Price Stability – A Comparison of Prices of selected Commercial Crops of Kerala with Milk Prices

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Abstract

Prices of different agricultural products play a major role in deciding cropping pattern and production of crops. Unless the farmer is not guaranteed remunerative prices, he will not have incentive to produce. Recognizing the importance of ensuring remunerative prices, the practice of declaring minimum support price(MSP) for different crops in advance before the start of the sowing season has been in vogue in India since the introduction of Green Revolution in late 1960's. Real benefit to farmers will accrue only when they actually get the declared assured minimum price and for this to happen active presence of public procurement agencies (PPA) through effective market intervention is necessary. Even though government of India announces MSP for 22 different crops, the benefit of the scheme is not reaped by the farmers uniformly across crops and across regions in the country. Overall, the benefit of MSP is confined to major food crops like wheat and paddy and that too the benefit is confined mostly to farmers in states like Punjab, Haryana, Andhra Pradesh only. The results for other food grains- pulses and oil seeds are rather mixed and success is mainly dependent on the initiative taken by individual state governments.

While intervention by PPA's depends on the political will of governments, farmers' own proactive initiative in developing Institutions including Cooperatives could be the best solution in assuring remunerative prices on a sustainable basis in the long run. AMUL in Gujarat and its clones in different states are classic examples of farmer-owned and farmer-managed cooperatives ensuring fare and remunerative prices to dairy farmers over the past many decades. Further, these dairy cooperatives by creating required backward and forward linkages control the value chain of milk and thereby are in a position to influence the market price through the supply side. The relative stability of milk prices in the country can be attributed to the impact farmer-owned institutions like dairy co-operatives are able to exercise over the market. Lack of such farmer-owned

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institutional arrangement is perhaps the main reason for the price volatility observed in respect of most other crops including commercial crops in the country.

The present work attempts to test the above assumption that farmer-owned and farmer managed institution like a cooperative is the best guarantee against price volatility in the market by comparing the empirical data, spanning 17 years from 2001-02 to 2017-18, on the prices of some select commercial crops with that of milk prices in Kerala. The commercial crops covered include coconut, rubber, coffee, tea, cardamom and cashew nut. While coconut and rubber are under MSP, the prices of remaining four crops are determined solely by market forces. The study conclusively reveal that milk prices have displayed greater stability in comparison with other commercial crops of the state, with both crops enjoying price support and those crops having no such price support. Interestingly, the three tier dairy cooperative structure in Kerala has achieved what they have with their combined procurement accounting for only 11.34% of the total milk production in the state. Based on the above finding, the authors recommend for replication of AMUL Model to other commercial crops of Kerala with necessary modification for ensuring the benefit of stable price support to the farmers.

Keywords : *Farmers, Dairy Cooperatives, minimum support price, Commercial Crops*

1.1 Introduction

Prices of different agricultural products play a major role in deciding cropping pattern and production of crops. Unless the farmer is not guaranteed remunerative prices, he/she will not have incentive to produce. Recognizing the importance of ensuring remunerative prices, the practice of declaring minimum support price (MSP) for different crops in advance before the start of the sowing season has been in vogue in India since the introduction of the Green Revolution in late 1960's. Real benefit to farmers will accrue only when they actually get the declared assured minimum price and for this to happen active presence of public procurement agencies (PPA) through effective market intervention is necessary. Even though the government of India announces MSP for 22 different crops, the benefit of the scheme is not reaped by the farmers uniformly across crops and across regions in the country. Overall, the benefit of MSP is confined to major food crops like wheat and paddy and that too the benefit is confined mostly to farmers in a few states like Punjab, Haryana, Andhra Pradesh etc. The results for other food grains- pulses and oil seeds are rather mixed, and success is mainly dependent on the initiative taken by individual state governments.

While intervention by PPA's depends on the political will of governments, farmers' own proactive initiative in developing Institutions including Cooperatives could be the best solution in assuring remunerative prices on a sustainable basis in the long run. AMUL in Gujarat and its clones in different states are classic examples of farmer-owned and farmer-managed cooperatives ensuring fair and remunerative prices to dairy farmers over the past many decades. Further, these dairy cooperatives, by creating required backward and forward linkages control the value chain of milk and thereby are in a position to influence the market price through the supply side. The relative stability of milk prices in the country can be attributed to the impact farmer-owned institutions like dairy co-operatives are able to exercise over the market. Lack of such farmer-owned institutional arrangement is perhaps the main reason for the price volatility observed in respect of most other crops including commercial crops in the country.

The present work attempts to test the above view that a farmer owned and managed institution like a cooperative is the best guarantee against price volatility in the market by comparing the empirical data on the prices of some select commercial crops with that of milk prices in Kerala.

1.2 Study Objectives

In the light of the chosen task in para1.1.3, the present study proceeds with the following specific objectives.

a) To collect empirical data for the period 2001-02 to 2017-18 on milk prices and prices of such commercial crops of Kerala like coconut, rubber, coffee, tea, cardamom and cashew nut.
b) To analyze the data on each of the above said commercial crops for understanding price volatility in both seasonal and secular.
c) To compare the prices of the said commercial crops with that of milk to draw lessons on long term price stability of agricultural products.

1.3 Methodology

1.3.1 Empirical data for the present work is collected from official sources like Kerala Economic Review (different volumes) published by the State Planning Board, websites of Coconut Board, Rubber Board, Tea Board and Coffee Board. For reasons of convenience, the study period is limited to 17 years from 2001-02 to 2017-18. Statistical tools like index numbers, compounded annual growth rate (CAGR), coefficient of variance (CV) etc, are used for analyzing and comparing the data.

2.1 Price Trends of Some Select Commercial Crops of Kerala

In terms of objective 2 (a) and 2 (b) data on the prices of select commercial crops of Kerala-coconut, rubber, coffee, tea, cardamom and cashew nut is collected and analyzed and results are presented in Table 2.1. An attempt is made in the following paragraphs to draw inferences on price trends of each of the commodities chosen for the study.

Table 2.1 Price trends of some select commercial crops of kerala

YEAR	RUBBER				coconut				coffee			
	PRICES (annl)	MIN&MAX(mnth)		c.v	price (100no)	min&max(mnth)		c.v	price (100no)	min&max(mnth)		c.v
1	2a	2b		2c	3a	3b		3c	4a	4b		4c
2001-2002	3228	2013(N)	4016(M)	21.11	340.64	321(N)	456(O)	10.58	28.54	19(M)	36(Jn)	21.84
2002-2003	3919	2301(A)	4523(AU)	20.64	475.63	352(Jy)	565(Jn)	16.41	28.12	19(M)	36(Jn)	21.84
2003-2004	5040	3221(O)	6232(M)	20.43	582.73	325(O)	589(D)	16.60	32.29	24(S)	39(J)	14.74
2004-2005	5570	3956(N)	6129(M)	14.48	635.00	556(Jn)	698(J)	7.38	53.36	37(Jn)	58(N)	13.52
2005-2006	6699	4562(AU)	6998(D)	13.26	494.89	456(Jn)	535(Jy)	4.79	62.86	45(D)	69(Jn)	14.18
2006-2007	9204	7898(A)	11230(O)	10.82	473.36	437(Jy)	515(J)	5.62	65.34	52(J)	78(My)	13.32
2007-2008	9085	7943(JY)	9757(J)	6.75	485.72	427(O)	558(J)	9.69	67.61	54(M)	74(S)	10.07
2008-2009	10112	9321(F)	14723(O)	14.61	544.25	433(Jn)	584(D)	8.79	53.06	42(Jn)	58(N)	9.61
2009-2010	11498	9789(S)	17822(M)	21.36	463.20	419(O)	500(Jn)	7.50	38.49	32(Jy)	46(S)	12.03
2010-2011	19003	14568(MY)	28956(O)	17.16	874.00	513(Jy)	927(My)	21.10	49.03	42(Jy)	58(M)	10.97
2011-2012	20805	12321(JY)	28965(D)	27.80	542.00	607(My)	891(Au)	13.70	45.78	40(O)	51(J)	7.28
2012-2013	17146	15695(F)	19680(A)	7.84	788.00	532(O)	677(F)	9.07	58.64	45(Jy)	68(My)	11.64
2013-2014	16602	16238((A)	19177(JY)	6.88	1254.00	689(Jy)	1453(My)	24.66	54.36	52(M)	60(J)	4.69
2014-2015	13257	12327(O)	14546(JU)	7.44	1266.00	1349(Jn)	1472(A)	3.71	41.73	39(S)	41(My)	1.66
2015-2016	11306	9251(JU)	12895(M)	12.32	1088.00	910(Jn)	1291(Au)	12.80	43.28	41(A)	44(Jn)	2.49
2016-2017	13549	11692(O)	15024(F)	7.55	976.00	902(Jy)	1383(My)	17.51	59.14	58(O)	62(My)	2.38
2017-2018	12981	12413(F)	14339(A)	4.38	1428.00	1428(Jy)	2084(F)	11.79	62.10	60(M)	63(Au)	1.45

SOURCE : 1. Data on prices are from respective commidity board websites and of cashew nut from economic review of kerala planning board
2. Analysis is by the researchers

Note : 1. C.V - Coefficient of Variation 2. January(J), June (Ju), July (Jy) 3. March (M), May (My) 4. April (A), August (Au)

Table 2.1 Price trends of some select commercial crops of kerala

Tea				Cardamom				Cashewnut			
PRICES (A)	MIN&MAX (mnth)		c.v	PRICES (A)	min&max (mnth)		c.v	PRICES (A)	min&max (mnth)		c.v
5a	5b		5c	6a	6b		6c	7a	7b		7c
52.21	48(O)	55(S)	4.32	622.96	443(O)	765(J)	20.19	2569.33	1456(A)	2569(Jn)	15.83
47.21	45(Au)	50(F)	2.84	561.13	455(S)	702(My)	19.53	2730.30	2115(Jn)	3598(F)	12.07
45.78	42(S)	54(D)	9.98	361.03	256(S)	556(F)	28.70	2831.75	2015(My)	4203(J0	23.06
52.14	42(M)	58(N)	9.15	298.13	114(M)	445(Jy)	12.83	3533.00	2713(Jn)	3952(F)	38.50
54.41	45(J)	58(Jn)	8.15	217.42	112(Jy)	321(Jn)	15.52	2899.54	2215(Jn)	3204(M)	27.29
68.65	58(Jy)	81(M)	10.50	312.03	203(D)	365(M)	33.91	2463.90	1278(Jn)	3355(F)	16.06
66.65	60(A)	72(D)	5.27	455.28	298(D)	598(Jy)	15.54	3000.42	2600(Jy)	3830(F)	24.32
71.08	64(Jy)	78(D)	6.48	506.44	389(O)	667(My)	14.22	3665.09	2721(Jn)	4252(F)	19.04
81.03	74(Jy)	86(N)	4.50	800.09	663(My)	898(J)	15.91	3871.99	3000(Jn)	4485(M)	10.19
67.69	62(N)	75(Jy)	5.44	638.00	534(M)	793(Jy)	19.58	6104.00	4533(Jn)	7306(F)	11.96
70.03	67(Jy)	75(N)	3.36	549.00	312(S)	780(F)	8.22	5599.00	4780(Jn)	6025(J)	26.41
87.55	78(S)	93(M)	5.59	612.00	456(O)	856(J)	25.19	5017.00	3100(Jn)	6214(F)	17.98
99.17	90(O)	99(A)	3.28	671.00	566(D)	835(A)	22.80	6425.00	4366(Jn)	7720(F)	13.89
93.35	90(Jn)	99(F0	2.52	754.00	637(Jy)	875(J)	18.73	6988.00	5500(Jn)	8179(F)	10.25
81.67	74(Jn)	89(Jy)	5.92	618.00	534(M)	793(JY)	13.91	9081.00	6700(Jn)	10055(A)	11.96
114.63	96(S)	124(Jn)	8.71	1093.00	841(Au)	1351(J)	18.13	11029.00	7375(Jn)	13176(F)	15.78
121.36	105(S)	130(Jn)	6.11	963.00	837(N)	1144(S)	21.92	11779.00	7860(Jn)	14085(F)	8.43

SOURCE : 1. Data on prices are from respective commidity board websites and of cashew nut from economic review of kerala planning board
2. Analysis is by the researchers

Note : 1. C.V - Coefficient of Variation 2. January(J), June (Ju), July (Jy) 3. March (M), May (My) 4. April (A), August (Au)

Rubber prices in the state have increased fourfold from 3228 per qntl to 12981 per qntl (col. 2a) between 2001-02 and 2017-18 (CAGR 8.40%). The rate of increase in rubber price however is not uniform-prices have increased at a CAGR of 18.99% between 2001-02 and 2006-07 (period I), at 11.11% between 2007-08 to 12-13 (period II) and at (-) 4.80% between 2013-14 and 2017-18 (period. III).After steadily increasing, rubber prices reached a peak of Rs 20805 per qntl in 2011-12 but have shown a secular decline thereafter. In fact govt. of Kerala started intervening in the market from 15th October 2014 onwards by offering a support price of Rs 17600 per qntl for RSS 4 rubber and for this purpose appointed Kerala State Rubber Marketing Federation, State Cooperative Marketing Federation and Rubber Producers Societies as the three designated nodal agencies for procuring rubber from the market at the support price1. A budget provision of Rs 10 crores was made for this purpose .The support price scheme is continued by the succeeding LDF government, which has fixed the support price as 15000 per qntl2.However,the market price figures in the above mentioned period III have consistently fallen way short of the declared support price. The support price scheme is rendered somewhat ineffectual as adequate budget provision is not made commensurate with the quantum of rubber production and to further compound the problem, the government does not have sufficient funds to compensate the farmers immediately of the difference between the assured support price and the actual market price. It is observed that the time lag between the date the farmer sells his product to the authorized dealer at the current market price and the actual date on which the differential price (between support price and market price received) is credited by the government to the farmers' bank account could stretch from 5 to 6 months.

As regards seasonal variations in rubber prices, the maximum prices have been recorded in any one of the three months –August /September/ October every year. While no definitive conclusion can be drawn with regard to the minimum prices (col.2b). Overall, seasonal volatility in rubber prices is quite high (column 2c) ,the average variance being 13.81%. interestingly, highest seasonal volatility in rubber prices is during period I (avg. variance 16.79%) and incidentally as we have seen earlier this period recorded the highest CAGR in rubber price at 12%. While average variance recorded in period II is a shade lower at 15.92%, minimum average variance is recorded in period III at 7.71% and this period also happens to be the one showing a negative CAGR of 5% in rubber prices.

Coconut prices have increased by nearly 4.2 times from Rs.340 / thousand nuts to Rs.1428 / thousand nuts between 2001-02 to 2017-18, recording a CAGR of 8.67% (col. 3a).However, the CAGR figures are quite uneven, recording growth rate of 5.63% ,8.39% and 2.63% during period I, period II and period III respectively. Thus, there has been a significant secular increase in coconut prices over the years with the upward trend picking momentum from 2006-07 onwards even though the prices are somewhat plateauing in recent years. In fact, the above development is a matter of great joy for coconut farmers of the state for several reasons. For, Kerala no longer enjoys the monopoly position in respect of coconut production it once enjoyed, as states like Tamil Nadu, Karnataka and Andhra Pradesh are catching up and even out-paced Kerala in terms of coconut output3. Secondly, soap and vanaspathi producers and even consumers (in Kerala) have a host of edible oils to choose from like palm oil, sunflower oil etc and need not depend on the use of coconut oil only for cooking. Despite these structural changes in demand and supply of coconut oil market in the country, the fact that coconut prices show a secular increase is a matter of great satisfaction and relief. The one factor that has contributed to this happy situation is the consistent policy of the central government to declare support prices for all oil seeds, coconut included, with a view to encourage oil seeds output in the country and reducing imports. For instance, between 2008 and 2018 the support prices for ball copra and milling copra have been increased respectively from Rs3910/qntl and Rs. 3660/qntl to Rs. 7750/ qntl and Rs. 7500/qntl5.

As regards seasonal variations in prices of coconut is concerned, no definitive conclusions can be drawn as to which period of the year the prices will either peak or fall, though tentatively one may conclude that prices will be at its trough generally during the months of June and July (col.3b). An interesting finding is that despite support prices, seasonal price volatility of coconut is quite high as revealed by the high figures of both the range values (col.3b) and C.V (col.3c). The average variance in coconut prices during the study period is 11.86 %and the figures were higher than the average in 7 out of the 17 years covered in the study. The average variance figures in each of the three periods respectively are 10.23 %, 11.64 % and 14.09 %. In other words, these figures only reinforce our conclusion that seasonal variability in coconut prices is significantly high despite the support prices declared by the government. One of the factors for this situation could be that the facility of support price may not be available throughout the year and may be restricted to limited

periods during the year. Such implementation of price support schemes could generally end up favoring traders than the actual farmers[6].

The price of coffee has more than doubled from Rs 28.54/ kg to 62.14/ kg between 2001-02 and 2017-18, the CAGR being 4.71 %. The rate of growth during each of the three periods are 15 % (in period I),-2.36 % (in period II) and 2.8% (in period III) (cl.5c). The low growth rate in coffee prices could easily be attributed to local climatic conditions, international market situation influenced by demand and supply. Unlike rubber and coconut, there is no price support policy for coffee and other crops that are covered under the present study and the growers of these crops are required to bear the brunt of market forces.

As in the case of coconut, no specific seasonality can be attributed to the highs and lows in coffee prices during a year (col.4b).The average price variance of coffee during the study period is 10.22%, the variance being the highest during period I (16.57%) followed by period II (10.27%) and period III witnessing the least average variance at 2.53 %(cl. 4c).

The price of tea has more than doubled from Rs52.21/ kg to 121.36/ kg between 2001-02 and 2017-18, the CAGR being 5.02 %. The rate of growth during each of the three periods are 4.5 % (in period I), 4.6 %(in period II) and 4.09% (in period III)(col.6a).

The average price variance for the whole period is 6.01 %, the price variance in period: 7.49%, period II: 5.11 % and period III: 5.31% (col.6c).

The prices of cardamom has just increased by 1.5 times from Rs 623/ kg to 963/ kg between 2001-02 to 2017-18, the CAGR being 2.56 % .The rate of growth during each of the three periods are -10.82 % (in period I), 5.04 % (in period II) and 7.4% (in period III) (col.7a).

The average price variance for the whole period is 19.11 %, the price variance in period: 21.78%, period II: 16.44 %, and period III: 19.10% (col.7c).

The prices of cashewnut increased five times from Rs. 2569/qntl to 11779/ qntl between 2001-02 and 2017-18, the CAGR being 9.2 %. The rate of growth during each of the three periods are -0.69 % (in period I), 8.9 %(in period II) and 12.88% (in period III) (col.8a).

The average price variance for the whole period is 17.82 %, the price variance in period: 22.13%, period II: 18.32 % and period III: 12.06% (col.8c).

2.2 Comparison between Milk Value and Values of some selected Major Commercial Crops of Kerala.

After analyzing the price trends of some major commercial crops of the state, those with some price support policy and those which are simply left to the mercy of market forces, we now come to the crux of our basic premise/ belief that the best guarantor for ensuring steady prices of a product is to have an institutional arrangement which is wholly farmer-owned and farmer-managed. We proceed in this section to empirically test the veracity of our belief and the results are presented in table 2.2.

With base year 2001-02 as 100, the growth in index numbers of value of production for the year 2017-18 is the highest in respect of coconut at 400 (col. 3c), followed by rubber 374 (Col.4c), cardamom 338 (col.7c), milk 291 (col.1c), tea 218(col.6c), coffee 216 (col.5c) and cashew nut 178(col.8c).

We are, however, not per se interested in the increase in absolute values of commodities, but are focused on price stability. Here milk value scores over every other commodity. While milk value in a year has declined over milk value of the preceding year in 4 out of the 17 years understudy, the corresponding figures for coconut, rubber, coffee, tea, cardamom and cashew nut are 7,6,7,6,7 and 8 respectively. Further in terms of contraction of value, it is the least in the case of milk -the figures ranging between -2.25% to -11 % (col.2b) - with the average being -7.06%. In comparison, the corresponding figures of other commercial crops are much higher:coconut-4.39% to -30.32% and avg.-15.83% (col.3b), rubber -4.12% to -37.46% and avg. -19.04% (col.4b), coffee -2.32% to -24.86% and avg.-12.62% (col.5b), tea -0.76% to -24.27% and avg.-11.51% (col.6b), cardamom -0.11% to -34.22% and avg.-15.84% (col.7b) and cashew nut -1.34% to -22% and avg. -7.33% (col.8b).

Interestingly, there is not much difference in decline in values between crops having price support and those crops having no such price support.

On a more in depth examination, it is revealed that the years recording fall in milk value (col. 2b) happens to be the years where milk production has fallen (ANNEXURE TABLE Col.8). On the other hand, in respect of both coconut (col.3b) and rubber (col.4b), the two commodities enjoying price support during the years recording fall in their value also happens to be the years where both production (**Annexure Table** coconut (col.2b) & rubber (col.3b) and price (**T 2.1** coconut (3a) & rubber (2a) figures have fallen, pointing to the existence of market distortion in respect of both these commodities.

Interestingly, in respect of coffee, tea and cardamom (an - T col. 4b, 5b & 6b respectively), the commodities having ***no price support scheme,*** the years recording fall in their value also happens to be the years when their production has witnessed an increase. True to economic theory, prices of these three commodities have fallen (**T 2.1** col. 4b, 5b & 6b respectively) in the years following their increased production. On the other hand, cashew nut is a curious case where both figures of production (**an-T** col.7b) and prices (**T 2.**1col. 7a) have fallen, and this may be more due to international market situation and import policy.

The discussion in the above paragraphs clearly establishes that milk prices have displayed greater stability in comparison with other commercial crops of the state, with both crops enjoying price support and those crops having no such price support. Thus, we can safely conclude that greater stability in milk value is attributable to the institutional support provided by the three-tier dairy cooperative structure in the state. Interestingly, the Dairy Cooperative Milk Federation with the three Regional Milk Unions have achieved what they have, with their combined procurement accounting for only 11.34%7on an average (for the period 2001-02 to 2017-18) of the total milk production in the state. Certainly, the market share of dairy cooperatives in the state would be much higher than 11.34% indicated above, if we take into consideration the following two additional realities -one, if we consider the actual market surplus instead of total production figures of milk and two, the figures of total procurement of milk made by Primary Dairy Cooperative Societies (DCS).In the latter case, primary DCS transfers only around 60-70% of their procurement to the dairies run by Regional Cooperative Milk Producers unions (RCMPU),the balance 30-40 % of milk is sold locally by primary DCS.

3.1 Conclusion

The present study was undertaken based on secondary data. To give perspective, data on area, production and productivity of major crops in Kerala is presented in Annexure table (An-T). More importantly, the study examines the price volatility of major commercial crops of the state like coconut, rubber, tea, coffee, cardamom and cashew nut, and compares the same with the prices of milk, a product which enjoys a robust 3-tier institutional framework wholly owned and managed by dairy farmers. Following are the important findings of the study.

3.1.2 The price trends of major commercial crops were analyzed from 2001-02 to 2017-18 in **Table 2.1** and the results are summarized below.

Summary Of Table 2.1				
Crop	Overall period (2001-02 to 2017-18)	Period I (2001-02 to 2006-07)	Period II (2007-08 to 2012-13)	Period III (2013-14 to 2017-18)
1. rubber-				
a) CAGR%	8.4	18.99	11.11	-4.8
b) CV%	13.81	16.79	15.92	7.71
2. coconut-				
a) CAGR	8.67	5.63	8.39	2.63
b) CV	11.86	10.23	11.64	14.09
3. coffee –				
a) CAGR	4.71	15	-2.36	2.8
b) CV	10.22	19.57	10.27	2.53
4. tea-				
a) CAGR	5.02	4.5	4.6	4.09
b) CV	6.01	7.49	5.11	5.31
5. cardamom-				
a) CAGR	2.56	-10.82	5.04	7.4
b) CV	19.11	21.78	16.44	19.1
6. cashew nut-				
a) CAGR	9.2	-0.69	8.9	12.88
b) CV	17.82	22.13	18.32	12.06

Source :- As shown in Table 2.1

All commercial crops whether enjoying price support from the Government (as in case of rubber & coconut) or not, uniformly display high price volatility even though the figures vary across periods. Without institutional support, price support scheme is found to be less effective; there is time lag of 4 to 5 months in the payment of the difference between the support price and actual market price received by the farmers in case of rubber, and the price support scheme is reported to have benefitted the traders more than farmers in case of coconut. Further, the prices of coconut are influenced by prices of other edible oils, as both producers of soap and consumers have a range of oils to choose from.

Milk values compared with the values of the other commercial crops for the period 2001-02 to 2017-18and the results analyzed in table 2.2. Milk value shows the least variation (-2.25 to -11) in comparison with every other crop: - coconut (-4.39 to -30.32), rubber (-4.12 to -37.46), coffee (-2.32 to -24.86), tea (-0.76 to-24.27), cardamom (-0.11 to -34.22) and cashew nut (-1.34 to -22). On a closer examination, it is established that in the year's milk value has recorded a fall, happen to be the years when milk production has fallen. On the contrary, in respect of both rubber and coconut, the years recording decline in value have seen decline both in production and prices. Years of increased production in respect of coffee, tea, and cardamom have witnessed fall in their value due to fall in price.

Milk prices have displayed greater stability in comparison with other commercial crops of the state, with both crops enjoying price support and those crops having no such price support. Stability in milk value is attributable mainly to the institutional support provided by the three-tier Dairy Cooperative Structure in the State. Interestingly, the Dairy Cooperative Milk Federation with the three Regional Milk Unions have achieved what they have with their combined procurement accounting for only 11.34% on an average (for the period 2001-02 to 2017-18) of the total milk production in the state.

Based on the above findings, we may safely conclude that farmer-owned and farmer-managed institutional arrangements as in the case of the dairy sector should be replicated for each of the commercial crops. The number of members and area of operation are to be decided based on considerations of kinship, economic viability, future plans of expansion and diversification into value addition activities etc. A blueprint clearly defining the objectives, activities, rules and procedures governing the role of organization at every tier as in the case of AMUL/MILMA may be replicated in farmer institutions to be developed for each crop, albeit with necessary modification considering the nature of activities. Such a farmer-owned and managed arrangement will be a better guarantor for ensuring price stability for commercial crops than any scheme of price support by the government. We hope that policy makers will think of implementing sustainable long term programs proactively rather than taking recourse to ad-hoc, short term and knee-jerk reactive solutions.

Notes and References

1. https://www.business-standard.com/economy&policy/news, 15th October 2014
2. Ibid
3. https://www.thehindu .com/2000/07/24/stories
4. Ibid
5. http:cacp.dacnet.nic.in
6. https://www.the hindu.com/2000/07/24/stories
7. B.Niranjan RajUrs & Sharun Jose –'Performance of Dairy Cooperatives in Kerala - A multidimensional Analysis 'cooperative Perspective, p-P: 10-25, vol.No.49No.2, July-Sep 2014.

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