



## A STUDY ON FARMER SERVICE IN THE AGRICULTURAL COMMODITY MARKETS IN KERALA

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### **Abstract**

*The State Kerala was an agrarian one in the past. However, statistical data on area, production and productivity of principal crops in the State reveals that there is a declining trend in agricultural activities. Farmers in Kerala seem to have experienced a lot of problems in relation with production and the prompt disposal of their agriculture produce at reasonable rates. Government of Kerala has introduced several schemes and programmes with the ultimate aim of boosting up agricultural activities in the State. An important landmark in the history of agricultural marketing in the State of Kerala is the formation of six Agricultural Commodity Wholesale Markets (ACWMs). The markets mainly aim to support the farmers in the field of marketing by arranging direct platform facilities without the interference of middle men. In this circumstance, it is worthwhile to conduct a survey based on the farmer services offered by ACWMs for the betterment of farmers. The present paper is an earnest attempt in this direction. The study concluded that there exists significant difference in respect of services including transport subsidy, convenient payment facilities etc. offered by the wholesale markets.*

**Keywords:** *Agricultural Commodity Wholesale Markets, Direct platform, Beneficiary farmers, Base price etc.*

### **1. INTRODUCTION**

Kerala Government implemented six agricultural wholesale markets under Kerala Agriculture Markets Project (KAMP) by utilizing fund from the European Union for the development of agriculture markets in the State. Out of the six ACWMs, three of them are situated in the urban and rest three markets are situated in the rural regions. The urban ACWMs are located at Anayara in Thiruvananthapuram, Maradu in Ernakulam and Vengeri in Kozhikode Districts. The rural markets are functioning in Nedumangadu (Thiruvananthapuram), Muvattupuzha (Ernakulam) and Sulthan Bathery (Wayanad). The period of initiation of Maradu and Muvattupuzha markets were during 1999, Vengeri and Sulthan Bathery were during 2000, whereas, Anayara and Nedumangadu in the year of 2003 and 2004 respectively.

### **2. STATEMENT OF THE PROBLEM**

In the State of Kerala, in recent years the significance of agricultural activities has declined considerably on account of various reasons. The land earmarked for agricultural purpose becomes meager. The people of Kerala depend on the neighbouring States like Tamil Nadu, Karnataka, Andhra Pradesh etc. for satisfying their requirements of agricultural products. In the mean time, the Government of Kerala had taken several measures to overcome the issues related to agriculture. However, the available reports shows that still the farmers are not free from problems in the area of marketing of their produce. The Government of Kerala has set up six Agricultural Commodity wholesale markets (ACWMs) with a view to overcome the marketing issues of the farmers in the State. These markets have been functioning in the State for the last fifteen years with series of initiatives and activities to assist the farmers in the State. Since their functioning during the early's of 2000, the ACWMs have introduced various innovative schemes as per the bye-laws for the benefit of the ultimate beneficiaries. At this juncture, an analytical study based on farmer services offered by the ACWMs in Kerala becomes very relevant and useful.

### **3. OBJECTIVE OF THE PAPER**

The specific objective of the present paper is to examine the various services offered by the Agricultural commodity wholesale markets for the up-liftment of organic farmers in Kerala.

### **4. METHODOLOGY AND DATA BASE**

Both primary and secondary data were used for the purpose of this study. Primary data were collected from sample farmers through observation and with the help of pre-tested structured interview schedules. About two hundred farmers are registered in each of ACWMs through their respective Krishi Bhavans. Out of these, only 25 per cent of farmers attend regularly during auctions. The data were collected from those farmers who regularly attended the auctions. As the study is mainly comparative in nature a sample of 50 farmers from each ACWMs were selected by employing Simple Random Sampling Method. Thus, a total sample size of 300 farmers is selected. Secondary data were collected from the Auction Statements of the six ACWMs. Statistical tools such as mean, SD, t-test, F-test and Chi-square test are employed for the analysis.

## 5. FARMER SERVICES

This section focuses to review the services offered to the farmers by different wholesale markets. The various services offered by the Markets to farmers have been identified and analyzed for this purpose. The variables used for the analysis are listed below.

1. Offering of higher prices for the produce compared to local market
2. Transport subsidy
3. Exemption from the payment of expenses of commission and gawking charge
4. Convenient payment facilities
5. Fixing of base price
6. Offering of stable price for agriculture produce
7. Other facilities

A detailed discussion on the results of the analysis of above mentioned variables is shown below.

### 1. Offering of Higher Prices for the Produce Compared to Local Market

Among the services offered by ACWMs to the farmers, the important one seems to be the price effectiveness in wholesale markets. Farmers have opinion that they will get better price for their produce in ACWMs when compared to the local market. The data were collected from both the wholesale and the local markets during the same period. Maradu wholesale market and Ernakulum local market were selected as samples from the urban region. From the rural region Bathery wholesale market and Meenangadi local market were selected as the sample. Price difference in agriculture produce transacted through Maradu wholesale and Ernakulum local market is shown in Table 1.

**Table 1 ,Price Difference in Agriculture Produce transacted through Maradu Wholesale and Ernakulum Local Market**

SI. No.	Name of the produce	Quantity in (%)	WP <sup>1</sup>	LP <sup>2</sup>	WSP <sup>3</sup>	LSP <sup>4</sup>	WCSP <sup>5</sup>	LCSP <sup>6</sup>
1	Green mango	8.40	41	40	344.37	335.97	344.37	335.97
2	Jack fruit	4.45	58	57	257.91	253.46	602.27	589.43
3	Banana green	7.41	34	32	251.98	237.15	854.25	826.58
4	Blonde cucumber (Pottuvellari)	7.41	31	30	229.74	222.33	1083.99	1048.91
5	Thenvarikka *	0.99	200	198	197.63	195.65	1281.62	1244.57
6	Yam	8.89	20	19	177.87	168.97	1459.49	1413.54
7	Snake gourd	3.71	32.5	32	120.43	118.58	1579.92	1532.11
8	Njalipoovan	4.45	26	25	115.61	111.17	1695.53	1643.28
9	Pineapple	8.89	12.5	12	111.17	106.72	1806.69	1750.00
10	Coconut	14.62	7.5	7	109.68	102.37	1916.38	1852.37
11	Colocasia	2.72	30	29.5	81.52	80.16	1997.90	1932.53
12	Palayankodan	5.43	13.5	13	73.37	70.65	2071.27	2003.19
13	Tapioca	8.89	7.5	7	66.70	62.25	2137.97	2065.44
14	Cucumber	4.20	14.5	14	60.89	58.79	2198.86	2124.23
15	Pumpkin	3.95	9	8.5	35.57	33.60	2234.44	2157.83
16	Kadhali	0.44	48	50	21.34	22.23	2255.78	2180.06
17	Tender jack fruit	1.98	10	11	19.76	21.74	2275.54	2201.80
18	Robusta	0.89	15	14.5	13.34	12.90	2288.88	2214.70
19	Papaya	0.49	16	17	7.91	8.40	2296.79	2223.10
20	Bottle gourd	1.48	4	3	5.93	4.45	2302.72	2227.54
21	Bread fruit	0.30	10	11	2.96	3.26	2305.68	2230.81

Source: Survey Data.

'Price' denotes the prevailing average market price on various varieties of agricultural produce. 'WSP' of each produce is derived by multiplying 'WP' with its corresponding percentage. 'LSP' of each produce is derived by multiplying 'LP' with

its corresponding percentage. To get more regularity in comparison, data are cumulated after it has been sorted based on contribution.

Comparison of wholesale price with local price has been attempted in the above Table 1. In the case of Maradu wholesale market, out of the 21 produce analyzed for the purpose, it is found that except in the case of four produce, rest for all the produce price offered by ACWMs is more when compared to that of local price. Thus it is clear that the wholesale price for most of the produce is more, compared to its local price. Moreover, 'WCSP' is found more (₹2305.68) when compared to 'LCSP' (₹2230.81). This indicates that the wholesale cumulative standard price is more than that of the local cumulative standard price by ₹ 74.87. Hence, the farmers can earn more prices by selling his produce in the agriculture wholesale markets rather than selling it in the local markets.

Price difference in agriculture produce in the Bathery wholesale market and Meenangadi local market is analyzed and given in the following Table 2.

**Table 2, Price Difference in Agriculture Produce transacted through Sulthan Bathery Wholesale and Meenangadi Local Market (Wayanad)**

Sl. No.	Name of the Produce	Quantity in (%)	WP	LP	WSP	LSP	WCSP	LCSP
1	Pepper	6.26	350	348	2191.00	2178.48	2191.00	2178.48
2	Cow pea	7.91	49	48	387.59	379.68	2578.59	2558.16
3	Bitter gourd	9.88	31	30	306.28	296.40	2884.87	2854.56
4	Turmeric	5.93	48	47.5	284.64	281.68	3169.51	3136.24
5	Ginger	3.95	70.5	70	278.48	276.50	3447.99	3412.74
6	Njalipoovan	6.26	40	39.5	250.40	247.27	3698.39	3660.01
7	Elephant foot yam	11.86	19	18	225.34	213.48	3923.73	3873.49
8	Colocasia	4.94	35.5	35	175.37	172.90	4099.10	4046.39
9	Banana green	5.6	30	29	168.00	162.40	4267.10	4208.79
10	Beans	4.61	35	35.5	161.35	163.66	4428.45	4372.44
11	Snake gourd	4.28	35	34	149.87	145.59	4578.32	4518.03
12	Avocado	5.93	20	19.5	118.60	115.64	4696.92	4633.67
13	Coconut	5.27	16	15.5	84.32	81.69	4781.24	4715.36
14	Green chilly	1.98	40	38	79.05	75.10	4860.29	4790.46
15	Cucumber	4.94	13.5	13	66.70	64.23	4926.99	4854.69
16	Purple yam	4.48	10	11	44.80	49.28	4971.79	4903.97
17	Cabbage	3.62	11.5	11	41.67	39.86	5013.46	4943.83
18	Amaranthus	2.3	12	13	27.67	29.97	5041.13	4973.80

Source: Survey Data.

It is inferred from the Table 2 that, wholesale price earned by farmers by selling the produce in Bathery market is found more in case of 15 produce, out of 18 produce analyzed for the purpose. The price difference between 'WCSP' and 'LCSP' of agriculture produce showed that the wholesale cumulative standard price is more by (₹67.33) than that of local cumulative standard price. Thus from the results it may be noted that the farmers could earn more from ACWMs compared to Local markets.

## 2. Transport Subsidy

Transport subsidy is given as an incentive to farmers at the rate of ₹ one per kilo based on quantity of agriculture produce brought in for each auction. It is provided majorly to reduce the burden of huge marketing expenses incurred by the farmer. That means part of travelling expenses incurred by the farmer is refunded back by the market authority in the form of subsidy. Average transport subsidy earned by farmers (per auction) is shown in Table 3.

**Table 3, Average Transport Subsidy Earned by Farmers (Per Auction)**

Particulars		Mean (Rs.)	SD	Value	Sig.
Market	Anayara	105.74	48.46	F=16.508	0.000
	Maradu	337.34	213.85		
	Vengeri	56.62	42.29		
	Nedumangadu	221.72	217.36		
	Muvattupuzha	205.52	178.56		
	Sulthan Bathery	268.42	255.73		
Region	Urban	166.57	177.44	t=-2.833	0.005
	Rural	231.89	219.65		
Total		199.23	201.99		

Source: Survey Data.

From the above table, it is obvious that the transport subsidy earned by the sample farmers in Maradu market is more (₹ 337.34) followed by the subsidy earned by the farmers in Bathery market (₹ 268.42) and Nedumangadu market (₹ 221.72). 'F' test indicates that there is significant difference in the transport subsidy earned by the farmers in different wholesale markets. The urban/rural market-wise comparison shows that farmers in rural market earns more as subsidy (₹ 231.89) than that of farmers in urban markets (₹ 166.57). Analytical results of t- test shows that this difference is statistically significant. It is shown diagrammatically in Figure 1.

### 3. Exemption from the Payment of Expenses of Commission and Gawking Wages

It is understood that trader's lobby within the local market insist farmers to pay certain additional expenses such as commission (three to five per cent of sales), gawking wages, high loading and unloading charges etc. to sell their agriculture produce in such local markets. As a result farmers who bring in large quantities of perishable produce by incurring huge transportation expenses are forced to sell their produce in the local markets at low prices or even at a loss. In order to avoid such difficulties faced by farmers in marketing their produce, Agriulture Department launched ACWMs in Kerala. From the survey it is understood that farmers in ACWMs are free from the payment of commission, gawking wages etc. to sell their produce in the auctions organized by the wholesale markets. It is also found that charges relating to unloading of agricultural produce to the auction pavilion is also met by the market authority themselves.

### 4. Convenient Payment Facilities

From the survey it is found that, traders including HORTICORP who purchase agricultural produce from farmer's during auction makes the payment to the market authority. The market authority settles the payment dues to the farmers within a time period of two weeks / between two weeks to one month soon after the auction sales get affected. Chi-square test is applied to see the relation between the payment schedule and the mode of payment. Distribution of sample by payment schedule and mode of payment are presented in Table 4.

**Table 4, Distribution of Sample by Payment Schedule and Mode of Payment**

Payment Schedule	Mode of payment				Total	
	ATM		Cash		N	%
	N	%	N	%		
2 weeks	0	0.00	100	50.00	100	33.33
2 weeks-1month	100	100.00	100	50.00	200	66.67
Total	100	100.00	200	100.00	300	100.00
$\chi^2$ -value	75.000					
Sig.	0.000					

Source: Survey Data.

From the survey it is understood that Anayara and Nedumangadu markets follow ATM mode of payment to farmers. All the other markets namely Maradu, Vengeri, Muvattupuzha and Bathery follow the traditional way of cash payment. The table above indicates that majority (66.67 per cent) of payment to farmers is settled between two weeks to one month. Only 33.33 per cent of payment is settled within a time period of two weeks. It is found that cent per cent of payment using ATM facilities is between two weeks to one month. While 50 per cent of cash payment is within two weeks, the remaining 50 per cent is between two weeks to one month. Application of Chi-square test shows that the relation between payment schedule and mode of payment adopted by ACWMs is statistically significant.

### 5. Fixing of Base Price

From the survey it is found that before starting each auction, the market authorities, HORTICORP authorities and the farmer representatives meet together and fix a floor/base price for each variety of agriculture produce that are to be auctioned on that day. Base price is fixed by taking the average of the prevailing local market price and the price quoted by the HORTICORP authorities. Auction pricing of each produce starts with the base price, and can be increased through bidding according to the grade (quality of the produce) and the bargaining capacity of farmers. However, in Bathery market, base price is fixed together by the market authority and the cluster representatives, as the HORTICORP authority does not participate in the auctions in wholesale market.

### 6. Offering of Stable Price for Produce

It is understood that a stable pricing procedure is assured in ACWMs for all agriculture produce which is brought to the auction centre. That means, farmer is not forced to sell his produce at a discount rate even though large quantities of same produce are brought into the auction centre. To see the extend of price stability in different wholesale markets, average price of agriculture produce transacted during the period 2012-13 in different markets is taken for analysis. The same is shown in Table 5

Table 5, Price Stability

Market	Mean	SD	t	Sig.
Anayara	108.26	51.36	4.129	0.000
Maradu	353.81	230.31	5.520	0.000
Vengeri	68.38	54.08	5.800	0.000
Nedumangadu	226.32	222.02	0.746	0.470
Muvattupuzha	208.92	182.02	0.092	0.784
Sulthan Bathery	273.64	260.94	2.442	0.016
Total	206.56	166.79		

Source: Survey Data.

It is apparent that among the markets, Maradu market topped in terms of price stability (₹353.81) followed by the same in Bathery market (₹273.64). Both these markets denote a high stable position in this respect, for the reason that the mean values are more when compared to the total mean (₹206.56). Nedumangadu and Muvattupuzha markets indicates average price stability (₹226.32) and (₹208.92) respectively which is somewhat similar to the total mean, and thus both these markets are in medium stable position. Whereas, both Anayara and Vengeri markets shows a price stability which is less than the total mean, and so they are in the less stable position. Applying statistical t-test indicates that there exists significant difference on this variable in Maradu and Bathery markets due to its high stable position. The difference seems to be significant in case of Anayara and Vengeri market due to its less stable position. However, no statistically significant difference is witnessed in the case of Nedumangadu and Muvattupuzha markets due to its medium stable position.

## 7. Other Facilities

Various other facilities are also offered through ACWMs in Kerala to its beneficiary farmers. It is given in Table 6.

**Table 6, Other Facilities**

Sl. No.	Facilities	Anayara	Maradu	Vengeri Nedumangadu	Muvattupuzha	Sulthan Bathery
1	Direct Platform					
2	Sitting fees					
3	Participation of HORTICORP					x
4	Auctioning the whole produce brought in by farmers					
5	Auctioning of very small quantities of agriculture produce					
6	Proper weighing, sorting and grading					
7	Issuing sales chits					
8	Sub-centre sales	x	x		x	x
9	Weighbridge facilities					x
10	Bonus payment	x	x	x		x
11	Study tour facilities	x	x	x		x
12	Efficient indulging of the market authority	x	x			x
13	KIOSK facility					

Source: Survey Data.

' ' represents availability and 'x' represents non-availability

Most of the facilities offered through ACWMs are of common in nature. 'Direct platform' is one among such facilities provided. Here farmers can sell their agriculture produce directly to traders under the supervision of the market authority so as to earn more price for their produce as the intermediaries are avoided. 'Sitting fees' is an additional payment given to each cluster representatives for their participation during each auctions. Bathery market pays more (₹400) per head as sitting fees followed by Maradu, Vengeri and Nedumangadu markets (₹350) each respectively. Whereas, Anayara markets pays the lowest (₹250) followed by Muvattupuzha market (₹300).

As per the bye-law, HORTICORP officials have to participate in the auctions and have to take the whole agriculture produce that remain unsold after each auction. This facilitates the farmer to sell off his whole produce in large quantities brought during the auctions. From the survey it is understood that HORTICORP officials used to participate in the auctions of all markets except Sulthan Bathery. Though trading of agricultural produce is there in Bathery market, it is not by following the open auction procedures. Here, trading is majorly undertaken with the co-operation of cluster representatives. It is understood that non-participation of HORTICORP in Bathery market is majorly due to the reasons like non-availability of HORTICORP sales point and the difficulties in transporting perishable produces through the Mountain Ghats. Another peculiarity of ACWMs is that farmers can bring and sell even very small quantities of agriculture produce. Farmers can enjoy bargaining power during the auctions. Agriculture produce brought in by farmers are properly weighted, graded and sorted with tags stating the code numbers of owners so as to retain the identity.

To maintain reliability, sales chits for each produce is prepared in triplicate, one copy is kept by the market authority for future reference and the other two copies are provided to traders and farmers for verification. It is understood that farmers in Vengeri market also have opportunities to sell their agricultural produce in the sub-centres outside the market premises. Sub-centres of Vengeri market are there in places at Peruvayal, Kattippara, Nanminda, Madavoor, Thalakulathur, Kakkodi, Kuruvattoor etc. Weighbridge facilities are available in all the other markets except Sulthan Bathery. It is found that weighbridge in Bathery market remain functionless due to some mechanical repairs.

Bonus payment to farmers is found to be another major facility offered by Nedumangadu market. Here, the farmers have to pay a CESS amount of four per cent based on the quantity of produce brought in during each auctions. Out of this, two per cent of CESS amount collected is refunded back by the market authority to the farmers in the form of bonus during Onam

season. Nedumangadu market arranged a study tour of three days for farmers to the major farm fields in neighboring State (Nagercoil, Thirunelveli, Paiyur regional research station etc.) during 2012 utilizing fund(₹75,000/-) from State HORTICORP Mission (a scheme of central government). This is mainly done to familiarize the farmers with the innovative methods in cropping. It is also found that market authorities of Vengeri and Nedumangadu markets effectively participated during the auctions. 'KIOSK' with touch screen facility and a computer with high-speed internet broad band connection are provided in all the six markets.

## 6. FINDINGS OF THE STUDY

The major findings of the study are listed below.

1. Price effectiveness seems to be the prominent one among the services offered to the farmers by the ACWMs. Analysis based on the price difference in agriculture produce transacted through Maradu wholesale and Ernakulam local market indicates that, in majority of the produces farmers could earn more prices in ACWMs rather than selling the same in the local markets. Results of analysis indicate that, wholesale cumulative standard price is more by (₹ 74.87) than that of the local cumulative standard price. Regarding the price difference in agriculture produce transacted through Bathery wholesale and Meenangadi local market, it is found that out of 18 produce analyzed, the majority of the cases (15) establishes that, farmers can avail more price from selling their agriculture produce in the wholesale markets than that of depending the local markets to sell off their produce. Wholesale cumulative standard price in this respect is more (₹ 67.33) when compared to the local cumulative standard price.
2. ACWMs provides transport subsidy to the beneficiary farmers at the rate of ₹ one per kilo based on quantity of agriculture produce brought in. Market-wise comparison reveals that, farmers in Maradu market earns more (₹ 337.34) average subsidy per auction followed by the subsidy earned by farmers in Bathery market (₹ 268.42). Application of F-test proves that there exists significant market-wise difference in respect of the same. From region-wise comparison, rural farmers seem to have earned more (₹ 231.89) compared to urban farmers (₹ 166.57). Existence of significant difference is also observed between the regional farmers.
3. It is found that farmers in ACWMs are exempted from the payment of additional expenses of commission, gawking charge etc. during the auction sales.
4. In respect to payment schedule, 66.67 per cent of payment to farmers is settled between two weeks to one month, whereas, the rest 33.33 per cent of payment is settled within a time period of two weeks. While considering the mode of payment, it is found that Anayara and Nedumangadu markets follow the ATM mode of payment, whereas, other markets rely upon the traditional way of cash payment to farmers. Analysis in relation to payment schedule and mode of payment indicates that, cent per cent of payment to farmers using ATM facilities is between two weeks to one month and 50 per cent of cash payment is within two weeks. Application of chi-square test indicates that there exists significant correlation between the payment schedule and mode of payment adopted by ACWMs.
5. It is found that before starting each auction, the market authorities in consultation with HORTICORP authorities and farmer representatives fix a floor price for each variety of agriculture produce that are to be put to auction on that day. Auction pricing of each produce starts at this base price and can be increased through bidding according to the quality and bargaining capacity of farmers. Whereas, in Bathery market base price is fixed jointly by the market authority and cluster representatives as the HORTICORP reluctant to participate in the auctions of the market.
6. As regards price stability, Maradu market topped in this respect (₹ 353.81) followed by Bathery market (₹ 273.64). Both these markets indicate a high stable position as their mean values are more when compared to the total mean (₹ 206.56). Nedumangadu and Muvattupuzha shows average price stability as their mean values lies somewhat similar to the total mean. Whereas, Anayara and Vengeri markets shows less price stability as their mean values shows less than total mean. Application of t-test proves that, significant difference is seen in this respect in Maradu and Bathery markets due to its high stable position. No statistical significant difference is noticed in respect of Nedumangadu and Muvattupuzha markets due to its medium stable position, whereas, statistically significant difference is witnessed in the case of Anayara and Vengeri markets because of its less stable position.
7. It was observed that various other facilities are also offered by ACWMs exclusively to its beneficiary farmers. Direct platform facilities, sitting fees, facilitating participation of HORTICORP, auctioning of very small quantities of agriculture produce etc. However in this respect, performance of Nedumangadu market is found comparatively better followed by Vengeri market.

## 8. CONCLUSION

From the survey based on services provided, it is revealed that, farmers can avail of more prices by selling their agriculture produce in the wholesale markets, rather than selling the same in the local markets. Transport subsidy earned by farmers in Maradu market is comparatively more, due to the reasons of more quantities of agriculture produce transacted through the auctions. In respect to payment mode, Maradu, Vengeri, Muvattupuzha and Bathery markets followed the traditional way of cash payment. However, significant correlation is witnessed in the payment schedule and mode of payment adopted by the wholesale markets.

Non-participation of HORTICORP staff in Bathery market while fixing the base price is another drop fall in rendering the services. With respect to the price stability maintained, Maradu and Bathery market is in the better position. Moreover, Nedumangadu market topped in terms of offering other facilities like direct platform, sitting fees, participation of HORTICORP, auctioning the whole produce brought in by farmers etc.

## 9. SUGGESTIONS

1. In order to overcome the difficulties caused out of locational disadvantage, the only solution that can be put forth is by 're-structuring the transport-subsidy slabs'. Market authority has to fix up the transport subsidy, not only simply based on quantities of produce brought in, but also by considering the locational disadvantages of the market. Transport subsidy provided to farmers in rural market has to be increased than that of the subsidy allowed to farmers in urban markets.
2. On behalf of individual farmers, cluster representative seems to have involved more in the transactions between the ACWMs. In such a situation to uphold the reliability and to avoid misappropriation of cash by the cluster representatives, it is very essential that ACWMs have to follow ATM mode of payment instead of the traditional cash payment. And so Maradu, Vengeri, Muvattupuzha and Bathery markets can follow ATM facilities, which are of more convenient to the farmers.
3. It seems the responsibility of the Department of Agriculture marketing to ensure the participation of HORTICORP during auctions in Bathery market. Even though Bathery market is in the better position in handling more quantities of produce, participation of HORTICORP could make the market an outstanding one based on performance. Department can take up initiatives to implement sales centers of HORTICORP in Wayanad District itself, so that difficulties in respect to transporting of agriculture produce can be avoided. Another suggestion that can be put forth is that by allowing refrigerated mobile van services to HORTICORP so that the produces can be brought to Kozhikode District without much delay by maintaining its freshness.
4. To facilitate the farmers, Bathery market authorities have to take up corrective steps to make the weighbridge functioning. For that purpose they have to utilize their market development fund.
5. As a part of farmer motivation, like that of Nedumangadu market, all the other market authorities have to allow bonus payment to farmers, as well as have to take up initiatives to conduct study tours for farmers as it could enrich their knowledge based on innovative farming.

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