Peer Reviewed International Research Journal of Geography
Maharashtra Bhugolshastra Sanshodhan Patrika
ISSN : 0971-6785 {Impact Factor 3.687 (IIFS)} Vol. 35, No.2, Jul-Dec. 2018. pp 1- 8

CASH FLOW ANALYSIS OF CROPS IN THE SHIRUR TAHSIL

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Abstract

The cash input and outputisa major problem in the agriculture in India. After the independence, green revolution, introduction of HYV creates a history in the agricultural production. The growth of the crops and production is related to the weather and market price. In India there is always problem in the fix price for the agricultural commodities. The ups and down of the agriculture price is a major problem in India. Though agriculture is the backbone of our country, more than 55% population is directly or indirectly resembles on the agriculture.

Keywords: *HYV, Cash flow, Cash input*

Introduction:

Agricultural productivity in dry farming areas is as low as one tenth of that in irrigated areas. (Datye 1983, Saptarshi 1993, Kadam 2000, Bhagat 2002, More 2008).Therefore improvement in irrigation facilities is useful programme to improve agricultural productivity and thereby achieving rural development. The state government of Maharashtra has adopted a policy to extend irrigation facilities to larger areas limited to two cropping seasons. The government decision making process has always been socially biased to provide irrigation facilities to drought prone area. However, it is observed that about 33% NSA is under irrigation in the state. This means that large part (67%) of NSA has been dry farming area.The drought prone areas have 33% probability of drought every year. This has made such regions underdeveloped because of very low agricultural output.There can betwo options for setting better agricultural activities. The first one is to provide water by bringing extra regional water. This option has been already exhausted and hence cannot be suggested for future strategy. The second option is to use available water resource within the region in efficient way so as to improve agricultural productivity. This may be achieved by technological intervention and by adopting strategic cropping pattern which would reduce the water requirement of agriculture without comprising agricultural output. There are some geographical studies exhibiting feasibility of such cropping pattern (Bhagat, 2002 and More, 2009).

Location of the study area

The area selected for the present research is Shirur tahsil of Pune district. The tahsil extends from 18°49' N to 19°14' N latitudes and from 74°22' E to 75°3' E longitudes. The tahsil lies in the northeast part of Pune district of western Maharashtra. The tahsil extends from northwest to southeast with elongated shape. The tahsil headquarter is at Shirur, which is located at a distance of 65km from the district headquarter Pune. It is located on the western bank of the river Ghod.

The tahsil is bounded by Khed tahsil to the north, Ambegaon tahsil to the north-east, Parner and Shrigonda tahsils of Ahmadnagar district to the east & south-east respectively, Daund tahsil to the south, Haveli tahsil to the south-west, Ambegaon tahsil to the north-west.

The tahsil lies in the drainage basin of the river Bhima. The river Ghod forms the north-eastern & eastern boundary of the tahsil. The river Kukdi forms the eastern boundary of the tahsil. The river Bhima forms the southern south-western boundary of the tahsil.

Pune Ahmadnagar state highway passes west-east through the tahsil from KoreagaonBhima to Shirur. Shirur is well connected by roads to the surrounding villages on all sides.

The tahsil comprises of 113 villages having only one urban centre i.e. Shirur. The population of the tahsil according to the census (2001) is 310590. The Shirur tahsil is the drought prone area as

decided by fact finding committee (FFC, 1973). The major economic activity of the tahsil is agricul

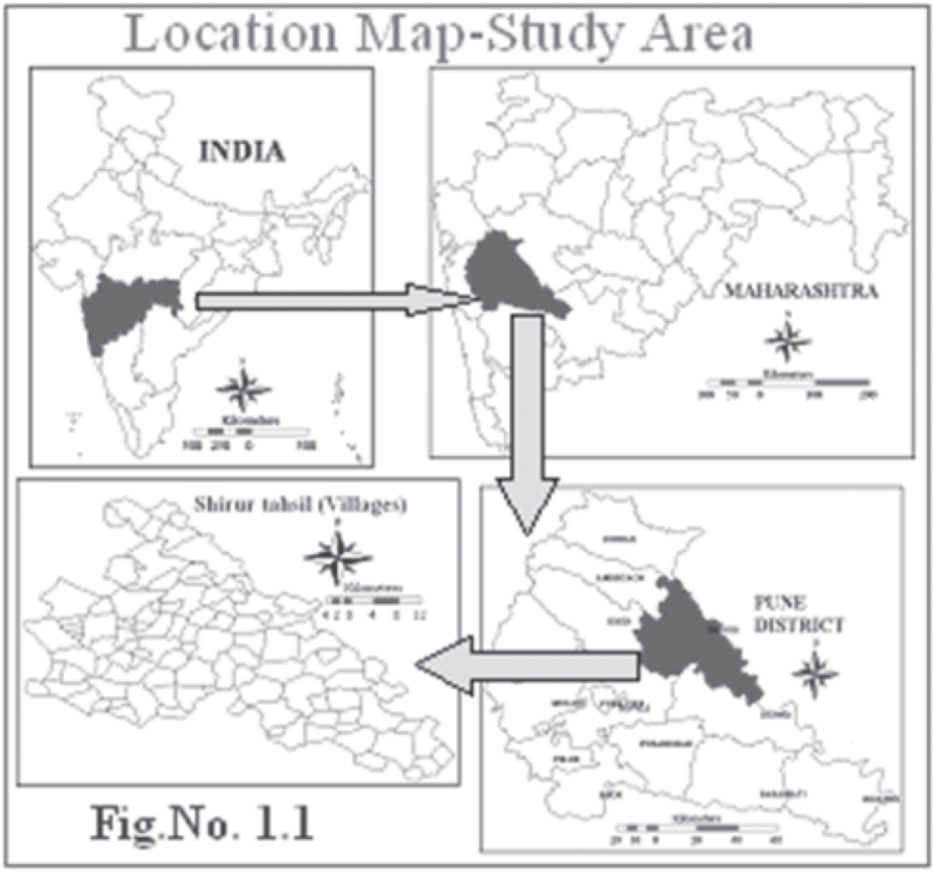

Fig.No. 1.1

Cash flow analysis:

After getting the figures regarding the cost of cultivation of major crops the total income gain by the farmer has been analysis to understand the cash flow. This kind of cash flow analysis has been carried out (Saptarshi and Kale 1984). This technique is useful to understand the economic system. Here in the present study following items has expenditures considered as a cash flow.

Cash flow: 1. Wages given to women worker
2. Wages given to male worker
3. Profit margin earned by cultivators.

Cash out: 1. Cost of fertilizers and pesticides
2. Cost of packing material brought from urban sector
3. Cost of fuel such as electric bill diesel or hiring tractor.

Thus, the part of income remains in the tashil and part that goes outside the tahsil have been estimated on the basis of cost structure. This has been estimated for each village and for the tahsil.

Cost- Benefit Analysis:

The cost Benefit analysis technique have been used by various scholars and observed to be useful in the study of agricultural geography. e.g. Joshi (1978), Hakke (1990), Saptarshi and Bairagi (1998), Saptarshi and Bhagat (2004), More (2008) etc. The techniques are useful to understand the

optimum use of water resource (Saptarshi1993, Bhagat 2002 and More 2008), rural employment status (Jagdale 2002) human resource assessment (Ugale 2006)human resource development (Musmade 2012) etc. The present study aims at finding out the availability of water resource for sustainability of agriculture in the drought prone area of the shirur tahsil. The cost benefit analysis of the major crops in the tahsil has been carried out by collecting the primary data from about 150 farmers cultivating different crops. The methodology adopted in the present study is outlined below.

Cash flow analysis:

The cash flow analysis technique is useful to understand the incoming and outgoing rupees in the tahsil. The cash flow analysis revealed from the table (Table No 1.1).The cash out flow is more in case of crops like sugarcane (34.06%), groundnut (21.75%), onion (11.09%) and fruit (10.41%).

Table No.1.1
Cash flow analysis

Sr. No.	Operations	Cash-out flow	%	Cash in - flow	%	Profit	%	Total income	%
1	Jowar K	1000	0.52	21900	5.42	5700	2.06	28600	3.28
2	Jowar R ir	3700	1.94	23100	5.72	7740	2.80	34540	3.96
3	Jowar R U	750	0.39	19900	4.92	4150	1.50	24800	2.84
4	Bajara Ir	3800	1.99	22375	5.54	7275	2.63	33450	3.84
5	Bajara Un	1200	0.63	17200	4.26	2180	0.79	20580	2.36
6	Wheat	4150	2.17	19125	4.73	17725	6.40	41000	4.70
7	Maize	3050	1.60	9425	2.33	8625	3.12	21100	2.42
8	Mug	1125	0.59	9625	2.38	10050	3.63	20800	2.39
9	Mataki	1100	0.58	9600	2.38	12900	4.66	23600	2.71
10	Hulga	1325	0.69	7175	1.78	1800	0.65	10300	1.18
11	Gram	3375	1.77	18775	4.65	8725	3.15	30875	3.54
12	Tur	1500	0.78	12925	3.20	11275	4.07	25700	2.95
14	Til	1000	0.52	6900	1.71	4500	1.63	12400	1.42
15	Vege.	7950	4.16	34150	8.45	17800	6.43	59900	6.87
16	Onion	21200	11.09	26775	6.63	16025	5.79	64000	7.34
19	Jawas	1350	0.71	6125	1.52	2102	0.76	9577	1.10
13	Kardai	1100	0.58	8600	2.13	1950	0.70	11650	1.34
18	GroundN	41575	21.75	25025	6.19	45025	16.26	111625	12.80
17	Sugarcane	65100	34.06	63525	15.72	81875	29.57	210500	24.14
20	Fruit	19900	10.41	12900	3.19	3750	1.35	36550	4.19
21	Other	5875	3.07	28950	7.16	5675	2.05	40500	4.64
Total		191125	100	404075	100	276847	100	872047	100

Source: The field Survey data (2010-2011)

Sugarcane: The table (Table No.1.1) indicates the cost of sugarcane cultivation is Rs.128625/-per hect and the total income from the sugarcane cultivation included the cost of fodder is Rs.210500/- The net income from the sugarcane cultivation is Rs.210500/- in the study area.The sugarcane is mostly grown along the riverside belt and where irrigation facilities available by the canal and tank and other sources of irrigation. But the major drawback of the cultivation of sugar is it reduce the soil fertility and second use of water resource is more it means that loss of water, the statistical information shows that sugarcane requires 50% of the water The sugarcane contributes for labour generation in the study area.

Although it requires 50% of the water but it is profitable crop.
Cost- of Sugarcane Cultivation

Table No 1.2
Cost- of Sugarcane Cultivation

Sr. No.	Operations	Human Power		Labour Cost			Other Cost	Total cost	%
		Man days	Woman days	Male	Female	Total			
1	Ploughing	4	0	800	0	800	8000	8800	6.84
2	Harrowing	8	0	1600	0	1600	3000	4600	3.58
3	Sowing / Seedling	25	35	5000	4375	9375	15000	24375	18.95
4	Cost of Seeds	0	0	0	0	0	20000	20000	15.55
5	Cost of Water	0	0	0	0	0	8000	8000	6.22
6	Electricity Charges	0	0	0	0	0	5000	5000	3.89
7	Fertilizers/ Pesticides	28	12	5600	1500	7100	25000	32100	24.96
8	Wining	16	60	3200	7500	10700	0	10700	8.32
9	Irrigation	69	10	13800	1250	15050	0	15050	11.70
10	Harvesting	0	0	0	0	0	0	0	0.00
11	Packing	0	0	0	0	0	0	0	0
Total		150	117	30000	14625	44625	84000	128625	100.00

Source: The field Survey data (2010-2011)

Table No.1.3
Cash flow analysis of Sugarcane

Sr. No.	Cash flow analysis	Rupees	Percentage
1	Cash out-flow	65100	30.93
2	Cash in-flow	63525	30.18
3	Net Profit	81875	38.90
4	Total income	210500	100.00

Source: The field Survey data (2010-2011)

The table (Table No. 1.2) indicates that in the study area cash out flow is 30.93% means around 65100/ ruppes for the purchase of the fertilizers and insecticides, manures for the sugarcane cultivation and growth. The cash inflow is around 30.18% means cash in flow and out flow is the same in proportion. The profit ratio of the sugarcane crops is more it is more than 38.90%. Though sugarcane is profitable crops it requires more water.

The table (Table No. 1.3) indicates the cost of groundnut cultivation is Rs. 41575/-per hect and the total income from the onion cultivation included the cost of fodder is Rs.86600 /- The **net**

income from the onion cultivation is Rs.45025/- in the study area.

Table No.1.4
Cash flow analysis of Groundnut crop.

Sr.No.	Cash flow analysis	Rupees	Percentage
1	Cash out-flow	41575	48.01
2	Cash in-flow	25025	28.90
3	Net Profit	45025	51.99
4	Total income	111625	100.00

Source: The field Survey data (2010-2011)

It is observed that the profit earned by the farmer by way of cultivation groundnut is about 51.99%. The cost benefit analysis technique useful to understand the part of income circulated within the tahsil, as cash-flow and part of income going out of the rural areas is called as cash-out flow. In case of jowar cash-flow is just 28.90%. On the contrary, cash out flow groundnut 48.01%. Cost- of Onion Cultivation

Table No 1.5
Cost- of Onion Cultivation

Sr. No.	Operations	Human Power		Labour Cost			Other Cost	Total cost	%
		Man days	Woman days	Male	Female	Total			
1	Ploughing	8	0	1600	0	1600	4500	6100	12.71
2	Harrowing	12	0	2400	0	2400	2500	4900	10.21
3	Sowing / Seedling	13	8	2600	1000	3600	5000	7600	15.84
4	Cost of Seeds	0	0	0	0	0	13000	7050	14.70
5	Cost of Water	0	0	0	0	0	5000	3900	8.13
6	Electricity Charges	0	0	0	0	0	700	700	1.46
7	Fertilizers/ Pesticides	5	4	1000	500	1500	2500	2500	5.21
8	Wining	0	15	0	1875	1875	0	1875	3.91
9	Irrigation	13	2	2600	250	2850	0	2850	5.94
10	Harvesting	12	8	2400	1000	3400	0	3400	7.09
11	Threshing	16	10	3200	1250	4450		4450	9.28
12	Packing	12	2	2400	250	2650	0	2650	5.52
Total		91	49	18200	6125	24325	33200	47975	100.00

Source: The field Survey data (2010-2011)

The table (Table No.1.4) shows the cost benefit analysis of onion cultivation. The figures given in the table (Table No.1.4) show that cultivation of onion may get the profit of Rs.16025 /- per hect. The onion is traditionally grown as a cash crop in the study area where irrigation facilities are available.

The table (Table No. 1.5) indicates the cost of onion cultivation is Rs. 47975/-per hect and the total income from the onion cultivation included the cost of fodder is Rs.64000 /- The net income from

the onion cultivation is Rs.64000/- in the study area. The area under theonion is 6943.18 in 2006-2007.

Table No 1.6
Output of Onion Cultivation

Sr. No.	Details	Rs.
1	On- farm Price / kg Rs.	Rs.8.00/-
2	Grain production / Hectare.	8000Kg.
3	Grain Production / Hectare.	Rs. 64000/-
4	Average on farm price of fodder/ Hectare Rs.	Rs.0.0/-
5	Total earnings / Hectare (Grains + Fodder)	Rs. 64000/-
6	Total cost / Hectare	47975/-
7	[illegible]	Rs. 16025/-

Source: The field Survey data (2010-2011)

Table No.1.7
Cash flow analysis of onion

Sr. No.	Cash flow analysis	Rupees	Percentage
1	Cash out-flow	21200	33.13
2	Cash in-flow	26775	41.84
3	Net Profit	16025	25.04
4	Total income	64000	100.00

Source: The field Survey data (2010-2011)

In case of onion the cash out flow is 33.14%. The net profit from the onion is 25.04%, means that the 25% profit from the onion. The cash inflow from the onion is 41.84%. The onion is mostly cultivated as a cash crop, when the prices of the crop increases in the market the farmer earn the money by selling the crop in the market.

Cost- of Wheat Cultivation

Table No.1.8
Cost- of Wheat Cultivation

Sr. No.	Operations	Human Power		Labour Cost			Other Cost	Total cost	%
		Man days	Woman days	Male	Female	Total			
1	Ploughing	2	0	400	0	400	1500	1900	8.16
2	Harrowing	1	0	200	0	200	1200	1400	6.02
3	Sowing / Seedling	3	0	600	0	600	1600	2200	9.45
4	Cost of Seeds	0	0	0	0	0	1200	1200	5.16
5	Cost of Water	0	0	0	0	0	800	800	3.44
6	Electricity Charges	0	0	0	0	0	650	650	2.79
7	Fertilizers/ Pesticides	1	2	200	250	450	1500	1950	8.38
8	Wining	0	20	0	2500	2500	0	2500	10.74
9	Irrigation	3	1	600	125	725	0	725	3.11
10	Harvesting	8	14	1600	1750	3350	850	4200	18.05
11	Threshing	3	20	600	2500	3100	950	4050	17.40
12	Packing	2	2	400	250	650	1050	1700	7.30
Total		23	59	4600	7375	11975	11300	23275	100.00

Source: The field Survey data (2010-2011)

The wheat cultivation in the study area shows change in the agriculture pattern. The wheat cultivation mostly observed in the field survey near the bank of the river and the major source of irrigation is well, tube wells and canals etc. The wheat cultivation shows the change in the agricultural pattern. The growth and production of wheat totally depend upon climatic element. In the table (Table No.1.7) indicates the total cost of wheat cultivation is Rs.40000/- per hect. The total income from the cultivation included with the fodder is Rs. Rs.40500/- per hect and the net profit from the wheat cultivation in the study area is Rs.17725 per hect.

Table No.1.9
Output of Wheat Cultivation

Sr. No.	Details	Rs.
1	On- farm Price / kg Rs.	Rs.16.00/-
2	Grain production / Hectare.	2500 Kg.
3	Grain Production / Hectare.	Rs.40000/-
4	Average on farm price of fodder/ Hectare Rs.	Rs.500/-
5	Total earnings / Hectare (Grains + Fodder)	Rs.40500 /-
6	Total cost / Hectare	23275/-
7	Net Profit / hectare (Total earning – Total Cost)	Rs. 17725/-

Source: The field Survey data (2010-2011)

Table No.1.10
Cash flow analysis of Wheat

Sr. No.	Cash flow analysis	Rupees	Percentage
1	Cash out-flow	4150.00	10.25
2	Cash in-flow	19125.00	47.22
3	Net Profit	17725.00	43.77
4	Total income	41000.00	100.00

Source: The field Survey data (2010-2011)

It is observed that the profit earned the farmer by the due to cultivation of wheat is about 43.77%. The wheat is profitable crop in the tahsil. In case of wheat the cash-out flow is very less it is 10.25%. The cash in- flow in case of wheat is 47.22. the cash inflow shows the rural economy in the tahsil.

Conclusion: The present study has found that the cash-out-flow of is more in case of crops like sugarcane. It may be pleaded here that there is no sufficient return of cost of local resources like soil, water and human, as observed in the study. Therefore a strategy has been developed to make agriculture more sustainable through efficient utilization of soil and water resources. The strategy suggested in the study can be useful to improve cash flow on the basis of local resources. It is also observed that the establishment of industry in the various parts of the shirur tahsil has not been useful for leveraging rural development and this kind of supra structure is not matching with present socio-economic status of the local people. This is quite visible in terms of poor participation of local people for the work force of the industry. Similarly, elite class education institutes have been unable to seek the admission to absorbs the local youths for higher education.

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