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## Economics of farming system in Washim district

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**Abstract**

Economics of farming system in Washim district of Vidarbha region studied using standard cost concept. A sample of ninety farmers was selected randomly from the Washim, Risod, Malegoan tahsils, with the objective, to study the economics of selected farming systems. Farming activities-wise analysis has revealed that the Agri+Dairy farming system provides maximum income of Rs. 43388.49 followed by Agri+Poultry i.e. Rs. 43226.39, Agri+Horti i.e. Rs. 39613.06, Agri-Goat Rs. 31154.05 and Agriculture Rs 26536.94. The study suggested that the combination of farming activities is needed for increasing the profitability of farming to achieve the doubling of farmer income.

**Keywords:** Farming system, standard cost concept

**Introduction**

Indian economy is mainly governed by agriculture and allied operations. Small and marginal farmers constituting 85% of the total farming community and possessing 44% of the total operational land control the core of Indian rural economy. Exploding population, urbanization and industrialization are leading to decline in per capita availability of vital agricultural resources and fragmentation of farm holdings, making them operationally uneconomic. Majority of our farmers are marginal (<1 ha) and small (1-2 ha) landholders. The process of marginalization of land holdings is likely to continue due to various demographic reasons. The per capita arable land has decreased from 0.34 ha in 1950-51 to 0.12 ha in 2011 and is expected to shrink further to 0.08 ha in 2025.

Also with rising population, declining land-man ratio and increasing mechanization in farm operations, agriculture alone is not able to provide adequate income and employment to households in India. Integration of farm enterprises provides better livelihood in terms of increased food production, higher net income, improved productivity, and reduced income imbalance between agricultural labourer and urban factory worker. Introduction of appropriate farming systems has been proposed as one of the approaches to achieve better growth in agriculture and livelihood. (National Commission on Farmers, 2005).

**Methodology**

The study is based on primary data in Washim district. Three tahsils of washim district namely Malegaon, Washim and Risod were selected purposively as these tahsil are observed more sample. Then, two villages from each tahsil were selected randomly. Total ninety farmers were selected for the present study by survey method. The data pertained to the year 2018-19.

The following five systems were selected for the study.

**Table 1:** Selected farming systems in Washim district

Farming systems	Sample size
Agriculture Farming System	25
Agriculture + Dairy Farming	15
Agriculture + Poultry Farming	15
Agriculture + Goat Farming	10
Agriculture + Horticulture	25

**Analysis of data**

The standard cost concept was used to achieve the objective.

**Cost A<sub>1</sub>:** All actual expenses in cash and kind incurred in production by the producer. The items included in cost A<sub>1</sub> are Value of hired human labour (HL), bullock labour, machine labour (ML), seed Value of insecticides and pesticides, manure (owned and purchase), fertilizers, Irrigation charges, Depreciation on implements and farm building, Land revenue, cesses and other taxes, Interest on working capital and Miscellaneous expenses etc.

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**Cost A<sub>2</sub>:** A<sub>1</sub>+ Rent paid for leased-in land.

**Cost B<sub>1</sub>:** Cost A<sub>1</sub> + interest value of owned fixed capital assets (excluding land)

**Cost B<sub>2</sub>:** Cost B<sub>1</sub> + Rental value of owned land (net of land revenue) and

rent paid for leased-in land.

**Cost C<sub>1</sub>:** Cost B<sub>1</sub> + Imputed value of family labour.

**Cost C<sub>2</sub>:** Cost B<sub>2</sub> + Imputed value of family labour.

**Cost C<sub>3</sub>:** Cost C<sub>2</sub> + 10 percent of Cost C<sub>2</sub>.

## Results and Discussion

**Table 2:** Existing Farming system in Washim district

Sr. No.	Existing Farming System	No. Of farmer
1	Agriculture farming	***
2	Agri + floriculture farming	4
3	Agri + Horti + poultry farming	8
4	Agri + Dairy farming	15
5	Agri + Goat farming	10
6	Agri + Sericulture	9
7	Agri + Poultry farming	15
8	Agri + Horti	25

\*\*\* Commonly followed by all farmers

It is observed from table that total eight farming systems were identified in selected study area. The agriculture farming system was commonly followed by almost all farmers. Highest number of farmers indentified in Agri+Horti farming system i.e. 25 followed by Agri+Dairy and Agri+Poultry farming system i.e. 15. It is also observed that from table very few farmers were followed the Agri+Floriculture, Agri+Sericulture, Agri+Horti+Poultry farming systems.

**Table 3:** Economics of Agriculture farming system (Rs/ha)

Particular	Total cost	Gross return	Net return	B:C Ratio
Cotton	23822.19	30244.80	6422.61	1.27
Tur	21872.86	26600.52	4727.66	1.22
Soybean	21990.58	26793.95	4803.37	1.22
Wheat	22925.12	28520.86	5595.74	1.24
Gram	21130.19	26117.75	4987.56	1.24
Overall	111740.94	138277.88	26536.94	1.24

It is revealed from the table that from different crop production the highest net return was observed from cotton crop i.e. Rs. 6422.61, followed by wheat and gram crop i.e. Rs. 5595.74 and Rs. 4987.56 respectively. The highest B:C ratio observed in cotton i.e. 1.27 followed by wheat and gram i.e. 1.24.

**Table 4:** Economics of Agri+Horti farming system (Rs/ha)

Particular	Total cost	Gross return	Net return	B:C Ratio
Cotton	22440.06	27603.40	5163.34	1.23
Tur	21875.52	26906.31	5030.79	1.23
Soybean	22212.58	28397.03	6184.45	1.28
Wheat	20640.27	25429.44	4789.17	1.23
Gram	20015.15	24582.77	4567.62	1.23
Turmeric	27754.41	41632.09	13877.68	1.50
Overall	134937.99	174551.04	39613.05	1.29

It is observed from the table that the highest net return was observed in turmeric i.e. Rs. 13877.68 followed by soybean and cotton crop i.e. Rs. 6184.45, Rs. 5163.34 respectively.

**Table 5:** Economics of Agri+Dairy farming system (Rs/ha)

Particular	Total cost	Gross return	Net return	B:C Ratio
Cotton	20074.73	26752.20	6677.47	1.33
Tur	21070.54	27560.69	5510.14	1.31
Soybean	20383.54	26905.99	6522.45	1.32
Wheat	20733.08	26857.94	6124.86	1.30
Gram	20636.68	26236.28	5599.60	1.27
Dairy	25591.82	45998.92	20407.10	1.80
Overall	136923.53	180312.02	43388.49	1.32

It is revealed from table that in Agri+Dairy farming system the net return received was Rs. 43388.49 and B:C ratio is 1.32.

**Table 6:** Economics of Agri+Poultry farming system (Rs/ha)

Particular	Total cost	Gross return	Net return	B:C Ratio
Cotton	22290.79	29705.20	7414.41	1.33
Tur	22880.79	29151.23	6270.44	1.27
Soybean	22424.73	29073.92	6649.19	1.30
Wheat	22626.53	30083.18	7456.65	1.33
Gram	22694.2	29159.73	6465.53	1.28
Poultry	25317.59	41985.00	16667.41	1.65
Overall	145931.87	189158.26	43226.39	1.30

The highest net returns was observed from poultry enterprise i.e. Rs. 16667.41 followed by wheat and cotton enterprise i.e. Rs. 7456.65, Rs. 7414.41 respectively. The benefit cost ratio was highest in poultry enterprise i.e. 1.65, followed by wheat and cotton crop i.e. 1.33 and 1.33 respectively.

**Table 7:** Economics of Agri+Goat farming system (Rs/ha)

Particular	Total cost	Gross return	Net return	B:C Ratio
Cotton	17500.29	22685.60	5185.31	1.30
Tur	16521.48	21286.68	4765.20	1.29
Soybean	16841.67	21709.30	4867.63	1.29
Wheat	17315.06	22298.11	4983.05	1.29
Gram	17403.45	22340.96	4937.51	1.28
Goat	20907.03	33456.00	12548.97	1.60
Overall	112622.59	143776.65	31154.06	1.27

It is revealed from table that in Agri+Goat farming system the gross return and net return was observed to be Rs. 143276.65, net return i.e. Rs. 31154.06 the B:C ratio is 1.60. Which indicate the probability of farming system.

**Table 8:** Comparative economics of selected farming systems (Rs/ha)

Particulars	Total cost	Gross return	Net return	B:C ratio
Agriculture	111740.96	138277.90	26536.94	1.24
Agri+Horti	134937.98	174551.04	39613.06	1.29
Agri+Dairy	136923.53	180312.02	43388.49	1.32
Agri+Poultry	145931.87	189158.26	43226.39	1.30
Agri+Goat	112622.60	143776.65	31154.05	1.28
Total	642156.94	826075.87	183918.93	1.29

It is seen from the table that among the selected farming systems the farmer practicing Agri+Dairy farming system have fetches highest returns.

## Conclusion

The net return was highest in Agri+Dairy i.e. Rs. 43388.49. The B:C ratio of Agri+Dairy farming system is highest i.e.

1.32. Hence, Agri+Dairy farming system is more profitable among other farming systems. Therefore, farmer should concentrate on this activity as a subsidiary occupation in addition to crop.

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