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Socio-economic characteristics of chilli cultivation

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Abstract
In year 2016-17 in India, the total area under Chilli cultivation was 830.80 hectares and total production was 1872.00 MT and productivity 2.25 MT/ha. In Maharashtra area was 17.30 hectare and total production was 35.90 MT and productivity 2.08 MT/ha. Majority of the Chilli grown in India is cultivated in states such as Andhra Pradesh 49 per cent, Karnataka 15 per cent, Orissa 8 per cent, Maharashtra 6 per cent, West Bengal 5 cent, Rajasthan 4 per cent and Tamil Nadu 3 per cent. Andhra Pradesh first both in area 1.88 ha and production 2.7 L tons with a productivity 1447 kg per ha. Chilli is cultivated almost all state in India but, Andhra Pradesh is the largest producer accounting for more than 50 per cent of the total Chilli output in the country. Karnataka is the second largest producer contributing for about 10-15 per cent of total production in the country rest of the output is spread across the number of states including Maharashtra, Orissa, Rajasthan and Tamil Nadu.

Keywords: Economics, chilli cultivation, productivity

Introduction
Chilli is not only used as a food additives but also for various medicinal purposes. The capsaicin extracted from ripe dried fruits is used in pharmaceutical preparations and medicines related to heart diseases. The daily use of Chillies stimulates saliva and enaIndia, as observed in the earlier section, is the largest producer, consumer and exporter of Chillies in the world. India produces on average 1.3 to 1.5 million tonnes of red Chillies annually. Nearly, 80 per cent India's production is consumed within the country and only about 15 to 20 per cent of domestic production is exported.

Trends in area and production during the last two decades indicate that, there is a significant rise yields per hectare particularly from 2003 to 04 onwards and it has led sharp increase in production level from less than one million tonnne in late 2000's

bles proper digestion and good blood circulation. The extracts of Chillies are used in preparation of ginger beer and other beverages. It is also used as an anti-irritant in prickly heat powder, cosmetics, skin ointments and pain balms. Chilli has also acquired a great importance in food and beverages industries in the form of olerosins, which permits better distribution of coloured and flavour in food as compared to Chilli powder. The food industry prefers the use of highly coloured and less pungent chillies for the preparation of oleoresin. Chilli has antioxidant, anti-mutagenesis, hypocholesterolemic and immunosuppressive properties.

World Chilli production is primarily concentrated in South Asian countries to an extent of about 55 per cent of total world production. India is the single largest producer contributing for about 38 per cent followed by neighbours China with 7 per cent Pakistan and Bangladesh contributing about 5 per cent each. Rest of the output spread across South American countries and African countries. India's Chilli exports are currently in bull stage and Chillies exports from India are mostly to UAE, Bangladesh, Pakistan, Saudi Arabia, UK, Bahrain, Qatar, Nepal, Oman, Maldieves, Kuwait and US. Among these countries UAE, Pakistan, Bangladesh, UK, Saudi Arabia and Nepal are the major exporter of India's Chillies.

Methodology
A schedule was designed for data collection by keeping in view the objectives of the study, the data were collected for the year 2017-18 through personal interviews of farmers, village-traders, Wholesalers, commission agents retailer and Agriculture produce market committee. The survey method was followed for data collection. Data pertaining to cropping pattern, input utilization, Cost of cultivation and returns were collected from the selected growers and other relevant information related to marketing of dry chilli was collected through a survey method with the help of pre-tested schedule.

The present study was undertaken in Buldhana district of Vidarbha region. The district was selected purposively. The data pertained for the year 2017-18. Total tahsils in Buldhana district is 13. Out of Thirteen tahsils in Buldhana district two tahsils *viz*. Sindkhed raja and Deulgaon raja were selected for the present study. From each tahsil, 3 villages were selected randomly for present study. schedule was designed for data collection by keeping in view the objectives of the study, The data were collected for the year 2017-18 through personal interviews of farmers, village-traders, Wholesalers, commission agents retailer and Agriculture produce market committee. The survey method was followed for data collection. Data pertaining to cropping pattern, input utilization, cost of cultivation and returns were collected from the selected growers and other relevant information related to marketing of dry chilli was collected through a survey method with the help of pre-tested schedule.

Result and Discussion

Per hectare cost of production (Overall)

Sr. No.	Item	Unit		Input/ ha.	Cost/ Unit of input	Total Cost per ha.	% to Cost 'C_3'
1	2	3		4	5	6	7
1	Hired Human Labour	Male	Days	20.62	200.02	4124.44	3.70
		Female	Days	87.21	150.00	13081.66	11.74
2	Bullock Labour		(Pair days)	13.94	497.77	6938.88	6.23
3	Machine charges		Hours	5.23	300.19	1570.00	1.41
4	Seed		kgs	0.75	22403.03	16802.27	15.09
5	Manures		QTLS.	10.88	522.88	5688.88	5.11
6	Fertilizer	N	Kg.	66.94	6.00	401.65	0.36
		P	Kg.	67.49	24.00	1619.94	1.45
		K	Kg.	47.06	22.00	1035.25	0.93
7	Irrigation charges	(Rs.)				4110.00	3.69
8	Bio-fertilizers	(Rs.)				0.00	0.00
9	Insecticide	(Rs.)				2549.81	2.29
10	Incidental charges	(Rs.)				93.28	0.08
11	Repairing Charges	(Rs.)				491.23	0.44
12	Insurance Premium	(Rs.)				0.00	0.00
13	Growth Regulator	(Rs.)				0.00	0.00
14	Weedicide	(Rs.)				0.00	0.00
15	Working Capital (1to14)	(Rs.)				58507.29	52.53
16	Int.on working Capital					1755.21	1.58
17	Depreciation	(Rs.)				622.28	0.56
18	Land Revenue	(Rs.)				62.04	0.06
19	COST "A1" (Items 15to18)	(Rs.)				60946.82	54.72
20	Rental Value Leased in land					0.00	0.00
21	COST "A2" (Items 19to20)					60946.82	54.72
22	Int. on Fix.Cap. @ 10%					1388.94	1.25
23	COST "B1" (Items 19 + 22)					62335.76	55.97
24	Rental Value of Land	(Rs.)				28534.25	25.62
25	COST "B2" (Items 23to24)					90870.01	81.58
26	Family Human Labour	Male	Days	32.18	200.04	6437.17	5.78
		Female	Days	26.32	150.01	3948.33	3.54
27	Cost " C1 " (Items 23+26)	(Rs.)				72721.26	65.29
28	Cost " C2 " (Items 25+26)	(Rs.)				101255.51	90.91
29	Additional Value of human labour					0.00	0.00
30	Cost " C2* " (Items 28+29)					101255.51	90.91
31	10% Cost C2*					10125.55	9.09
32	Cost " C3 " (Items 30+31)					111381.06	100.00
33	Yield per hectare	(Rs.)		24.51	7000.32	171577.77	
34	Value of By-produce/ha.	(Rs.)		0.00	0.00	0.00	
35	Main Produce +By produce					171577.77	
36	Per quintal cost of Prod.	(Rs.)				4131.19	

5.2.3 Per hectare cost and returns from dry chilli

The cost and returns structure per hectare of Agricultural production, helps the farmer in mapping adjustment in the organization and thereby secure the optimum level of production and income. The Table 1 indicates that at overall average gross return workout to Rs. 171577.77. this means chilli crop appeared to be good from monitory benefits. The highest input output ratio at cost 'C' was recorded in small group i.e. 2.39 and the lowest input output ratio at cost 'C' was recorded in large size group. At overall input output ratio at cost 'C' was 1.69.

Table 1: Per hectare cost and returns from dry chilli (Rs./qtl.)

Sr. No.	Particulars	Small	Medium	Large	Overall
1	Value of Main Produce	165365.85	180212.76	191578.74	171577.77
2	Value of By- Produce	0.00	0.00	0.00	0.00
3	Gross Return	165365.85	180212.76	191578.74	171577.77
4	**Cost of Cultivation at**				
	Cost "A1"	58235.71	68179.91	73398.14	60946.82
	Cost "A2"	58235.71	68179.91	73398.14	60946.82
	Cost "B1"	59819.15	70455.76	76303.40	62335.76
	Cost "B2"	87316.18	100425.80	108164.77	90870.01
	Cost "C1"	69334.85	109824.84	117783.18	101255.51
	Cost "C2"	96831.85	109824.84	117783.18	101255.51
	Cost "C2*"	96831.85	109824.84	117783.18	101255.51
	Cost "C3*"	106515.04	120807.32	12056.50	111381.06
5	**Return at**				
	Cost "A1"	48894.43	112032.85	118180.60	110630.95
	Cost "A2"	107130.14	112032.85	118180.60	110630.95
	Cost "B1"	105546.70	109757.00	115275.34	109242.01
	Cost "B2"	78049.67	79786.96	83413.97	80707.76
	Cost "C1"	96031.00	70387.92	73795.56	70322.26
	Cost "C2"	68534.00	70387.92	73795.56	70322.26
	Cost "C2*"	68534.00	70387.92	73795.56	70322.26
	Cost "C3*"	58850.81	59405.44	179522.24	60196.71
6	**Output input ratio at**				
	Cost "A1"	2.84	2.64	2.61	2.82
	Cost "A2"	2.84	2.64	2.61	2.82
	Cost "B1"	2.76	2.56	2.51	2.75
	Cost "B2"	1.89	1.79	1.77	1.89
	Cost "C1"	2.39	1.64	1.63	1.69
	Cost "C2"	1.71	1.64	1.63	1.69
	Cost "C2*"	1.71	1.64	1.63	1.69
	Cost "C3*"	1.55	1.49	1.89	1.54

The input output ratio which is an indicator of economic efficiency in crop production for the crop and other discussion indicated that chilli registered a good input output ratio 2.39 means this is profitable.

Conclusion

The cost and returns structure per hectare of Agricultural production, helps the farmer in mapping adjustment in the organization and thereby secure the optimum level of production and income. The Table 1 indicates that at overall average gross return workout to Rs. 171577.77. this means chilli crop appeared to be good from monitory benefits. The highest input output ratio at cost 'C' was recorded in small group i.e. 2.39 and the lowest input output ratio at cost 'C' was recorded in large size group. At overall input output ratio at cost 'C' was 1.69.

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