Factors Associated for Declining Chilli Area and its Diversification

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ABSTRACT

Study on factors associated for declining chilli area and its diversification was conducted in Kuhi tahsil of Nagpur district of Maharashtra state. It was observed that the per cent change in area under chilli was 67.16 per cent and majority of the respondents had medium crop diversification from chilli to other crops. Findings regarding factors associated for decline in chilli area revealed that among the reasons, lowering water table, unavailability of labours, lack of knowledge about dipping the seedling in insecticide solution and seed treatments lack of churda murda resistant varieties, high cost of insecticide and fertilizer, high cost of improved varieties of seed, delayed transplanting due to no rains, low prices in market were the important factors.

Key words: *Decline; Chilli production; Diversification*

As India is predominately an agricultural country as more than three fourth of its population depends on agriculture and nearly fifty per cent of national income is derived from the same. But, Indian agriculture is fraught with risk and uncertainty as more than two third of the cultivable land is dependent on monsoon. The farmers are often not sure about the outcome from agriculture due to weather and market induced risks. Moreover, the small size of holdings and subsistence nature of farming impinges on the capital formation in agriculture. Therefore, crop diversification may be adopted a strategy for profit maximization through reaping the gains of complementary and supplementary relationships for competitive products. It may also acts as a powerful tool in minimization of risk in farming business. Under the situation of weather and market induced risk and capital constraints, diversification may helps in stabilizing farm income at a higher plane. These considerations make a strong case for crop diversification in Indian conditions (Gupta and Tewari, 1985). Chilli is an important cash crop and it occupies a large area in Kuhi talukas of Nagpur district of Maharashtra state. However, from 2001-2002 the area under cultivation of chilli was declining. It is assumed that the adoption behaviour of the farmers is influenced by various factors and if they are identified they can be tackled effectively by the change agents. Hence it was thought worthwhile to ascertain the factors which are associated for declining chilli area and its diversification. Keeping in view above facts the study was conducted with the following objectives.

1. To study the reasons of decline in area under chilli crop.
2. To study diversification of chilli area under other crops.

METHODOLOGY

The present study was conducted in Nagpur district of Maharashtra state. The district consists of thirteen talukas from which Kuhi talukas was selected purposively, as it covers more area under chilli crop. The list of chilli growers from the selected villages was prepared and from them 150 chilli growers were selected by adopting the procedure of proportionate random sampling. An interview schedule was prepared in view of the objectives of the study and data were collected by personal interview of the selected chilli growers.

RESULTS AND DISCUSSION

A. Factors associated for decline in the area under chilli cultivation: Factors associated encountered by the respondents that make them to put less area under chilli were identified and classified into four heads viz. Factors associated related to input supply, technical aspects, economic aspects, information sources, labours and climatic condition, respectively. Data have been presented in Table 1.

Factors related to input supply: Among the factors associated related to input supply, delayed transplanting because of no rains was one of the major reason encountered by 68.67 per cent of the respondents. Followed by 56.76 per cent of the respondents reported non availability of improved seed at proper time and 48.18 per cent of respondents reported non availability of insecticide at proper time, as a major factors associated while 42.24 per cent of respondents reported non availability of plant protection measures and 39.61 per cent of respondents reported non availability of chemical fertilizers at proper time.

Table 1. Factors associated for decline in the area under chilli cultivation (N = 150)

S.No.	Factors associated for decline in chilli area	f	%
I	*Factors related to input supply*		
1	Non - availability of improved seed at proper time	86	56.76
2	Non-availability of chemical fertilizer at proper time	60	39.60
3	Non-availability of insecticide at proper time	73	48.18
4	Non - availability of plant protection measures	64	42.24
5	Delayed transplanting because no rains	103	68.67
II	*Factors related to Technical aspects*		
1	Lack of churda murda resistant varieties	129	85.14
2	Adulteration in seeds of improved varieties	17	11.22
3	Ineffectiveness of insecticides	56	36.96
4	Load shedding of electricity	124	81.84
5	Lack of storage facilities	77	50.82
III	*Factors related to Economical aspects*		
1	High cost of improved varieties of seed	77	50.82
2	High cost of insecticides and fertilizers	60	39.60
3	Lack of money at the time of purchasing fertilizers and insecticides	94	62.04
4	Obtain low prices in market	128	85.33
5	Government do not provide sufficient compensation for natural calamities	81	53.46
6	Inadequate credit facilities	90	59.40
7	High cost of FYM	56	36.96
8	Policies of government towards chilli	47	31.02
IV	*Factors related to information sources*		
1	Lack of knowledge about seed treatment	86	56.76
2	Lack of knowledge about dipping the seedling in insecticide solution	105	70.00
3	Lack of knowledge about the fertilizer doses	68	44.88
4	Lack of knowledge about the appropriate stage of seedling at the time of transplanting	51	33.66
5	Lack of contact with extension personnel	81	53.46
6	Lack of knowledge about the control measures	60	39.60
7	Inadequate guidance from the dealers	81	53.46
V	*Factors related to labours*		
1	Lack of labour during transplanting of seedling and harvesting of chilli	102	67.32
2	High wages rates	47	31.02
VI	*Factors related to climatic conditio*ns		
1	Vagaries in monsoon	102	67.32
2	Long dry spell	86	56.76
3	High temperature	77	50.82
4	Low water table	142	94.66

Factors related to technical aspects: Among the technical aspects lack of churda murda resistant variety was the major reason encountered by majority of the respondents (85.14 %), followed by 81.84 per cent respondents who reported that load shedding of electricity is major problem. As much as 50.82 per cent of the respondents had reported lack of storage facilities and 36.96 per cent of respondents had reported ineffectiveness of insecticides as major factors associated. Only 11.22 per cent respondents had stated adulteration in seeds of improved varieties as constraint.

Factors related to economic aspects :Among the economical aspects obtaining low prices in market was one of the major reason encountered by majority of the respondents (85.33 %), followed by 62.04 per cent of the respondents who reported that lack of money at the time of purchasing fertilizers and insecticides and 59.40 per cent respondents reported inadequate credit facilities. As much as, 53.46 per cent of respondents reported that government did not provide sufficient compensation for natural calamities and 50.82 per cent of respondents reported high cost of improved varieties seed. *N*early 40 per cent of respondents reported high cost of insecticides and fertilizers (39.60 %), high cost of FYM (36.96 %), and non-supportive policies of government towards chilli (31.02 %).

Factors related to Information sources : Among the information sources, lack of knowledge about the practice of dipping of seedlings in insecticide solution on transplanting was one of there major factors associated encountered by majority of the respondents (70%), followed by 56.76 per cent of respondents who reported that lack of knowledge about seed treatment and 53.46 per cent of respondents reported that lack of contact with extension personnel and inadequate guidance from the dealers as a factors associated. While 44.88 of respondents reported that lack of knowledge about fertilizers doses, 39.60 per cent of respondents reported that lack of knowledge about control measures of insect and disease and 33.66 per cent of the respondents reported lack of knowledge about appropriate state of seedling at the time of transplanting.

*Factors related to labours : A*mong the factors associated about to labours, lack of labour during transplanting of seedling and harvesting of chilli was one of the major reason encountered by majority of the respondents (67.32 %) followed 31.02 per cent of respondents who stated high labour wages as major reason.

Factors related to climatic conditions : Among the climatic conditions, lowering water table was one of the major reason encountered by majority of the respondents (94.66 %), followed by 67.32 per cent of the respondents says vagaries in monsoon, 56.76 percent respondents told Long dry spell as a major reason and 50.82 per cent of the respondents reported high temperature as a major reason.

Thus, it is revealed that the factors associated like lowering of water table, lack of labour during transplanting of seedling and harvesting of chilli, vagaries in monsoon, obtaining low prices in market, load shedding of electricity, delayed transplanting because of no rains and lack of churda murda resistant varieties were the main factors associated encountered by the chilli growers that makes

them to reduce there area under chilli and diversification towards other crops.

Crop diversification : Logical reasoning behind this could be that the farmers with medium land holding did not allow them to try new technology on his farm. The less annual income could not able to spent more money on plant protection, fertilizers etc. The farmer with lower socio-economic status did not possess improved implements required for chilli cultivation. He might not get the expected price for chilli in market and he might have less knowledge about recommended chilli cultivation practices because of less extension contact. Therefore, the diversification of chilli under other crops is the decision taken by the chilli growers. During survey, it was observed that most of the chilli growers were diverting towards soybean and few towards rice from chilli. This has been done because of uncertainty of chilli crop and fluctuating market prices.

Beside investigation of per cent crop diversification the researcher had also categorized the respondents on the basis of crop diversification of chilli under other crops. The information has been presented in Table no. 2.

Table 2. Distribution of the respondents according to their crop diversification (N = 150)

S.No.	Category	f	%
1	Low	17	11.33
2	Moderate	79	52.67
3	High	54	36.00
	Total	150	100 .00

Distribution of the respondents according to their crop diversification (Table 2) revealed that majority of the respondents (52.67 %) had moderate diversification of chilli under other crops. Followed by 36 % of the respondents had high diversification of chilli while 11.33 per cent of respondents had low diversification of chilli under other crops. The per cent change in area under chilli of the respondents (n = 150) have been given in Table 3.

It was observed from Table 3 that the total area put by the selected respondent under chilli was 338 ha. during base year and 111 ha. during the study year. Therefore, decrease in the area under chilli was 227 ha. Hence per cent change in the area and crop diversification was 67.16 per cent.

Table 3. Per cent change in area under chilli of the respondents (N = 150)

Crop	B	S	D	P
Chilli	338 ha.	111 ha.	-227 ha.	67.16
Soybean	132 ha.	352 ha.	+220 ha.	166.67
Rice	168 ha.	175 ha.	+7 ha.	4.17
Others	10 ha.	10 ha.	0 ha.	00.00

B=Base year (2001-02) S=Study year (2005-06)
D=Difference P=Per cent crop diversification

CONCLUSION

It can be concluded that majority of the respondents (52.66 %) had moderate crop diversification of chilli under other crop. Finding with respect to factors associated for decline in chilli area and diversification under other crops revealed that nearly cent per cent of chilli growers had explained lowering water table as a major reason. This tends to imply that chilli growers need to be well informed about water shed development soil and water conservation techniques and water harvesting techniques. Therefore extension agency not only should organize awareness campaigns through various communication media but also organize demonstration on soil and water conservation techniques, water harvesting techniques.

It indicates that there is still scope to improve their knowledge level and to minimize the diversification of chilli under other crops. Thus it is necessary to make efforts for particularly on the individual contact to organize demonstration, to convince the growers to show them the results of dipping the seedlings in insecticide solution, doses of fertilizers and spraying of insecticides. The chilli growers should also be motivated to grow chilli crop by surely supplying them churda murda disease resistant varieties, simultaneously wide publicity be also given to the recommended package of practices of chilli at appropriate time. Findings revealed that high input cost for chilli cultivation and fluctuations in the prices in the market are important area of concern of diversification of chilli area under other crop. It is therefore need to emphasized on judicious use of inputs and increase the productivity of the crop by developing high yielding varieties and government should develop the market pricing policies like 'Minimum Support Price' for chilli so that diversification of chilli under other crop can be minimize.

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