

# An Economic Analysis of Farm Production in Eastern Uttar Pradesh

Rakesh Kumar<sup>1</sup>, Singh A.<sup>2</sup> and Chandra Sen\*<sup>3</sup>

<sup>1,3</sup> Department of Agricultural Economics, Udai Pratap (Autonomous) College, Varanasi - 220 002, Uttar Pradesh, India

<sup>2</sup> Food Safety Officer, Government of Uttar Pradesh, Lucknow, Uttar Pradesh, India

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An extensive analysis of farming systems of different states of India have been carried out in the past. Field crops play an important role in the economy of farming families in the rural areas. A study has been undertaken by Singh *et al.* [1] on production possibilities of raising high yielding varieties of wheat and paddy. Prasad [2] studied the economic efficiency of small-scale farming in Farrukhabad district of Uttar Pradesh. A study on employment of landless agricultural laborers in the Bareilly district of Uttar Pradesh has been undertaken by Sen [3]. Natarajan [4] found in his study that India's poverty, agriculture and economic growth are closely linked. Kushwaha and Singh [5] analyzed the resource use efficiency in agriculture in central Uttar Pradesh. An assessment of technological change has been analyzed in rice cultivation in Orissa by Atibudhi and Singh [6]. The present study has been undertaken by Singh *et al.* [7] for analyzing the farm economy in eastern Uttar Pradesh.

The present study has been carried out in the Pratapgarh district of eastern Uttar Pradesh. The required information for the study has been collected from 120 selected farmers of small, medium and large size group. For analyzing the economics of various crops, the cost concepts developed by Commission for Agricultural Costs and Prices (CACP) have been used as described below:

## Cost concepts

The cost concepts used in the study are described as under.

Cost A<sub>1</sub> = It includes

- (i) Wages paid to hired labor
- (ii) Charges of bullock labor
- (iii) Hired machinery charges and maintenance cost of owned machinery.
- (iv) Cost of seed
- (v) Cost of Manure
- (vi) Cost of insecticides and pesticides
- (vii) Irrigation charges
- (viii) Interest on working capital
- (ix) Land revenue

- (x) Depreciation on farm implements and machinery
- (xi) Miscellaneous expenses

Cost A<sub>2</sub> = It includes

- (i) Cost A<sub>1</sub>
- (ii) Rent paid for leased in land.

Cost B = It includes

- (i) Cost A<sub>2</sub>
- (ii) Rental value of owned land
- (iii) Interest on capital

Cost C = It includes

- (i) Cost B
- (ii) Imputed value of family labor

## Cost of cultivation

Cost of cultivation is defined as the cost incurred in production of a commodity in a unit area. In general, the unit of cost of cultivation is Rs. per hectare.

## Measures of farm income

### Gross income

Income derived by addition of gross sales and home consumption of farm products. It is monetary value of total products on the farm.

### Net farm income

Net farm income shows the earning of farm as a whole after deducting the various expenses.

$$\text{Net Income} = \text{Gross Income} - \text{Cost C}$$

Farm size plays an important role in the economy of the farmers. The average farm size of sample households is presented in (Table 1). The average farm size was 1.96, 3.68 and 6.85 hectares of small, medium and large farmers respectively. The overall average size of farm was 3.46 hectares in the study area. The large farmers occupy the farm land more than three times of the land holdings of small farmers.

It is clear from (Table 2) that the Paddy and Wheat are the major cereal crops covering largest cropped area. Paddy

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**Correspondence to:** Chandra Sen, Department of Agricultural Economics, Udai Pratap (Autonomous) College, Varanasi - 220 002, Uttar Pradesh, India, Tel: +91 9415992214; E-mail: chandra\_sen@rediffmail.com

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occupies 1, 2 and 3 hectares under small, medium and large size of farms respectively. Wheat covered 0.90, 1.65 and 3.30 hectares under small, medium and large farms respectively.

The other crops were maize, arhar, bajra, jowar, sugarcane, barley, mustard, potato, gram and pea grown on the sample farms in the study area.

Table 1 Average size of holdings of sample households by size of farms

Size group	Aggregate holding (ha.)	Average size of holding (ha.)
Small farm	58.80 (28.37)	1.96
Medium farm	66.24 (31.96)	3.68
Large farm	82.20 (39.67)	6.85
Total	207.24 (100.00)	3.46

Figures in parentheses show the percentage to the total area under sample farm

Table 2 Cropping pattern on the sample farms

Crops	Small farm	Medium farm	Large farm
Paddy	1.00 (28.90)	2.00 (31.30)	3.00 (26.50)
Maize	0.15 (4.34)	0.34 (5.31)	0.83 (7.35)
Arhar	0.11(3.18)	0.25 (3.91)	0.50 (4.92)
Bajra	0.18 (5.20)	0.30 (4.69)	0.70 (6.19)
Jowar	0.23 (6.65)	0.25 (3.91)	0.53 (4.69)
Sugarcane	0.15(4.34)	0.25 (3.91)	0.65 (5.75)
Wheat	0.90 (26.00)	1.65 (25.80)	3.30 (29.20)
Barley	0.03 (0.87)	0.25 (3.91)	0.35 (3.10)
Mustard	0.15 (4.34)	0.45 (7.03)	0.37 (3.27)
Potato	0.10 (2.89)	0.25 (3.91)	0.40 (3.54)
Gram	0.21 (6.07)	0.35 (5.47)	0.32 (2.83)
Pea	0.25 (7.23)	0.06 (0.94)	0.35 (3.10)
Gross cropped area (ha.)	3.46 (100.00)	6.40 (100.00)	11.30 (100.00)

Figures in parentheses show the percentage to the gross cropped area

Table 3 Cropping intensity on sample farms

Size group	Net cultivable area (ha.)	Gross cropped area (ha.)	Intensity
Small farm	1.96	3.46	177
Medium farm	3.68	6.40	174
Large farm	6.85	11.30	165
Average	4.16	7.05	172

Data depicted in (Table 3) reveals that the cropping intensity on the sample farms was 172 percent with a minimum of 165 on large farms and a maximum of 177 on small farms.

The intensity of cropping on medium farms was 174 percent. The highest cropping intensity on small farms is due to more availability of family members for farm work.

Table 4 Net Income from different crops on sample farms (Rs/ha)

Crops	Small farm		Medium farm		Large farm	
	Gross income	Net income	Gross income	Net income	Gross income	Net income
Paddy	12400	2530	12380	3373	13100	4059
Maize	12500	1089	12450	2976	12900	3767
Arhar	12175	3342	13100	4527	13300	5123
Bajra	10710	1820	9711	1654	9851	1907
Jowar	10268	1241	9268	1184	9356	1587
Sugarcane	33291	16019	35391	18056	37400	20055
Wheat	14750	4501	15700	5809	16500	6792
Barley	11200	1970	11400	2555	12250	3969
Mustard	12451	3130	13250	4258	13750	5117
Potato	35370	17573	37340	19073	39340	21386
Gram	19240	9898	18240	9007	18840	9679
Pea	17530	8335	18500	9376	19500	10375

The data in (Table 4) presents the gross income and net income from various crops grown by the sample farmers. Potato was the highest profitable crop grown by the sample farmers. The net income from potato were Rs. 17573, Rs. 19073 and Rs. 21386 on small, medium and large farms respectively. The net income from Sugarcane was Rs. 20055 per hectare on large farms followed by Rs. 18056 on medium farms and Rs. 16019 on small farms. Pea was also high remunerative crop with net return of Rs. 8335, 9376 and 10375 on small, medium and large farms respectively. The net income from other crops ranges from Rs. 1089 to Rs. 9898 per hectare. It was also observed that the profitability of all the crops was positively related to the size of farms.

## SUMMARY

A study has been undertaken to analyze the farm economy in eastern Uttar Pradesh. An appropriate sample of small, medium and large farmers has been taken for the analysis. Size of farms, cropping pattern and cropping intensity and profitability of crops on small, medium and large farms has been examined. There is need of introducing new farm practices for improving the farm economy of eastern Uttar Pradesh. It has been observed that farmers allocate more area under food grain crops in spite of their lesser profitability than the cash crops of Potato and Sugarcane. The cropping intensity was highest on large farms followed by medium and small farms. There is need of adoption of advanced cultural practices for improving the farm economy of the study area.

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