| Research Paper |

Income statement of orchard farm and agrarian farm in South- Goa district of Goa state

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ABSTRACT : Investigation was carried out during the year 2014-15.Cross sectional data were collected from sample growers with the help of pretested schedule by personal interview method. Budgeting technique was applied to achieve the objective. The results revealed that on orchard farmtotal receipt was Rs. 918466.02 while total expense was Rs. 476347.29 and net farm income was found to be Rs. 442118.73.While on agrarian farm total receipt was Rs. 733108.20, total expense was Rs. 440747.57 and net farm income was be Rs. 292360.63.Gross cash expense was Rs. 305524.80 and Rs. 314410.18, respectively on orchard farm and agrarian farm. Gross profit ratio was higher as 0.65 on orchard farm as compared to that of agrarian farm (0.55). When there was one rupee gross cash income, it could cause to give Re 0.65 and Re 0.55 on orchard farm and agrarian farm, respectively. Thus, the initial investment was higher on orchard farms as compared to agrarian farm.

KEY WORDS : Orchard farm, Agrarian farm, Income statement, Financial ratio

INTRODUCTION :

Farm means a piece of land where crops and livestock enterprises are taken up under a common management and has specified boundaries. The farm business analysis is the process of retrieving, organizing, processing and analyzing information used in the farm business decision making. The overall profitability of farm depends upon the income achieved from overall farm activities. There are various farming systems practiced in Goa mainly orchard farming, agrarian farming, rainfed farming, irrigated farming, mechanized farming, non mechanized farming, residential farming, non residential farming, mixed farming, meadow farming, organic farming and inorganic farming and so on. Out of which orchard

and agrarian farming are most popular in the state. Orchard farm consisted with more than 65 per cent area under orchard crops and remaining area is under seasonal crops, annual crops and dairy as well as farm enterprises. On the contrary, 65 per cent area under seasonal crops, annual crops and remaining area is under orchard crops and dairy as well as other farm enterprises.

The budgeting technique is used to achieve the performance of large farm by using farm efficiency measures. One can know the net worth of farm business in a specified year. The study is useful to the planner at micro as well as macro level. The study is useful to the farmers, scientists and policy makers. In other words, for overall development of agriculture farm business as a whole is more important rather than the individual crops.

Hypothesis :

Net profit ratioof orchard farm is higher than agrarian farm.

MATERIALS AND METHODS :

Sampling design :

Orchard farm consisted with more than 65 per cent area under orchard crops and remaining area is under seasonal crops, annual crops and dairy as well as other farm enterprises. On the contrary, agrarian farm consisted with more than 65 per cent area under seasonal crops, annual crops and remaining area is under orchard crops and dairy as well as other farm enterprises. Multistage sampling design was adopted for selection of district, tehsils, villages and orchard farms Kanhore (2008). In the first stage, the South-Goa district was purposively selected because of mostly existence of orchard farmings. In the second stage, Sanguem and Quepem tehsils were selected on the basis of higher area under orchard farms. In the third stage, eight villages were selected from the each of tehsils on the basis of higher area under orchard farms. From Sanguem tehsil villages were selected namely Bhati, Cotarli, Kale, Netravali, Rivona, Uguem, Vadem and Xeldem while from Quepem tehsil villages were selected namely Avadem, Balli, Barlem, Dhadem, Malkarne, Mirabag, Pirla and Quitol. In the fourth stage, from each village, the separate list of orchard farmers along with their holding sizes were obtained. From each of the lists, three orchard farmers were randomly selected from each of the villages. In this way, from sixteen villages, 48 farmers were selected for the present study.

Income statement on orchard farm and agrarian farm was achieved by budgeting technique analysis. The budgeting technique is used to achieve the performance of large farm by using farm efficiency measures. Income statement basically constituted three items *viz.,* receipts, expenses and net income. Receipt consisted with gross cash income and increase in asset where as expense consisted with gross cash expense and fixed expense (Johl and Kapur,1989). Income statement prepared for the entire farm for one agricultural year. It indicated the trend in various cost items and whether there has been any change in expenditure on the farm.

RESULTS AND DATA ANALYSIS :

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Per farm income statement on orchard farm :

Per farm income statement on orchard farm for the year 2013-14 was prepared and is presented in Table 1. The results revealed the total receipt was Rs. 918466.02 while total expense was Rs. 476347.29. Thus, it was clear that net farm income was found to be Rs. 442118.73. In receipt side the receipt of all crops and livestock in terms of main produce and byproduce was considered in the form of gross cash income. Farm gross cash income was Rs. 873426.02. In other words, the receipt of crops and livestock in relation to main produce and by produce was considered in the form of gross cash income. It was important, to note that, increase in asset was found to be Rs. 45040.00 that was in the form of appreciation of young livestock and appreciation of land value in the locality. Gross cash expense was Rs. 305524.80. It was important to note that gross cash expense consisted with expenditure on variable inputs used in crop production and livestock production. On orchard farm fixed expense was found to be Rs.170822.49.

Per farm income statement on agrarian farm :

Per farm income statement on orchard farm for the year 2013-14 was prepared and is presented in Table 2. Total receipt was Rs. 733108.20 and total expense was Rs. 440747.57. When subtraction of total expense from total receipt than net farm income would be Rs. 292360.63. In receipt side, all crops and livestock, physical units along with their respective receipts are expressed. In other words by considering all crops and livestock, gross cash income was found to be Rs. 692103.20 and increase in asset was Rs. 45040.00. On the contrary, expense on different items of expenditure was listed. The item of expenditure was consisted with all physical units used totally in all crops. For example use of human labour was 339.89 mandays which were used in all crops. Thus, gross cash expense was Rs. 314410.18 and fixed expense was Rs. 126337.39.

Estimates of ratios with respect to income statement :

Estimates of ratios with respect to orchard farm

and agrarian farm for the year 2013-14 were calculated and are presented in Table 3. Total operating cost ratio was 0.45 on agrarian farm while that was 0.35 on orchard farm.Operating ratio was smaller on orchard farm as 0.35 than that of agrarian farm (0.45). It implied that smaller the ratio better would be position of net profit on the farm. In other words, orchard farm was indicating higher operating efficiency as compared to agrarian farm. Fixed ratio on orchard farm was slightly higher as 0.20 as it was 0.18 on agrarian farm. It was clear that relationship between expense and gross income indicated that when a rupee obtained in terms of gross income it was due to fixed expense.

Thus, lower the fixed expense higher would be better management on the farms. Thus, there was more or less same management on both the farms. Lower the expenditure, higher would be the efficiency. Gross cost ratio was lower as 0.54 on orchard farm while that was 0.64 on agrarian farm. Gross profit ratio was higher as 0.65 on orchard farm as compared to that of agrarian farm (0.55). When there was one rupee gross cash income, it could cause to give Re 0.65 and Re 0.55 on orchard farm and agrarian farm, respectively. Net profit ratio was 0.51and 0.42 on orchard farm and agrarian farm, respectively. Hence, Hypothesis is proved. Expense structure ratio was 0.36

Table 1 : Per farm income statement on orchard farm for the year 2013-14

Sr. No.	Receipt	Physical quantity (unit farm)	Amount (Rs./farm)	Sr. No.	Expense	Physical quantity (unit/farm)	Amount (Rs./farm)
1.	*Kharif* paddy (ha)	0.26	17869.56	1.	Hired human labour (manday)	349.49	62908.20
2.	*Rabi* paddy (ha)	0.14	11153.10	2.	Bullock labour (pairday)	6.61	2445.70
3.	*Rabi* cowpea (ha)	0.02	887.00	3.	Machine labour (hour)	38.67	17981.55
4.	*Rabi* brinjal (ha)	0.02	2373.90	4.	Seed (kg)	3035.71	8147.10
5.	Sugarcane (ha)	0.12	27868.00	5.	Manure (q)	259.22	32402.50
6.	Banana (ha)	0.14	27265.40	6.	Fertilizers (kg) : N	331.03	4458.97
7.	Pineapple (ha)	0.11	46071.41		P	217.00	9493.75
8.	Cashewnut (ha)	0.86	170114.00		K	236.82	6709.11
9.	Coconut (ha)	0.71	213757.65	7.	Plant protection (L)	1.84	542.58
10.	Mango (ha)	0.60	114113.84	8.	Irrigation (m^3)	27184.81	44583.09
11.	Arecanut (ha)	0.30	68271.70	9.	Land revenue	---	58.10
12.	Sapota (ha)	0.23	18684.36	10.	Incidental charges	---	1462.31
13.	Black pepper (ha)	0.18	27495.30	11.	Interest on WC	---	24275.81
14.	Nutmeg (ha)	0.13	20024.53	12.	Family labour (manday)	168.48	30326.40
15.	Milk (L)	2263.73	90773.07	13.	Variable cost of dairy	---	59672.19
16.	Calf (No)	3.88	11440.96	14.	Variable cost of poultry	---	57.44
17.	FYM (q)	41.15	5143.63				
18.	Chicks	0.98	97.97				
19.	Eggs	4.13	20.64				
20.	Gross cash income	---	873426.02	15.	Gross cash expense	---	305524.80
21.	Appreciation of young livestock	---	680.00	16.	Depreciation on assets	---	2578.87
22.	Appreciation of land	---	44360.00	17.	Amortized cost	---	24447.21
				18.	Interest on fixed capital	---	2836.73
				19.	Rental value of land	---	127600.16
				20.	Fixed cost dairy enterprise	---	13325.80
				21.	Fixed cost poultry enterprise	---	33.72
23.	Increase in asset	---	45040.00	22.	Fixed expense	---	170822.49
24.	Total receipt	---	918466.02	23.	Total expense	---	476347.29
				24.	Net farm income	---	442118.73

Table 2 : Per farm income statement on agrarian farm for the year 2013-14

Sr. No.	Receipt	Physical quantity (unit farm)	Amount (Rs./farm)	Sr. No.	Expense	Physical quantity (unit farm)	Amount (Rs./farm)
1.	*Kharif* paddy (ha)	0.26	70380.96	1.	Hired human labour (manday)	339.89	61180.20
2.	*Rabi* paddy (ha)	0.14	41050.00	2.	Bullock labour (pairday)	26.35	9749.50
3.	*Rabi* cowpea (ha)	0.02	1250.00	3.	Machine labour (hour)	54.63	25402.95
4.	*Rabi* brinjal (ha)	0.02	3505.50	4.	Seed (kg)	5884.18	14252.50
5.	Sugarcane (ha)	0.12	198516.80	5.	Manure (q)	289.26	36157.50
6.	Banana (ha)	0.14	15125.00	6.	Fertilizers (kg) : N	429.71	5788.19
7.	Pineapple (ha)	0.11	39601.25		P	235.21	10290.44
8.	Cashewnut (ha)	0.86	41388.00		K	229.57	6503.72
9.	Coconut (ha)	0.71	74525.58	7.	Plant protection (L)	2.06	607.45
10.	Mango (ha)	0.60	45340.92	8.	Irrigation (m^3)	20403.43	39786.69
11.	Arecanut (ha)	0.30	33751.50	9.	Land revenue	---	61.30
12.	Sapota (ha)	0.23	5802.12	10.	Incidental charges	---	797.22
13.	Black pepper (ha)	0.18	13093.00	11.	Interest on WC	---	22287.66
14.	Nutmeg (ha)	0.13	7688.09	12.	Family labour (manday)	135.84	24451.20
15.	Milk (L)	2120.50	85033.90	13.	Variable cost of dairy	---	57033.02
16.	Calf (No)	3.72	11301.83	14.	Variable cost of poultry	---	60.64
17.	FYM (q)	36.99	4623.55				
18.	Chicks	1.03	103.29				
19.	Eggs	4.38	21.91				
20.	Gross cash income	---	692103.20	15.	Gross cash expense	---	314410.18
21.	Appreciation of young livestock	---	680.00	16.	Depreciation on assets	---	2442.33
22.	Appreciation of land	---	44360.00	17.	Amortized cost	---	9027.56
				18.	Interest on fixed capital	---	2686.57
				19.	Rental value of land	---	98441.82
				20.	Fixed cost dairy enterprise	---	13704.08
				21.	Fixed cost poultry enterprise	---	35.03
23.	Increase in asset	---	45040.00	22.	Fixed expense	---	126337.39
24.	Total receipt	---	733108.20	23.	Total expense	---	440747.57
				24.	Net farm income	---	292360.63

Table 3 : Estimates of ratios with respect to income statement on orchard farm and agrarian farm for the year 2013-14

Formula	Orchard farm Calculation	Ratio	Agrarian farm Calculation	Ratio
Operating cost ratio $=\dfrac{\text{Total operating expense}}{\text{Gross cash income}}$	$\dfrac{305524.80}{873426.02}$	0.35	$\dfrac{314410.18}{692103.2}$	0.45
Fixed ratio $=\dfrac{\text{Fixed expense}}{\text{Gross cash income}}$	$\dfrac{170822.49}{873426.02}$	0.20	$\dfrac{126337.39}{692103.20}$	0.18
Gross cost ratio $=\dfrac{\text{Total expense}}{\text{Gross cash income}}$	$\dfrac{476347.29}{873426.02}$	0.55	$\dfrac{440747.57}{692103.20}$	0.64
Gross profit ratio $=\dfrac{\text{Gross cash income minus gross cash expense}}{\text{Gross cash income}}$	$\dfrac{567901.22}{873426.02}$	0.65	$\dfrac{377693.02}{692103.20}$	0.55
Net profit ratio $=\dfrac{\text{Net farm income}}{\text{Cross cash income}}$	$\dfrac{442118.73}{873426.02}$	0.51	$\dfrac{292360.63}{692103.20}$	0.42
Capital turn over ratio $=\dfrac{\text{Gross cash income}}{\text{Total expense}}$	$\dfrac{873426.02}{476347.29}$	1.83	$\dfrac{292103.20}{440747.57}$	1.57
Expense structure ratio $=\dfrac{\text{Fixed expense}}{\text{Total expense}}$	$\dfrac{170822.49}{476347.29}$	0.36	$\dfrac{126337.39}{440747.57}$	0.29

and 0.29 on orchard farm and agrarian farm, respectively. Capital turn over ratio was higher on orchard farm as 1.83 as compared to agrarian farm (1.57). The higher will be the ratio better would be efficiency of rupees spend. Thus management on orchard farm was efficient as compared to agrarian farm. In relationship to expanse structure ratio when a rupee spend in the form of total expense it would express the expenditure on fixed cost. In other words higher the ratio, higher would be initial investment. Thus, the initial investment was higher on orchard farms as compared to agrarian farm. More or less similar results were found by Bankar (2010); Chivare (2012); Kauthekar (2012) and Kumar (2012).

Conclusion :

Net farm income was Rs. 442118.73 and Rs. 292360.63 on orchard farm and agrarian farm, respectively. Gross profit ratio was higher as 0.65 on orchard farm as compared to that of agrarian farm (0.55). When there was one rupee gross cash income, it could cause to give Re 0.65 and Re 0.55 on orchard farm and agrarian farm, respectively. Thus, the initial investment was higher on orchard farms as compared to agrarian farm.

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