



DIVERSIFICATION OF AGRICULTURE-INCOME, EMPLOYMENT AND IMPROVING LIVELIHOOD SECURITY OF RURAL FARMERS IN DISTRICT FARRUKHABAD (U.P.), INDIA

Yogesh Yadav*, Babu Singh¹, S. M. Yadav and V. P. Yadav²

Department of Agril. Economics & Statistics, C.C.S. P.G. College, Heonra-206 130 (Saifai), Etawah (U.P.), India.

¹Department of Agril. Economics & Statistics, C.S. Azad University of Agril & Tech., Kanpur-2 (U.P.), India.

²Department of Agril. Extension, C.C.S. P.G. College, Heonra-206 130 (Saifai), Etawah (U.P.), India.

Abstract

Progress of diversification of Indian agriculture for assured higher income and employment through dispersal of risks of excessive concentration on vegetable cropping pattern, labour used and income from different farm enterprises were collected through personal interview with the respondents during the agricultural year 2008-2009. Total 50 number of households were observed for the study. Average size of holding was 1.80 ha. and 88.50 per cent area was under irrigation. It is good shine for vegetable crops that was grown by farmers. Through diversification general cropping intensity was found 272.87 per cent. It is enough for increasing the income and employment. Under study observed average returns from cereal crops was Rs. 4836.72 and Rs. 9669.27 from vegetable crops per ha. Here is the effect of diversification of crops. Out of total income from agriculture nearly 55.38 per cent came from vegetable crops and 44.62 per cent come from cereals crops. Over all income came from agriculture nearly 60 per cent and from non agricultural sources 40 per cent per year per farm under the study area.

As for as employment days were observed on the farm 560.65 days in the year. It is distributed under agriculture and non agriculture sector 358.95 & 201.66 days respectively. It was clear picture from vegetable crops growers higher employment days in the whole year. The study indicated that the linkage between crop composition and economic performance Enterprise does justify the rational crop diversification as a strategy for improving economic prospects of farmers. The case of uplifting marginal and small farmers by diversifying their vegetable crop production should be fully explored both as an immediate and long term strategy. Diversification of agriculture under Indian conditions may be supported by considering the four main objectives (i) the imperative to increase the income and employment of farmers. (ii) the need of higher employment in the farm household. (iii) stabilization of farm income over the season. (iv) conservation and enhancement of natural resources. Poverty of these rural household can be eradicated with the diversification of vegetables and agricultural crops and improved livelihood security of rural farmers.

Key words : Diversification, income, employment, livelihood, rural farmers.

Introduction

Agricultural diversification through agricultural and horticultural crops have a potential for employment and income generation in central Uttar Pradesh region. Vegetable cultivation due to its labour intensive nature is more beneficial for the marginal and small holding where family labour availability per unit of land is higher compared to bigger size holdings. It is now a recognized fact that farming on its own does not provide sufficient means for survival to a majority of rural households depends on diverse portfolio of activities and income sources along with cereals and vegetable crops.

Diversification because necessary since growing of basis staples such as cereals can not alone supported economic development not with standing the need to ensure food security to the people in diversification to commercial crops an essential strategy that can increase incomes and employment and minimize risk due to crop failure and ensure foreign exchange. It can also be designed to help poverty alleviation (Hayami and Otsuka, 1995) and a planned diversification increases both individual and social gain (Huque, 1996).

Horticulture comprising fruits, vegetables, flowers, medicinal and aromatic crops spices, coconut and cashew with 15.71 million hectares and a production of 152.7

* Author for correspondence : e-mail: yadavyogesh96@gmail.com

Table 1 : General information of respondents with size group wise.

Particulars	Size groups			
	0-1 ha.	1-2 ha.	2 & above ha.	Average
1.Total number of farmers	25	15	10	5.54
2.Average family members	5.36	5.4	6.2	5.54
3.Average milch animal	1.16	1.33	1.60	1.30
4.Total cultivated area (ha)	20.00	25.00	45.00	90.00
5.Average size of holding	0.80	1.67	4.50	1.80
6.Percentage irrigated area	87.75	86.40	90.00	88.50
7.Total cropped area (ha)	56.84	70.74	118.00	245.58
A.Total cereal crops area (ha)	41.08	60.16	103.0	204.90
B.Total vegetable crops area (ha)	15.76	10.58	14.34	40.68
8.Percentage of cropped area				
A.Cereal crops	72.27	85.04	87.84	83.43
B.Vegetable crops	27.73	14.96	12.16	16.57
C.Cropping intensity (%)	284.00	282.22	292.22	272.87

Table 2 : Crop composition across farm groups area (in ha.).

Crop groups	Size groups			
	0-1 ha.	1-2 ha.	2 & above	Total
Cereals	21.32 (37.51)	33.06 (46.73)	51.48 (43.22)	105.86 (43.11)
Oilseeds	5.52 (9.71)	7.76 (10.97)	11.10 (9.41)	24.38 (9.92)
Vegetables	15.76 (27.73)	10.56 (14.96)	14.34 (12.16)	40.68 (16.57)
Cash crops	9.92 (17.45)	13.14 (18.57)	25.00 (21.19)	48.07 (19.57)
Pulse crops	2.22 (3.90)	2.96 (4.18)	7.76 (6.57)	12.94 (5.26)
Others	2.10 (3.69)	3.24 (4.58)	8.32 (7.05)	16.66 (6.78)
Total	56.84 (100.00)	70.74 (100.00)	118.00 (100.00)	245.58 (100.00)

Note- Figures in parenthesis shows percentage of respective values.

million tones has emerged as a core sector in India over the last two decades. This sector contributes to about 24 to 28 per cent of agricultural GDP provides employment for around 19 per cent of the country's agricultural work force. These set of crops with their sheer tenacity to adopt to diverse agro-climate hold the potential not only

to fit into to crop diversification models. The main objectives of the study were (i) To study the farm structure and cropping pattern of household (ii) To study the comparative advantage of different enterprises adopted by the farmers and (iii) To work out the effect of diversification on farm holdings. This study was undertaken in the year of 2008-09.

Materials and Methods

A three stage stratified sampling technique was used to select the block, villages and the respondents from & horticultural corps as list of villages of selected block was obtained five villages were selected purposively considering the sample points. For each of the selected village, a list of farmers adopting diversification with agricultural & horticultural crops was prepared. The farmers were grouped into three categories of below one, one ha to two ha and two ha & above size groups. So as 50 farmers were selected for study.

Results and Discussion

For the study general size of farm holdings, irrigated area and cropping pattern are given in table 1.

Table 1 shows the average family member were found 5.54 and 1.30 average mulch animal had by respondents. The study area enjoys sufficient assured irrigation facilities on farm. Nearly 90% area was irrigated by the different sources of irrigation.

In the study area, generally grown vegetables by the farmers for increasing his income and employment, table 1 shows the average cereal crops grown nearly 84 per cent and vegetable crops were found 16.57 per cent. This area gave the effect on cropping intensity. It was found on an average 272.87 per cent in the study area with this horticultural crops there were found

Table 3 : Average net return and income-cost ratio in crop enterprises (Rs/ha.).

Crops groups	Total input	Gross income	Net income	B:C ratio
0-1 ha.				
Cereal	20224.48	25081.20	4836.72	1:1.23
Oilseed	19918.91	23556.25	3637.34	1:1.18
Vegetables	17095.91	26764.28	9669.27	1:1.56
Cash crop	32855.50	54687.50	21832.00	1:1.66
Pulse crops	15751.47	22810.50	7059.03	1:1.44

Table 4 : Total income from all sources (Rs/Farm).

Particulars	Size groups			
	0-1 ha.	1-2 ha.	2 & above ha	Total
Total income	14656.00 (57.60)	22959.00 (55.46)	51491.00 (62.27)	24943.00 (58.13)
A. Farm crops	5845.00 (39.88)	10251.20 (48.52)	24983.00 (48.52)	11130.00 (44.62)
B. Farm vegetables	8811.00 (60.12)	12708.00 (55.35)	26508.00 (51.48)	13813.00 (55.38)
Total income from non Agriculture	10800.00 (44.40)	18500.00 (44.50)	31200.00 (37.73)	12905.00 (41.87)
Grand total	25456.00 (100.00)	41459.00 (100.00)	82591.00 (100.00)	42908.23 (100.00)

Note 1. Figures in parenthesis shows th respective percentage.
2. It shows percentage of total income from agriculture.

Table 5 : Human labour empoyment on farm (in days/farm/year).

Particulars	Size groups			
	0-1 ha.	1-2 ha.	2 & above ha	Total
1. From agriculture	158.75	277.20	645.40	358.95
A. Cereal crops	65.15	82.98	108.52	85.59
B. Vegetable crops	73.50	194.22	532.87	273.56
2. From non agriculture	108.45	185.00	312.00	201.66
Total employment	267.20	462.20	953.40	560.61

diversification and farmers enjoyed with increasing income and employment.

Table 2 shows crop composition across farm groups. It indicates under cereal crops generally farmers were not interested that shows only 43.11 per cent area covered, and more than 50 per cent area covered by cash crops (19.57%) vegetables crops (16.57%) and oilseed crops (9.92%) on an average.

It may also be noted that although small and marginal farmers do display their characteristics tendency of cereal based crops specialization, they have also devoted considerable area under horticultural crops. Despite the greater focus on cash crops, the large farmers, unlike the small marginal farmers display a crop pattern which is both diversification and balanced growth. Such a crop pattern is good for fish management.

Table 3 gives average net returns on the sample farms. As regards crop group wise the net return came highest 21832.00 on cash crop and second highest was

on vegetables crop Rs. 9669.27. It is due to diversification of inputs, knowledge, extension, work resources. If farmers go to only tradition crops, they were not in better ways. For improving the condition of rural masses and poverty eradication, diversification is necessary in the area.

Table 4 shows clear indication of horticultural crops on farms gave higher income. On an average more than 55% income comes from vegetable crops grown on the farms and only 44.62% comes from agricultural crops. Over all received income from agricultural and non agricultural sector shows more than 50% from agricultural side and less than 50% from non agricultural side. It shows under the study area, there were more adoption of horticultural crops for increasing the income and employment of respondents. Diversification and employment of human labour, employment was found on the farms under study area and there are clear verification of diversification under labour utilization and generate employment opportunity to the respondents.

Table 5 shows that the total employment days available on farm. Over all total employment days came 560.61 days from agricultural and non agricultural sectors per farm/year. More than 60 per cent employment days available in agricultural sector that is dominated in study area. Under agricultural sectors average 273.56 days employment available under vegetables crops and only 85.59 days under agricultural crop sector. It indicates the farmer were much aware about his higher income and they received more employment days in the surrounding year and improved his livelihood security.

Conclusion and Policy implication

The present study shows that the linkage between crop composition and economic performance of crop enterprise does justify the rational for crop diversification as a strategy for improving the economic prospects of farmers. Crop diversifications have to face serious economic resources related and institutional obstacles. Therefore, the potential for developing marginal and small farmers by diversifying their vegetable corps production should be fully explored both as an immediate and long term strategy. The results of the study indicate that the income and employment of the farmers can be considerable increased by changing in adoption of vegetable crops on the farms. It will need expansion of credit facilities to the respondents for availability of easily inputs by this, they will increase the farm output and more employment. It is most essential that the cereal crops and vegetable crops enterprises are develop for different

agro-climatic situations. Such a diversification will reduce risk uncertainties associated with crop production and provide regular income to the farmers.

Thus, diversification of agriculture under India conditions may be argued by considering the four main objectives. They are (i) the imperative to increase the income and of the farmers, (ii) the need for higher employment in the farm of household, (iii) stabilization of farm income over the seasons and (iv) conservation and enhancement of natural resources. Poverty of these rural household can be eradicated with the introduction of the horticultural crops. Such diversification of agriculture will result in providing more employment opportunity reduce risks and uncertainties and stabilize farm income over the year.

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