



Economic evaluation of different farming systems in district Lucknow of Uttar Pradesh

J. RAI AND U.S. TIWARI

ABSTRACT

The investigation was carried out during 2007-08 in district of Lucknow to evaluate the different farming system in context to income and employment generation. The complete economic evaluation of different farming systems at selected farmers revealed that six major components / enterprises of farming systems were popular and in adoption to the selected farmer viz., crop husbandry, dairy, vegetable, poultry, goatary and apiary. The crop husbandry and dairy enterprises were usually of common practice in adoption of all the selected farmers. Component wise vegetable farming was most remunerative venture among all. Crop husbandry ranked second, dairy have third position, goat rearing on fourth, apiary on fifth and poultry farming was on sixth position on the basis of return in the study area. The system wise, crop + dairy + vegetables farming system fetched highest net return of Rs. 31720 and 254 days of human employment ranked first in income as well as employment point of view. While crops + dairy + goatary system ranked second with a net return of Rs. 20285. Crops + dairy + apiary farming system reflected Rs. 16566 as net income with third position while crops + dairy + poultry farming system earned lowest net profit of Rs 16234 but created 231 days of employment and ranked second on the basis of employment generation among all four prevailing farming system in the study area.

See end of the article for authors' affiliations

Correspondence to :

J. RAI

Department of
Agricultural Economics
and Statistics
C.S. Azad University
of Agriculture and
Technology, KANPUR
(U.P.) INDIA

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INTRODUCTION

Farming system is more or less stable arrangements of farming activities managed by a household. Farming systems ecologically and socio-economically not only involve crop production but are also dependent upon their integration with other enterprises like animal husbandry, horticulture, vegetable production, piggeries, fisheries, apiculture, goatary, poultry, sericulture, and agro-forestry. The concept of farming system takes case of the component like soil, water, crops, live stock, labour and other resources available with farm families.

The best strategy for economic viability is flexibility within agriculture system for production of milk and its products, food, fodder, fuel, eggs and fish etc. The enterprise flexibility can be achieved through reduced input cost and increased diversification of activities providing more and more employments. A forming system approach is a farming pattern or combination of farming activities practiced on farm. It is a production system that provide an opportunity for farmer to exploit the full

productive potential of their farm through the optimal use of ecological and economic resources over a long time frame. The concept of farming system is complex of soil, water, plant, animal, implements, power, labour, capital and other inputs controlled in parts by farming families and is influenced to varying degrees by capital, economic, institutional and social forces that operate at many levels (Singh, 1999).

A combination of one or more enterprises with cropping when carefully chosen, planned and execute gives greater dividends than single enterprise specially small and marginal farms with large surplus farm labour and big human force, large supplies of products and farm waste for cycling and diverse climate and there is a great scope of integrated farming system in India (Jayanthi *et al.*, 1994).

METHODOLOGY

A multi stage simple random sampling technique was adopted to select the block, village and farmers. District Lucknow was

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selected purposely because in this district the farmers are adopting different farming system in their farming business. Among eight development blocks of district Lucknow, one block, Bakshi Ka Talab (BKT) was selected randomly, where farmers integrate the different enterprises with crop husbandry. A list of all villages practicing different farming system in block Bakshi Ka Talab was prepared, out of which five villages viz., Bhouli, Navin Kot Nandana, Devariruhara, Indora and Chandrapur were selected randomly for the study. A list of all the farmers engaged in farming system mode from selected villages was prepared and a total of 30 farmers (Marginal-16, Small-9, and Medium-5) were selected randomly from the universe of five villages on the proportion of farmers falling in each village under three size groups of farms. These farmers were grouped according to land holdings they possess. The enquiry was conducted by survey method and data were collected by personal interview with the selected farmers on well-prepared schedules.

RESULTS AND DISCUSSION

The findings of the present study have been discussed under following heads:

Components of farming systems:

During the investigation, a number of components of farming systems were observed at the farmers of Bakshi Ka Talab like cultivation of crops, vegetables,

orchards, animal husbandry/dairy, poultry, goatary, fishery, piggery, apiary, duckery etc. But majority of selected farmers were engaged mainly in four major combination of farming systems given below:

- Crops + Dairy + Vegetables
- Crops + Dairy + Poultry
- Crops + Dairy + Goat rearing
- Crops + Dairy + Bee keeping

Farm economy:

The cost of input, value of output, net income from different enterprises of selected farmers of Bakshi Ka Talab were worked out for measuring the farm economy of the farmers.

Costs and return of different components of farming systems:

The costs and return analysis of different farming systems have been computed to evaluate the farm economy of the each category of the farmers. The economic analysis of two major crops rice and wheat was worked out in crops husbandry while three major vegetables, okra, cauliflower and tomato were taken in vegetable farming. In dairy segment, the economics of milk production per cow and per buffalo per lactation was calculated to examine the profit while costs and return from poultry enterprise were worked out on per 5 birds basis. The input-output relationship of goatary enterprise

Table 1: Cost (Rs.) of input and return of different components of farming systems

Particulars	Marginal			Small			Medium		
	Input cost	Output value	Net income	Input cost	Output value	Net income	Input cost	Output value	Net income
Crops									
Paddy/ha	18705.88	22440.00	8734.12	19610.24	28884.00	9381.76	20707.34	30435.60	9671.76
Wheat/ha	19036.22	30727.50	11691.28	19582.58	31861.50	12278.92	20295.36	33440.00	13644.64
Vegetables									
Okra/ha	14372.00	24000.00	9628.00	15270.00	26000.00	10730.00	15805.00	28000.00	12195.00
Cauliflower/ha	13202.21	29250.00	16047.79	13648.00	30575.00	17228.73	14742.40	32500.00	17752.60
Tomato/ha	19763.62	38000.00	18236.38	20264.59	40000.00	19735.41	21570.08	46000.00	24489.92
Dairy									
Per cow	7880.56	8700.00	1955.24	8271.97	9050.00	1995.58	8627.97	9400.00	2038.25
Per buffalo	15907.34	21120.00	6934.76	16722.02	21900.00	7047.21	1701.66	23100.00	7597.23
Poultry									
Per five birds	1896.25	2515.00	618.75	1947.50	2541.25	693.75	2147.50	3055.50	908.00
Goatary									
Per goat	3954.13	7472.00	3517.87	4105.99	8971.50	4865.51	4473.89	10465.00	5951.11
Apiary									
Per box	3271.00	4012.00	740.44	3326.42	4415.00	1088.58	3432.15	4818.00	1385.85

was evaluated on per goat basis while economic analysis of apiary system was computed on per bee box utilized by the farmers.

Table 1 shows that the farmers of the study area were doing different combinations of enterprises or farming systems. The enterprise analysis of different farming systems reflect that the vegetable farming was very remunerative enterprise among all because vegetable crops fetched out highest net incomes over all components of farming system. Among vegetable crops, tomato reflects maximum net return of Rs. 24489.92 per hectare on medium farms followed by small and marginal farms. It was observed that on return front, vegetable farming ranked first, crops enterprise ranked second, dairy ranked third, goatary ranked fourth, bee keeping was on fifth while poultry enterprise was on sixth position at the farmers of study area.

Level of income from different farming systems :

Table 2 clearly reveals that highest average return of Rs. 31720 was achieved through crops + dairy + vegetable farming system followed by Rs. 20285 net income through crops + dairy + goatary farming system at all size groups of farms. The crops + dairy + apiary was third best remunerative farming system followed by fourth rank of crops + dairy + poultry farming systems in the study area. The returns from different systems proved that the system approach could reflect better return than a single venture. Kumar *et al.* (2006) had stated that sustainable farming systems could enhance the income

and employment as compared to single enterprise.

Level of employment from different components of farming systems :

The level of employment of farm family is mainly determined by the size of farm business, intensity of cropping and combination of different types of enterprises adopted at different size groups of farms. The component wise level of employment in human days through different enterprises on different size groups of farms are given in Table 3.

Table 3 presents the status of employment, days generated from different enterprises annually at different size groups of farms. The highest average employment (159 days) was generated through crop husbandry followed by vegetables (55 days), dairy (40 days), poultry (32 days), goatary (17 days) and lowest average employment of only 13 days was recorded through apiary enterprise. It was also observed that the status of employment was maximum at medium size group of farms followed by small and marginal size group of farms. It was due to size of the farms.

Level of employment through farming system:

It was observed and recorded that six components of farming systems (crops, dairy, poultry, vegetables, goatary and bee keeping) were major enterprises utilized by selected farmers of the study area but as farming system approach, only four major farming systems were popular and in practice to the different size groups of

Table 2: Average level of net incomes (Rs.) from different combination of enterprise/farming system

Combination of enterprises / farming systems	Average level of net income (Rs.)			
	Marginal	Small	Medium	Average
Crops + Dairy + Vegetables	29294.00	31248.00	34619.00	31720.00
Crops + Dairy + Poultry	15275.00	16044.00	17382.00	16234.00
Crops + Dairy + Goatary	18174.00	20216.00	22465.00	20285.00
Crops + Dairy + Apiary	15397.00	16440.00	17860.00	16566.00

Table 3: employment from different enterprise/ component of farming systems (days)

Enterprises	Level of employment in human days			
	Marginal	Small	Medium	Average
Crops	145	162	170	159
Vegetables	50	55	60	55
Dairy	35	40	45	40
Poultry	30	32	34	32
Goatary	15	17	19	17
Apiary	11	13	15	13
Total	286	319	343	316

Table 4: The level of employment through different farming systems

Combination of enterprises / farming systems	Level of employment in human days			
	Marginal	Small	Medium	Average
Crops + Dairy + Vegetables	230	257	275	254
Crops + Dairy + Poultry	210	234	249	231
Crops + Dairy + Goatary	195	219	234	216
Crops + Dairy + Apiary	191	215	230	212

farms. The levels of employment through different farming systems are given in Table 4.

Data of table 4 that the average highest level of employment (254 days) was generated through crops + dairy + vegetable enterprise followed by 231 days by crops + dairy + poultry farming systems, 216 days of employment through crops + dairy + goat rearing enterprise combination. Lowest employment generation (212 days) was observed through crop + dairy + apiary farming system approach in study area. It was well proven that the farming system approach generated higher level of employment at small, marginal and resource poor farmers with reduction of risk as compared to single component of farming system. Singh *et al.* (2004) investigated that various farming system in Haryana availed a large employment to small and marginal farmers.

Conclusion

Overall it can be said that six major components / enterprises of farming systems as crop husbandry dairy, vegetables, poultry, goatary and apiary were popular in adoption to the selected farmers. Crops and dairy enterprises were of common practices in adoption of all the selected respondents. Component wise, vegetable farming was most remunerative venture followed by crop husbandry. The system wise analysis revealed that crops + dairy + vegetables farming system fetched highest net return of Rs.31720 and maximum employment of 254 human days, while crops + dairy + goatary system observed as second best remunerative system among all

four prevailing farming systems evaluated in the study area. So, it was suggested that the farmers must adopt crop + dairy + vegetables farming system as first priority to achieve more income as well as employment per unit area and time.

Authors' affiliations:

U.S. TIWARI, AICRP, Department of Agronomy, C.S. Azad University of Agricultural and Technology, KANPUR (U.P.) INDIA

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