respondents interviewed (70 - 80 per cent) fell in the category of high motivation and nearly one fifth (10 - 20 per cent) were with medium motivation for the above three factors. Maize being a crop suitable for all seasons and variety of soils the farmers obviously has a high regard for this crop. The eastern region of Tamil Nadu is predominantly a dry zone with lower rainfall realized the farmers intended to go for some less water loving and lesser duration crops. The duration of maize is between 100 - 120 days and can appreciably resist water stress. This might be the reason for 70 per cent of respondents endorsed the factor less water requirement as highly motivating one. The factor less skill requirement also found to have urged a motive in the minds of farmers to grow maize as a majority (72 per cent) of respondents had high motivation. Maize according to majority of respondents requires very little care and there is no skill is warranted from the farmers to grow maize. In a nut shell, for the five factors studied under crop production factors, majority of respondents were found with high motivation and only lesser per cent of respondents were with medium to low motivation.

C. Input factors

The motivation index was high (360) for the factor 'availability of good high yielding varieties' and moderate (320) for the factor 'easy accessibility to input shops'. Good, high quality seed material is the prerequisite for a bumper harvest in any crop. Multinational companies like Maharashtra Hybrid Seeds Company (MAHYCO) have a strong footing in the study area. The researcher could identify a dozen brands of private company seed materials

diffused among the respondents. One scientific reason that can be attributed for the proliferation of hybrids is its amenability for breeding programmes which can be done with greater ease than other crops. An important observation here is that the varieties released by Scientists of Agricultural University like Col, Co2 and the hybrids like CoH2 were not preferred by maize growers in the study area for multi various reasons. The quick and timely availability of seed material and the accessibility is one important reason. Here comes the ineptitude of extension system of State Department of Agriculture. Some of the Department officials whom the researcher met revealed that they are not being provided with enough stock to feed to the farmers. Meanwhile the private seed companies have strong network and they reach the people effectively.

D. Bio-physical factors

Among the bio-physical factors studied a little more than fifty per cent (58 per cent and 56 per cent) of respondents reported to have high motivation for 'conducive climatic conditions' and 'good irrigation facilities'. A subtle observation at the table 1 revealed that an ambivalent response was found with respondents for the three biophysical factors studied. This is substantiated by their motivation lies in all levels of measurement *viz.*, high, medium, low and nil. Majority of the respondents did not attach more importance to these factors though some scientific reasons can be attributed to which they were oblivious of. Basically maize is a C4 crop which can resist adverse climatic conditions. Moreover it is dioecious crop where both male and female parts present in the same plant. The study area is a high wind velocity zone which could have an influence over its pollination.

E. Other relevant factors

The factors which does not fall under the above four broad categories were classified

as other relevant factors. Among these factors presence of poultry feed units (382) in the study area is the one which is responsible for high motivation among farmers to go in for maize cultivation. Maize is one of the important ingredients of poultry feed. Suguna poultry feeds is one such prominent poultry feed industry working in the study area. This has entered into contract farming with farmers and providing advance money and inputs to the farmers and in turn gets back the produce from the farmers. The farmers felt that they feel secured as the advance money can be used to start up the cultivation and they can get ready price when they sell the produce to them. Moreover the farmers need not take risk of transporting the produce to the market as the people from the industry come and collect the produce.

The researcher could observe the dominance of Suguna poultry feed and because of this proliferation of broiler shops in and around Udumalpet. Farmers are not willing to take risk and they sell the produce for the price given by the company which entered into contract with them. Actually this led to the monopolistic market set up which is not good for the farmers. Broiler Coordination Committee (BCC) an organization set up to coordinate the activities of broiler units and to work for the cause of this business circle is established in Udumalpet. This has done some work to popularize maize in the area as it fixes prices for broiler which in turn affects the price for maize. Since its role is invisible the respondents did not find it as an important motivational factor as 82 per cent of respondents were with nil motivation.

Value addition of maize is another important area as there are many products prepared from maize pop corn, corn flakes, sweet corn soup etc. Though the scope is more the respondents did not have more motivation towards value addition as they felt those products are for

city dwellers and they lack facilities to manufacture them. This could be the reason for majority of respondents (70 - 80 per cent) fell in the category of low to nil motivation for value addition. High to medium motivation was found with the respondents for the factor good extension linkage. To sum up other relevant factors the presence of poultry feed unit had high motivation index of 382 and the other factors did not motivate the farmers appreciably.

Conclusion

The study revealed that high motivation and motivation index was found with the factors namely presence of poultry feed units in the study area (382), attractive price for the produce (376), minimum duration (372) and easy marketability for the produce (370). Low to nil motivation and motivation index was found with respondents for the factors presence of Broiler Coordination Committee (118), amenability for value addition (208) and availability of labour (280). Medium motivation was found with respondents for the factors of good high yielding varieties (360), high economic value of straw (360) and less skill requirement (356). To sum up, among the broad categories of motivational factors studied the crop production factors stood first followed by economic factors, bio-physical factors, input factors and other relevant factors. From the study the following implications may be drawn.

For planners and policy makers

- It is established from the study that poultry feed units are the major motivating factor for the farmers to resort to maize cultivation as a result of which the no. of broiler units got burgeoned in recent times. The planners may help to set poultry feed units in maize predominant areas of the state in order to help the maize farmers.

- It is evident from the study that the services of Broiler Coordination Committee (BCC) were not felt by farmers as a motivating force. This BCC plays a major role in fixing prices for broilers which in turn have a direct bearing on the sale price of maize. This implies that BCC should strengthen its activities to reach the farmers.

For plant breeders

- The study revealed that the farmers are highly motivated by the availability of good high yielding maize hybrid. Even though there is ample scope of crop improvement. The breeder should work with extension functionaries to find out the prioritized traits, which the farmers wish to have in maize varieties.

For extension workers and training organisations

- Though maize is highly amenable for value addition it is not felt by majority of farmers, according to the study. This indicates intensive extension effort is needed to educate the farmers about value addition. The training organisations should impart training on value addition of maize by identifying the farmers prioritised value added products of maize based on their socio-economic conditions.
- The study indicated that availability of labour and less skill requirement were not considered by farmers as motivating factors for maize cultivation. The extension functionaries should prepare literatures, posters, handouts and carrying out campaigns highlighting less skill requirement and non-labour intensive nature of maize cultivation in areas where there is ample scope for maize cultivation.
- The economic value of straw was not felt by majority of maize growers which give enormous scope for them to be trained

in preservation and value addition of maize straw which is highly nutritious and amenable for hay and silage making. The training organisations should focus this area by arranging resource persons to give training.

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