

Table 2 : Constraints faced by the green gram growers in adoption of recommended package of practices of green gram

Sr. No.	Constraints	Frequency	Percentage
1.	High cost ploughing	96	80
2.	Lack of knowledge about compost / FYM making by scientific method	92	76.66
3.	Sowing is not in time because of uncertainty of rainfall	108	90
4.	Lack of information about recommended varieties	99	82.5
5.	More seed cost	104	86.66
6.	Cost of fungicides are high	86	71.66
7.	Non-availability of fertilizers at proper time	96	80
8.	Less information about sucking pest control	112	93.33
9.	Non-availability of spraying and dusting appliances	65	54.16
10.	Cost of insecticides / fungicides are high	113	94.16
11.	Lack of knowledge about IPM method of pest control	116	96.66
12.	Unavailability of labourer	107	89.16

was also reported by Mane (2001), Kadam (2000), Deshmukh (2006) Lal *et al.* (1990) and Bedre (2009).

Conclusion :

It is concluded that majority of the green gram growers were from medium farming experience, middle school level of education, joint family type, medium extension contact, medium social participation, medium annual income, medium economic motivation, medium risk orientation, medium sources of information and medium market orientation of recommended package of practices of green gram. High cost ploughing (80%), lack of knowledge about compost / FYM making by scientific method (76.66%), sowing is not in time because of uncertainty of rainfall (90%), lack of information about recommended varieties (82.5%), more seed cost (86.66%), cost of fungicides are high (71.66%), non - availability of fertilizers at proper time (80%), less information about sucking pest control (93.33%), non - availability of spraying and dusting appliances (54.16%), cost of insecticides / fungicides are high (94.16%), lack of knowledge about IPM (96.66%) and unavailability of laborer (89.16%) were the main constraints.

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Research Article

A study about land use pattern and farming system regarding diversification of agriculture to promote rural entrepreneurship

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ARTICLE CHRONICLE :**Received :**

12.08.2014;

Revised :

26.09.2014;

Accepted :

05.10.2014

SUMMARY : The study determined farmers cropping pattern, farming system and land use planning to be an entrepreneurs through adoption of improved agricultural technologies disseminated via Uttar Pradesh diversified support project (UPDASP) in state of Uttar Pradesh India. To get more profit, by farming it is necessary to use the land by adopting various innovative activities to be an entrepreneur. There is need to commercialise and diversify the agriculture so as to achieve more gain per unit of land for income and employment generation and convert agriculture to agri-business. There is also a need to develop entrepreneurship among the farmers in particular and rural masses in general. To convert a farm into an enterprise to business, the identity of the person managing it must change from a farmer to that of farm business operator or an entrepreneur. Covering all aspect of farming system a study was conducted in western Uttar Pradesh. An interview schedule was used to collect data from a sample of 200 farmers. Out of 200 farmers 100 were adopters and other 100 were non-adopters. Results show that 18 per cent adopters and twenty three per cent non- adopters adopt crop sowing with dairying. 10 per cent adopters and 25 per cent non- adopters grew only crops. 1 per cent adopter and none of the non-adopters did crop with poultry. 4 per cent adopters and 1 per cent non- adopters like cereal crop with fruit crop. 12 per cent adopters and 19 per cent non- adopters grew only sugar cane crop. 4 per cent adopters and none of the non-adopters adpled other type of farming viz., bee keepin fisheries, etc.

KEY WORDS :

Cropping pattern,
Farming system,
Diversification,
Entrepreneureship

How to cite this article : Bhadauria, Jitendra Singh (2014). A study about land use pattern and farming system regarding diversification of agriculture to promote rural entrepreneurship. *Agric. Update*, 9(4): 531-534.

BACKGROUND AND OBJECTIVES

In India seventy per cent population are directly or indirectly depend on agriculture. Increasing population also creating a problem of continuous fragmentation of land due to ownership multiplication and division of joint families into smaller nuclear families; resulting in low per capita availability of land. The land to man ratio in our country is becoming very narrow. According to Sharma and Sharma (2009) the employment situation in rural areas is rather more alarming in view of shrinking agricultural land area. Due to low land-man ratio, more and more farmers and their children are finding themselves out of

work. Increasing influence of education has also created a higher need for jobs amongst the rural masses. After finishing their education, rural youth also line up in front of employment exchange for seeking jobs. Although they have an option of starting their own enterprise but this option is usually ignored by them and they join the long queue of job seekers in front of offices. Sometimes they have to accept those jobs also which are not in accordance with their qualifications and experience. Thus, unemployment and underemployment both are in existence. A large number of studies have clearly brought to light that the rural youth are serious victims of frustration, cynicism, goal-lessness, normlessness

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and misanthropy largely due to lack of employment opportunities. Their energy is not channelized in a positive direction. The situation has led to alarming increase in the rate of migration from rural areas to cities. If it continues uncontained, in only few years from now, it will not only create chaos in cities and towns, but it would also destroy the socio-cultural-fabric of rural India. Hence, even if agricultural productivity of India improves, a lot needs to be done in other aspects also for attaining employment generation, economic prosperity and overall development of the rural India. In recent years, there has been renewed emphasis on promotion of diversified agricultural growth in favour of horticultural and vegetable crops. It may be seen from Table A that the

production of fruits in the country increased from 20 million tonnes in 1980 to 32 million tonnes in 1993. The production of mango increased from 8 million tonnes in 1980 to 10 million tonnes in 1993 and that of bananas rose from 4 million tonnes in 1980 to 7 million tonnes in 1993. The production of oranges and pears almost doubled during this period, while that of grapes and papaya increased by three times. The production of tomato crop increased from 1.5 million tonnes in 1980 to 4.6 million tonnes in 1993 and that of dry onions rose from 2.5 million tonnes in 1980 to 4 million tonnes in 1993. However, the production of other vegetable crops did not increase significantly.

It could be further seen from Table B that overtime, while the proportion of area under food grains declined from 75.6 per cent in 1960-61 to 69.8 per cent in 1989-90 mainly due to the declining area under crops like jwar, bajra, barley, millets and pulses, there has been a steady upward trend in the growth of area under oilseeds and fruits and vegetables. The area under fruits and vegetables increased from about 2.6 million hectares in 1960-61 to 6.1 million hectares in 1989-90. However, area under rice and wheat among cereal crops maintained an upward trend due to relative yield and economic advantages of growing HYV rice and wheat. The area under tomato increased from about 50,000 hectares in 1960-61 to 3,10,000 hectares in 1993. In fact, wherever irrigation facilities are available, crops like rice, wheat, sugarcane and fruits and vegetables find favour with farmers, irrespective of their size of holdings.

Narayana Swamy (2009) stated in his study that entrepreneur is an economic man, who strives to maximize his profits by innovations, however, the entrepreneurs are not simply innovators, they are men with a will to act, to assume risk and to bring about a change through organization of human efforts. Thus, a different orientation is required for enhancing efficiency of human resource. Entrepreneurship

Fruit/vegetables	Production in thousand tonnes			
	Year	1980	1961	1983
Total fruits		13372	20352	31850
Banana		2257	4354	7200
Orange		752	1171	2000
Papaya		228	413	1200
Apples		185	658	1200
Grapes		70	196	730
Peaches		43	78	83
Pears		33	64	130
Tomato		464	1500	4600
Dry onions		1200	2500	4000
Cauliflowers		413	660	700
Pears		33	64	130
Green peas		171	255	267
Green beans		23	41	50
Garlic		130	216	170

Source: Compiled from various publications of Ministry of Agriculture, Govt. of India

Crop	Area and percentage of share to total crop area					
	1960-61		1980-81		1989-90	
	Area (000ha)	Share in %	Area (000ha)	Share in %	Area (000ha)	Share in %
Rice	34056	22.3	40282	23.3	42141	23.3
Wheat	12931	8.5	22241	12.8	23500	13.0
Jwar	18426	12.1	16381	9.5	14827	8.2
Maize	4401	2.9	6053	3.5	5910	3.3
Total food granes	115564	75.6	127965	73.9	126430	69.8
Total pulses	23665	15.5	22797	13.2	23275	12.8
Sugarcane	2417	1.6	2834	1.6	3525	1.9
Condiments and spices	1569	1.0	2077	1.2	2364	1.3
Total oil seed	12957	8.5	15950	9.2	23627	13.0
Total fruits and vegetable	2649	1.7	4882	2.8	6148	3.5
Other crops	17722	11.6	19560	11.3	19020	10.5
Total	152772	100	173099	100	181143	100

Source: Compiled from various publications of Ministry of Agriculture, Govt. of India

has been accepted as a function of several factors. In order to contribute to the development of entrepreneur, a scientific identification of characteristics contributing entrepreneurial personalities, designing mechanism to train such people on these dimensions, involving strategies to initiate and motivate them to develop entrepreneurship, testing them for their entrepreneurial prosperity and training them are urgently needed to enhance efficiency of human resource. To promote entrepreneurship among professionals, attention so far given is limited in taking several steps to assist people. Unemployment is one of the basic problems the world is faced with. Population growth, rapid urbanization and industrialization have resulted in decline in average size of holding and per capita land availability.

RESOURCES AND METHODS

District 'Baghpat' of western Uttar Pradesh was selected purposively to investigate different aspects of entrepreneurship through adoption of new technology via Uttar Pradesh Diversified Agricultural Support Project (UPDASP). Two blocks namely Baghpat and Pilana were selected by using simple random method of sampling. Ten villages were selected from each block using simple random method of sampling. Thus, a total of twenty villages were selected for this study. Lists of villagers were obtained from the V.D.O. for the selection of respondents. These lists of villagers were divided into two parts, adopters and non-adopters. Five adopters and five non-adopters were selected randomly from each village, total ten respondents from each village were selected. Thus, only one hundred adopters and one hundred non-adopters were selected for the study .

Land use pattern means how many areas covered in the land or what type of farming system adopted by the

respondents such cereals crop, vegetable crops, cash crops, fishery, fruit crop, flower crop, bee-keeping, animal husbandry and dairy etc. for adopting innovativeness to promote entrepreneurship. The score were allotted 1 for various type of farming. Data were collected by personal interview method with the help of pre-tested structured schedule. Data collected were tabulated, analyzed and interpreted in the light of the objectives set up for the present study. Descriptive and inferential statistics were used for analysis of the data. The descriptive statistics include percentage and mean etc. standard deviation, variance, 't' test, Pearson's co-efficient of correlation, spearman brown formula for reliability of the schedule, were used at different stages in the study as inferential statistics. To test the significant difference between adopters and non-adopters regarding land use pattern and farming system variables used in this study, Null hypothesis (H_0) was tested.

OBSERVATIONS AND ANALYSIS

Land use pattern and farming system included that respondents were growing other crops besides traditional crops. These data were recorded from each respondents and score of 1 was given to every crops and other farmings. Table 1 shows frequency distribution of land use pattern and farming system.

Table 1 shows that 54 per cent adopters and 32 per cent non-adopter grew more than one crop with cereal crop *viz.*, vegetable crop, cash crop, pulse crop, flowercrop, oil seeds crop, fruit crop, spices crop etc. 18 per cent adopters and twenty three per cent non-adopters adopted crop sowing with dairying. 10 per cent adopter and 25 per cent non-adopter grew only crops. 1 per cent adopter and none of the non-adopters did crop with poultry. 4 per cent adopters and 1 per

Table 1 : Showing score of land use pattern and farming system of the respondents

Sr. No.	Land use pattern	Adopters	Per cent	Non-adopters	Per cent
1.	Cereal + vegetable	18	18	5	5
2.	Cereal + cash crop	8	8	2	2
3.	Cereal + pulse crop	4	4	2	2
4.	Cereal + flower crop	3	3	1	1
5.	Cereal + oil seed crop	11	11	15	15
6.	Cereal + fruit crop	9	9	5	5
7.	Cereal + spices crop	1	1	2	2
8.	Cereal + dairy	18	18	23	23
9.	Crops only	10	10	25	25
10.	Crops + poultry	1	1	0	0
11.	Crops + fruit crop	4	4	1	1
12.	Only cash crop (Sugarcane)	12	12	19	19
13.	Others	4	4	0	0
	Total	100	100	100	100

cent non- adopters grew crops with fruit crops. 12 per cent adopter and 19 per cent non - adopter grew only sugar cane crop. 4 per cent adopters and none of the non-adopters adopted other type of farming such as fisheries, fee keeping etc.

To test the significant difference of land use pattern and farming system between adopters and non- adopters, following Null hypothesis (H_0) was formed.

Null hypothesis (H_0) :

There was no significance difference in the land use pattern and farming system between adopters and non-adopters.

Total score, mean score, standard deviation, variance and calculated 't' value for the test are shown in Table 2.

Table 2: Showing total score, mean scope, standard deviation, variance and 't' value for land use pattern

Sr.No.	Particulars	Adopters	Non- adopters
1.	Total score	262	181
2.	Mean score	2.62	1.81
3.	Standard deviation	1.25	0.39
4.	Variance	1.57	0.15
5.	Calculated 't' value	6.2	-
6.	Tabulated 't' value	1.75	-

It is clear from Table 2 that calculated value of 't' is 6.2 and that was more than table value of 't' (1.75) at 0.5 per cent level of significance. Therefore, the Null hypothesis was rejected. Hence, it is concluded that there was significant difference in the adopter and non-adopter regarding their land use pattern and farming system. Chiprikar and Khuspe (1992) on grapes, Meena (2001) on onion and Meena (2002) on tomato also got the results which coincide with the work of present study.

Conclusion :

The study also revealed that there were significant differences between adopters and non-adopters regarding their land use pattern and farming system. Hence, conclusion drawn from the study that land use pattern and farming system affect diversification of agriculture to promote rural entrepreneurship for development of people in rural areas.

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