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Economics of farming system in Melghat region of Maharashtra

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Abstract

An attempt has been made in the present investigation to work out economics farming system in Melghat region of Maharashtra. The study area was Chikhaldara and Dharani tehsil of Amravati district were purposively selected for the study because the highest concentration of tribal population. The data were collected through personal interview from tribal farmers with the help of pre tested interview schedule. A total sample of 200 tribal farmers was selected randomly from 10 villages of two tehsil during 2020-2021. The study revealed that per hectare total cost of cultivation of Agriculture farming system i.e. cost C3 was Rs.286855.21 and the Gross return was Rs.208931.67. In case of Agri + Poultry farming system, cost C3 was Rs.265813.50 and Gross return was 215225.38. In case of Agri + Goat farming system, cost C3 was Rs.302731.99 and Gross return was 255084.54. In case of Agri + Horti farming system, cost C3 was Rs.276588.03 and Gross return was 214929.45. The B:C ratio was the highest in Agri + Goat farming system i.e. 0.84 followed by Agri + Poultry i.e. 0.81 and Agri + Horti i.e. 0.78 which is indicate that Agri+Goat farming system was more profitable than other two farming systems.

Keywords: Farming systems, cost and Return, agriculture, livestock, tribal, benefit-cost ratio

Introduction

Tribe is a group of families or communities linked by social, economic, religion or blood ties and usually having a common culture and a recognised leader. Out of more than 500 tribal groups in India which can exist at various stages of socio-economic and educational development, it is estimated that there are around 75 Primitive Tribal Groups in India who can have a level of technological ability of the pre-agricultural level, low literacy, economically backward, and a stagnant or declining population.

According to the census of 2011, the Scheduled Tribe population in India was 104.5 million, accounting 8.63 per cent of the total population of the country the tribal population. In Maharashtra in the year 2011 was 10.50 million, which constitutes 9.35 per cent of the total population of the state. Maharashtra has the second largest tribal population in the country, next only to Madhya Pradesh, accounting for 10 per cent of the total Scheduled Tribe population of India. The tribal population in Amravati district in the year 2011 was 404,000 which constitute 13.98 percent of the total population of the district.

In the following decade, Melghat drew a lot of attention from the media as well as NGOs, activists, researchers, medical practitioners, and committees set up by courts to

tackle malnutrition and child deaths in this region. The tribal groups in the region, especially the Korkus, are the typical examples of deprivation and poverty. Although the practices and way of living are still traditional, shifts in the domain of livelihood and economic activity are prevalent among the Korkus. This change in the key domain is the result of their access to forest and forest resources, though the community has a long tradition of attachment with the forest. The backwardness in the spheres of socioeconomic and development domains is evident among the Korkus. The Melghat region, where Korkus form a majority, is famous for the higher rate of malnutrition and child mortality.

Agriculture has become a major form of activity among the Korkus. There is some proportion of the people who own agricultural land, while most of them are agricultural laborers. The wages for agricultural laborers are not promising. Hence, for many families, the source of income and food comes from forest products. The agricultural activities in the region are largely affected by the lack of water and human-animal conflict. The Korkus are yet to adopt modern technology in agriculture and are highly dependent on monsoon. The proportion of people who have livestock is nominal and very few families generate income out of such activities. A minuscule proportion of the

families are engaged in fishing, which is a source of income to these families. The practice of drying the fish and selling within their community and outside is also evident, but not on a large scale. Therefore, the present study was undertaken to study the socio-economic status of tribal farmers of Melghat region.

Materials and Methods

The present study was undertaken in Melghat region of Amravati district as the melghat is major tract of tribal population. Two tehsils of Amravati district namely Chikhaldara and Dharani were purposively selected for the study because the highest concentration of tribal population. Five villages from each of the two tehsils were selected by simple random sampling method, thus making total of ten villages. From each of the selected village 20 tribal farmers were selected by random sampling procedure, thus making a total of 200 respondents. The simple tabular analysis was carried out to achieve the objective.

The present investigation was based on the primary data. The data on various aspects of the study were collected from personal interviewed with the help of specially designed scheduled. The data pertains to the year 2020-21. The data collected were analysed by taking in to account the objectives of the study.

Economics of farming systems

Cost and returns of farming system was calculated as per the standardized cost concept of CACP i.e. cost- A1, A2, B1, B2, C1, C2 and C3, benefit- cost ratio and tabulated for interpretation for different farming system.

Cost A1: All actual expenses in cash and kind incurred in production by the producer. The items covered in cost A1 are costs on:

1. Value of hired human labour (HL)
2. Value of hired bullock labour (BL)
3. Value of owned bullock labour
4. Value of owned machine labour (ML)
5. Hired machinery charges
6. Value of seed (both farms produced and purchased)
7. Value of insecticides and pesticides
8. Value of manure (owned and purchase)
9. Value of fertilizers
10. Irrigation charges
11. Depreciation on implements and farm building
12. Land revenue, cesses and other taxes
13. Interest on working capital and
14. Miscellaneous expenses (Artisans etc.)

Cost A2: Cost A1+ Rent paid for leased-in land.

Cost B1: Cost A1 + interest value of owned fixed capital assets (excluding land).

Cost B2: Cost B1 + Rental value of owned land (net of land revenue) and rent paid for leased-in land.

Cost C1: Cost B1 + imputed value of family labour.

Cost C2: Cost B2 + imputed value of family labour.

Cost C3: Cost C2 + 10% of Cost C2.

In the present study, the rent paid for leased in land was zero, as none of sample farmers took land on lease basis. Hence cost A1 and cost A2 are similar.

From existing farming systems in the region, following four systems were selected.

Farming systems

1. Agriculture
2. Agriculture + Poultry Farming
3. Agriculture + Goat Farming
4. Agriculture + Horticulture (Vegetables)

Cost concept for different farming systems

1. Cost concept for Agricultural Farming System

a. Cost 'A'

It includes the expenditure on seed, manures, fertilizers, hired human labour, bullock labour, machine labour, land revenue, irrigation charges, repairs of implements, interest on working capital and depreciation on farm implements and incidental charges.

b. Cost 'B'

Cost A + Rental value of owned land + interest on owned fixed capital (excluding land) @ 10%.

Rental value of land = $1/6^{\text{th}}$ of Gross product – Land revenue

c. Cost 'C'

Cost B + imputed value of family labour.

2. Cost concept for Agricultural + Poultry Farming System

a. Cost A of Farming system

Cost A of Agriculture + some additional cost concerns to the poultry farming system i.e. hired human labour, feed expenditure, purchase value of birds, depreciation, medicinal expenses, interest on working capital.

b. Cost B of Farming system

Cost A of farming system + interest on owned fixed capital of Agriculture + interest on owned fixed capital of poultry, rental value of land of Agriculture.

c. Cost C of Farming system

Cost B of farming system + Family labour of Agriculture and poultry enterprises.

3. Cost concept for Agricultural + Goat Farming System

a. Cost A of Farming system

Cost A of Agriculture + some additional cost concerns to goat farming system i.e. hired human labour, feed expenditure, medicinal expenses, tending charges, upkeep charges, incidental charges, other expenses, depreciation, interest on working capital.

b. Cost B of Farming system

Cost A of farming system + interest on owned fixed capital of Agriculture + interest on owned fixed capital of goat, rental value of land of Agriculture.

c. Cost C of Farming system

Cost B of farming system + Family labour of Agriculture and goat enterprises.

4. Cost concept for Agricultural + Horticulture Farming System

a. Cost A of Farming system

Cost A of Agriculture + some additional cost concerns to horticulture farming system i.e. manures, fertilizer, hired

human labour, bullock labour, machine labour, land revenue, irrigation charges, incidental charges, depreciation, interest on working capital.

b. Cost B of Farming system

Cost A of farming system + interest on owned fixed capital of Agriculture + horticulture, rental value of land of Agriculture and horticulture, amortization cost of horticulture

c. Cost C of Farming system

Cost B of farming system + Family labour of Agriculture and Horticulture enterprises.

Results and Discussion

The economics of selected farming system in Melghat region was work out by using standard cost concept and the result obtained are discussed as under. Based on the

combination of enterprise different existing farming systems were identified in the study area. Following are the most common identified existing farming systems in Melghat region shown in Table 1.

Table 1: Existing farming systems in Melghat region

Sr. No.	Existing farming systems	No. of farmer
1	Agriculture farming	200
2	Agriculture + Poultry	93
3	Agriculture + Goat	64
4	Agriculture + Horticulture	56

Cost of cultivation of different farming systems

The cost of cultivation (item wise expenditure) of Agriculture, Agriculture+Poultry farming system and Agriculture+Goat farming system, Agriculture+Horticulture farming system was calculated and are presented in Table 2.

Table 2: Item wise input expenditure of different farming systems (Rs/ha)

Sr. No.	Item	Unit	Agriculture	Agri+Poultry	Agri+Goat	Agri+Horti
1	Hired Human Labour	Male	13186.00	12294.00	13432.00	13538.00
		Female	17948.00	16904.00	17458.00	16398.00
2	Bullock Labour	Hired	4180.00	2110.00	3745.00	3880.00
		Owned	17485.00	15231.00	16750.00	16428.00
3	Machine Labour		10380.00	7766.00	9080.00	11243.00
4	Seed	Purch.	8011.25	5932.70	6491.20	7725.28
		Owned	12176.40	12075.00	10201.00	11852.70
5	Manures		0	0.00	0	350.00
6	Fertilizer	N	3426.41	3754.36	3966.23	3578.53
		P	3230.81	3553.17	3378.43	3359.02
		K	421.75	845.83	776.39	634.89
7	Irrigation charges	(Rs.)	2779.03	2766.17	3464.96	3563.61
8	Plant Protection	(Rs.)	1593.50	1781.46	1874.51	1764.20
9	Incidental charges	(Rs.)	2935.64	3085.94	3417.27	3376.80
10	Repairing Charges	(Rs.)	2751.46	3106.56	3512.48	2937.36
11	Misc. charges	(Rs.)	1271.69	1318.12	1515.38	1425.98
12	Secondary activity	(Rs.)	0	10865.00	15085.02	0
13	Working Capital(1 to 12)	(Rs.)	101776.94	103389.31	114147.87	102055.37
14	Int. wor. Cap.@ 6% /annum		6106.62	6203.36	6848.87	6123.32
15	Depreciation	(Rs.)	15948.32	14484.17	14928.01	13128.87
16	Land Rev. cess & other taxes	(Rs.)	2362.65	2158.80	2515.93	2445.37
17	COST "A1" (Items 13 to 16)	(Rs.)	126194.53	126235.64	138440.68	123752.93
18	Rent paid for leased land		0.00	0.00	0.00	0.00
19	COST "A2" (Items 17 to 18)		126194.53	126235.64	138440.68	123752.93
20	Int. on Fix.Cap. @ 10%		36275.64	31110.90	32930.06	30867.45
21	COST "B1" (Items 19+20)		162470.17	157346.54	171370.74	154620.38
22	Rental value of land	(Rs.)	32459.30	33712.10	39998.16	33376.21
23	COST "B2" (Items 21 to 22)		194929.46	191058.64	211368.90	187996.59
24	Family Labour	Male	29788.00	20674.00	27814.00	28811.00
		Female	36060.00	29916.00	36028.00	34636.08
25	COST "C1" (Items 21+24)	(Rs.)	228318.17	207936.54	235212.74	218067.46
26	COST "C2" (Items 22+23)		260777.46	241648.64	275210.90	251443.67
27	10% of Cost "C2"		26077.75	24164.86	27521.09	25144.37
28	COST "C3" (Items 26+27)		286855.21	265813.50	302731.99	276588.03
29	Yield per hectare	(Rs.)	208931.67	215225.38	255084.54	214929.45
30	Total value of produce		208931.67	215225.38	255084.54	214929.45

In case of Agriculture farming system, cost A1, cost A2, cost B1, cost B2, cost C1, cost C2 and cost C3 was Rs. 126194.53, Rs. 126194.53, Rs.162470.17, Rs. 194929.46, Rs. 228318.17, Rs. 260777.46 and Rs. 286855.21, respectively. The Gross return was Rs.208931.67. In case of

Agri+Poultry farming system, cost A1, cost A2, cost B1, cost B2, cost C1, cost C2 and cost C3 was Rs. 126235.64, Rs. 126235.64, Rs. 157346.54, Rs. 191058.64, Rs. 207936.54, Rs. 241648.64 and Rs. 265813.50, respectively. The Gross return was Rs. 215225.38. In case of Agri+Goat

farming system, cost A1, cost A2, cost B1, cost B2, cost C1, cost C2 and cost C3 was Rs.138440.68, Rs.138440.68, Rs.171370.74, Rs. 211368.90, Rs.235212.74, Rs.275210.90 and Rs.302731.99, respectively. The Gross return was Rs.255084.54. In case of Agri+Horti farming system, cost A1, cost A2, cost B1, cost B2, cost C1, cost C2 and cost C3 was Rs.123752.93, Rs.123752.93, Rs.154620.38, Rs. 187996.59, Rs. 218067.46, Rs. 251443.67 and Rs. 276588.03, respectively. The Gross return was Rs.

214929.45.

Economics of Agriculture farming system

The costs and returns of different enterprises under Agriculture farming system in the tribal area and the share of cost and returns of each enterprises in the Agriculture farming system of Chikhaldara, Dharani tehsil and overall region is presented in Table 3, Table 4 and Table 5.

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

Sr. No.	Particular	Total cost	Gross return	Net return	B:C Ratio
1	Maize	42664.07 (15.93)	20106.25 (13.71)	-22557.82 (18.61)	0.47
2	Rice	39546.28 (14.76)	28101.92 (19.16)	-11444.36 (9.44)	0.71
3	Tur	65705.36 (24.53)	24811.62 (16.92)	-40893.73 (33.74)	0.38
4	Soybean	46009.01 (17.18)	23997.87 (16.37)	-22011.14 (18.16)	0.52
5	Wheat	32887.12 (12.28)	21320.59 (14.54)	-11566.52 (9.54)	0.65
6	Gram	41028.04 (15.32)	28295.30 (19.30)	-12732.74 (-112.02)	0.69
	Overall	267839.87 (100.00)	146633.55 (100.00)	-121206.33 (100.00)	0.55

(Figures in parentheses indicates the percentage to total)

It is observed from Table 3 that the gross returns of Agriculture farming system as whole was Rs. 146633.55, net return Rs. -121206.33 and the benefit cost ratio was 0.55. In this farming system highest gross return was observed in gram crop Rs. 28295.30, followed by rice i.e.

Rs. 28101.92. The B:C ratio indicates the profitability of crop. Highest B:C ratio observed in rice i.e. 0.71 followed by gram i.e. 0.69. It was clear that in Chikhaldara tehsil the crop production of some crops are profitable only at cost A1, A2, B1 and B2.

Table 4: Economics of Agriculture farming system of Dharani tehsil (Rs/ha)

Sr. No.	Particular	Total cost	Gross return	Net return	B:C Ratio
1	Cotton	46995.51 (19.34)	49349.00 (21.26)	2353.49 (-21.63)	1.05
2	Maize	35441.69 (14.58)	40406.41 (17.41)	4964.73 (-45.63)	1.14
3	Rice	27111.96 (11.16)	14934.81 (6.43)	-12177.15 (111.92)	0.55
4	Tur	40318.88 (16.59)	36461.88 (15.71)	-3857.00 (35.45)	0.90
5	Soybean	23722.69 (9.76)	14335.21 (6.18)	-9387.48 (86.28)	0.60
6	Wheat	31994.45 (13.17)	27028.81 (11.64)	-4965.64 (45.64)	0.84
7	Gram	37421.32 (15.40)	49609.67 (21.37)	12188.35 (-112.02)	1.33
	Overall	243006.50 (100.00)	232125.79 (100.00)	-10880.71 (100.00)	0.96

(Figures in parentheses indicates the percentage to total)

It is observed from Table 4 that the gross returns of Agriculture farming system as whole was Rs. 232125.79, net return Rs. -10880.71 and the benefit cost ratio was 0.96. It is also revealed from the table that among different crop enterprises the highest net return was observed from gram crop i.e. Rs. 12188.35. In this farming system highest gross return was observed in gram crop Rs. 49609.67, followed by

cotton and maize crop i.e. Rs. 49349.00 and Rs. 40406.41 respectively. The B:C ratio indicates the profitability of crop. Highest B:C ratio observed in gram i.e. 1.33 followed by maize i.e. 1.14 and cotton i.e. 1.05. So, it is clear that in Dharani tehsil gram, maize and cotton crop is profitable at cost C3.

Table 5: Economics of Agriculture farming systems of Overall region (Rs/ha)

Sr. No.	Particular	Total cost	Gross returns	Net returns	B:C Ratio
1	Cotton (Only Dharani)	46995.51 (16.38)	49349.00 (23.62)	2353.49 (-3.02)	1.05
2	Maize	40427.21 (14.10)	26463.76 (12.67)	-13963.45 (17.92)	0.65
3	Rice	36233.58 (12.63)	20457.50 (9.79)	-15776.08 (20.25)	0.56
4	Tur	49434.57 (17.23)	32225.45 (15.42)	-17209.12 (22.09)	0.65
5	Soybean	37533.28 (13.08)	19841.11 (9.50)	-17692.17 (22.70)	0.53
6	Wheat	32635.63 (11.38)	22970.64 (10.99)	-9664.99 (12.40)	0.70
7	Gram	43595.44 (15.20)	37624.21 (18.01)	-5971.23 (7.66)	0.86
	Overall	286855.21 (100.00)	208931.67 (100.00)	-77923.54 (100.00)	0.73

(Figures in parentheses indicates the percentage to total)

It is observed from Table 5 that the gross returns of Agriculture farming system as whole was Rs. 208931.67, net returns was Rs. -77923.54 and the benefit cost ratio was

0.73. It is also revealed from the table that among different crop enterprises the highest net return was observed from cotton crop i.e. Rs. 2353.49 for only Dharani tehsil . In this

farming system highest gross return was observed in cotton crop Rs. 49349.00, followed by gram and tur crop i.e. Rs. 37624.21.00 and Rs. 32225.45 respectively. The B:C ratio indicates the profitability of crop. Highest B:C ratio observed in cotton i.e. 1.05 followed by gram i.e. 0.86 and wheat i.e. 0.70. So, it is clear that in overall region cotton (only for Dharani tehsil), gram and wheat crop is profitable

at cost C3.

Economics of Agri + Poultry farming system

Economic analysis of different enterprises under Agri+Poultry farming system in the tribal area and the share of cost and returns of each enterprises in the whole farming system is presented in Table 6.

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

Sr. No.	Particular	Total cost	Gross return	Net return	B:C Ratio
1	Cotton	38679.24 (14.55)	34854.19 (16.19)	-3825.05 (7.56)	0.90
2	Maize	31513.92 (11.85)	26157.96 (12.16)	-5355.96 (10.59)	0.83
3	Rice	35083.75 (13.20)	27216.57 (12.65)	-7867.98 (15.55)	0.78
4	Tur	42040.42 (15.82)	32682.44 (15.19)	-9357.98 (18.50)	0.78
5	Soybean	38723.87 (14.57)	24373.53 (11.32)	-14350.34 (28.37)	0.63
6	Wheat	25124.80 (9.45)	21442.05 (9.96)	-3682.75 (7.28)	0.85
7	Gram	37948.59 (14.28)	33359.49 (15.50)	-4589.10 (9.07)	0.88
8	Poultry	16698.91 (6.28)	15139.15 (7.03)	-1559.76 (3.08)	0.91
	Overall	265813.50 (100.00)	215225.38 (100.00)	-50588.12 (100.00)	0.81

(Figures in parentheses indicates the percentage to total)

It is revealed from table that in Agri+poultry farming system as whole gross return i.e. Rs.215225.38, net return i.e. -68489.52 and the benefit cost ratio was 0.81. Among different crop enterprises, the highest gross return was in cotton crop Rs. 34854.19, followed by gram i.e. Rs. 33359.49. The benefit cost ratio was highest in poultry enterprise i.e. 0.91 followed by cotton and gram crop i.e.

0.90 and 0.88.

Economics of Agri + Goat farming system

Economic analysis of different enterprises under Agri+Goat farming system in the tribal area and the share of cost and returns of each enterprises in the whole farming system is presented in Table 6.

Table 6: Economics of Agri + Goat farming systems (Rs/ha)

Sr. No.	Particular	Total cost	Gross return	Net return	B:C Ratio
1	Cotton	38226.37 (12.63)	36187.48 (14.19)	-2038.90 (4.28)	0.95
2	Maize	40282.37 (13.31)	34997.34 (13.72)	-5285.03 (11.09)	0.87
3	Rice	39916.19 (13.18)	32733.30 (12.83)	-7182.89 (15.08)	0.82
4	Tur	50896.56 (16.81)	38882.33 (15.24)	-12014.24 (25.21)	0.76
5	Soybean	37496.40 (12.39)	20021.09 (7.85)	-17475.32 (36.68)	0.53
6	Wheat	30831.66 (10.18)	27720.87 (10.87)	-3110.79 (6.53)	0.90
7	Gram	41263.74 (13.63)	40228.14 (15.77)	-1035.60 (2.17)	0.97
8	Goat	23818.69 (7.87)	24314.00 (9.53)	-495.31 (-1.04)	1.02
	Overall	302731.99 (100.00)	255084.54 (100.00)	-47647.45 (100.00)	0.84

(Figures in parentheses indicates the percentage to total)

It is revealed from table that in Agri+Goat farming system as whole gross return i.e. Rs. 255084.54, net return i.e. Rs. -47647.45 and the benefit cost ratio was 0.84. Among different crop enterprises, the highest gross return observed in gram Rs. 40228.14 followed by tur i.e. Rs. 38882.33. The benefit cost ratio was highest in goat enterprise i.e. 1.02 followed by gram i.e. 0.97.

Economics of Agri + Horti (Vegetable) farming system

Economic analysis of different enterprises under Agri+Horti farming system in the tribal area and the share of cost and returns of each enterprises in the whole farming system is presented in Table 7.

Table 7: Economics of Agri + Horti farming systems (Rs/ha)

Sr. No.	Particular	Total cost	Gross return	Net return	B:C Ratio
1	Cotton	37358.56 (13.51)	35746.23 (16.63)	-1612.33 (2.61)	0.96
2	Maize	40857.86 (14.77)	35579.25 (16.55)	-5278.61 (8.56)	0.87
3	Rice	35672.56 (12.90)	20338.32 (9.46)	-15334.24 (24.87)	0.57
4	Tur	49572.31 (17.92)	34542.59 (16.07)	-15029.72 (24.37)	0.70
5	Soybean	37456.57 (13.54)	19657.86 (9.15)	-17798.71 (28.87)	0.52
6	Wheat	27526.69 (9.95)	23762.22 (11.06)	-3764.47 (6.10)	0.86
7	Gram	42698.68 (15.44)	38532.63 (17.93)	-4166.05 (6.76)	0.90
8	Tomato	1286.20 (0.47)	1460.15 (0.68)	173.95 (-0.28)	1.14
9	Brinjal	2307.40 (0.83)	2790.20 (1.30)	482.80 (-0.78)	1.21
10	Chilli	1851.20 (0.67)	2520.00 (1.17)	668.80 (-1.08)	1.36
	Overall	276588.03 (100.00)	214929.45 (100.00)	-61658.58 (100.00)	0.78

It is revealed from table that in Agri+Horti farming system as whole gross return i.e. Rs. 214929.45, net return i.e. -61658.58 and the benefit cost ratio was 0.78. Among different crop enterprises, the highest gross return observed in gram Rs. 38532.63 followed by cotton i.e. Rs. 35746.23. The benefit cost ratio was highest in chilli i.e. 1.36 followed by brinjal i.e. 1.21.

The tribal farmers focused on the sustainable lifestyle. They tends to cultivate vegetable crops not for income generation but for the consumption only. In tribal area each farmer

grow kitchen garden in that they cultivate vegetables required for home consumption.

Cost and returns of farming system

A study on economics of farming systems helps to understand the profitability and selection of appropriate farming systems on the farm in tribal area. The data on cost and returns on various farming systems are presented in Table 8.

Table 8: Cost and returns of farming systems

Sr. No.	Particulars	Agriculture	Agri+Poultry	Agri+Goat	Agri+Horti
1	Value of Main Produce	208931.67	215225.38	255084.54	214929.45
2	Value of By- Produce	0	0.00	0	0
3	Gross Return	208931.67	215225.38	255084.54	214929.45
4	Cost of Cultivation at (Rs.)				
	Cost "A1"	126194.53	126235.64	138440.68	123752.93
	Cost "A2"	126194.53	126235.64	138440.68	123752.93
	Cost "B1"	162470.17	157346.54	171370.74	154620.38
	Cost "B2"	194929.46	191058.64	211368.90	187996.59
	Cost "C1"	228318.17	207936.54	235212.74	218067.46
	Cost "C2"	260777.46	241648.64	275210.90	251443.67
	Cost "C3*"	286855.21	265813.50	302731.99	276588.03
5	Net Return at (Rs.)				
	Cost "A1"	82737.14	88989.74	116643.86	91176.52
	Cost "A2"	82737.14	88989.74	116643.86	91176.52
	Cost "B1"	46461.50	57878.84	83713.80	60309.07
	Cost "B2"	14002.21	24166.74	43715.64	26932.86
	Cost "C1"	-19386.50	7288.84	19871.80	-3138.01
	Cost "C2"	-51845.79	-26423.26	-20126.36	-36514.22
	Cost "C3*"	-77923.54	-50588.12	-47647.45	-61658.58
6	B:C ratio at				
	Cost "A1"	1.66	1.70	1.84	1.74
	Cost "A2"	1.66	1.70	1.84	1.74
	Cost "B1"	1.29	1.37	1.49	1.39
	Cost "B2"	1.07	1.13	1.21	1.14
	Cost "C1"	0.92	1.04	1.08	0.99
	Cost "C2"	0.80	0.89	0.93	0.85
	Cost "C3*"	0.73	0.81	0.84	0.78

It is revealed from table that, in Agriculture farming system average gross returns worked out Rs. 208931.67. The net returns obtained at various costs were Rs. 82737.14 at cost A1, Rs. 82737.14 at cost A2, Rs. 46461.50 at cost B1, Rs. 14002.21 at cost B2, Rs. -19386.50 at cost C1, Rs. -51845.79 at cost C2, Rs. -77923.54 at cost C3. In Agri+Poultry farming system average gross returns worked out Rs. 215225.38. The net returns obtained at various costs were Rs. 88989.74 at cost A1, Rs. 88989.74 at cost A2, Rs. 57878.84 at cost B1, Rs. 24166.74 at cost B2, Rs. 7288.84 at cost C1, Rs. -26423.26 at cost C2, Rs. -50588.12 at cost C3. Agri+Goat farming system average gross returns worked out Rs. 255084.54. The net returns obtained at various costs were Rs. 116643.86 at cost A1, Rs. 116643.86 at cost A2, Rs. 83713.80 at cost B1, Rs. 43715.64 at cost B2, Rs. 19871.80 at cost C1, Rs. -20126.36 at cost C2, Rs. -47647.45 at cost C3. Agri+Horti farming system average gross returns worked out Rs. 214929.45. The net returns obtained at various costs were Rs. 91176.52 at cost A1, Rs. 91176.52 at cost A2, Rs. 60309.07 at cost B1, Rs. 26932.86 at cost B2, Rs. -3138.01 at cost C1, Rs. -36514.22 at cost C2, Rs. -61658.58 at cost C3.

It was clear that in the study area the crop production of some crops are profitable only at cost A1, A2, B1 and B2. It may be due to the tribal farmers focused on the sustainable lifestyle. They tends cultivate crops for the livelihood security only. In the study area, the income obtained from goat and poultry was less. It may be due to tribals are followed traditional barter system for eggs, chicken and mutton. So it is clear that in the study are the existing farming system was not used for income generation, however it was used for home consumption.

It is seen from the table that among the selected farming systems the farmer practicing Agri+Goat farming system have fetches the highest returns comparatively other farming systems. So as to improve the economic condition the tribal farmers of the region should follow goat and poultry as a subsidiary occupation in addition to agriculture crops.

Conclusion

The study concludes that the Majority of the tribals like to rearing of livestock especially poultry birds and goats as secondary source of income generation activity. There is a lack of financial and technological support in farming

system in tribal area. Agri+Goat farming system were found to be comparatively more profitable over the other farming system. Tribals have very limited livestock so there is a scope to develop the livestock production activities in tribal area. The proper maintenance of some more cows or goats beside some poultry birds will certainly help to generate additional income to the tribal households of Melghat region.

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