

# ETHOS

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## From the Desk of Editor ...

It is a moment of pride to place before you the first issue of seventh volume of Ethos. The journal has completed its sixth years of publishing the research articles in the management and allied areas.

Present volume envelops five articles only. The added sections for case study and book review were proposed but Ethos does not receive the quality papers in this category for this volume. It is an earnest request to all research scholars to contribute in this section also.

APMCs (Agricultural Produce Marketing Committee) regulate the wholesale selling of the agricultural produce in their defined area of operation. This issues was discussed by Dr. R. G. Phadatare and Ms Shreya V. Patil. Mr. Mahesh Gadekar discussed influence of benefit convenience on product variant choice decisions which will help the marketers in introducing new variants, introducing new brands, refocusing on present variants and most importantly, preventing buyers' switching behavior towards competing substitute product categories. Dr. Mallanagauda R. Patil and Mr. Paresh R. Sirsat give their important contribution regarding Performance of Co-Operative Stores in Goa. Dr. Mangala A. Sabadra and Ms. Mamata S. Limaye discussed that good workplace environment creates positive increases in labour productivity & it ultimately contribute rise in total organizational productivity. People working in adverse environment are prone to occupational disease and it impacts negatively on labour's productivity.

I hope that the articles contributed by research scholars and academicians would be immensely readable and beneficial to stakeholders. I look forward to your valuable feedback to enable us enthrall readers and ensure continuous improvement.

Dr. B.S. Sawant  
Editor-in-Chief

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# **Influence of Benefit Convenience on Product Variant Choice Decisions**

**Mahesh Gadekar**

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## **Abstract:**

Product variant is defined by Kotler as “a distinct unit within a brand or product line that is distinguishable by size, price or appearance”. Product variants are commonly described on attributes such as package size and type, product form, and formula. Purchase of product variant can be seen through convenience perspective. Literature has supported that convenience can be viewed as an attribute that reduces the nonmonetary price of product. A buyer may perceive convenience in terms of easily locating a product variant in the store and purchasing a product variant in a minimal time. The role of attribute is significant in the nature of product variants. The researcher has explored the convenience concept in line with product variants. A structured questionnaire was prepared to understand the role of benefit convenience in purchase of product variants when preferred variant is not available. A Mann-Whitney test was executed to study the difference in the level of benefit convenience for formula and package based product variants across four categories and the difference in the level of benefit convenience between brand and variant loyal buyers. The null hypothesis was found to be true. There was a significant difference found in the age group while purchasing content based biscuit product variant. The findings are important for the marketers. It will help the marketers in introducing new variants, introducing new brands, refocusing on present variants and most importantly, preventing buyers' switching behavior towards competing substitute product categories.

**Keywords:** Product Variant, Brand, Product Line

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## **Introduction:**

Product variant is defined by Kotler as “a distinct unit within a brand or product line that is distinguishable by size, price or appearance” (Kotler, 1997, p 432 cited by Govers et al, 2005). Product variant is also described in the literature as SKU i.e. Stock Keeping Units (Fader and Hardie, 1996). Product variants are commonly described on attributes such as package size and type, product form, and formula. Package size refers to the different pack size that is available to the buyer. Content or formula based variants refer to the contents in the product variant. Form refers

to the way the product is presented to the customer. Purchase of product variant can be seen through convenience perspective. Literature has supported that convenience can be viewed as an attribute that reduces the nonmonetary price of product (Etgar, (1978); Kelley (1958); Kotler and Zaltman (1971)). A buyer may perceive convenience in terms of easily locating a product variant in the store and purchasing a product variant in a minimal time. The role of attribute is significant in the nature of product variants. The researcher would like to explore the convenience concept in line with product variants. A buyer may be a brand loyal or variant loyal, when preferred variant is not available. The study tries to investigate the role of benefit convenience amongst brand loyal and variant loyal buyers, when preferred variant is not available.

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## **Literature Review :**

### **Convenience :**

The concept of convenience is more frequently used in service context. Due to its importance, there is a call from researchers to understand the concept of convenience in its totality (Berry et al, 2002). The concept of convenience first appeared in the marketing literature in relation to categories of products (Berry et al, 2002). In the earlier part number of researcher focused on classification of goods based on convenience by describing goods as convenience goods. In other words, the focused was time and effort used in purchasing product.

### **Importance of non-monetary cost:**

According to Etgar (1978); Kelley (1958); Kotler and Zaltman (1971) convenience can be viewed as an attribute that reduces the nonmonetary price of product. The importance of convenience is cited in the literature. Buyer consuming a product does consider the importance of convenience. The concept of convenience is multidimensional as it is perceived by the buyer subjectively. A buyer would like to stand in the queue for longer time to purchase a railway ticket or a parent would spend entire night in the waiting line to secure the school admission form; this inconvenience is accepted by the buyer for the sake of future convenience. Researchers have given importance to the aspects of non-monetary cost in the interpretation of convenience. A buyer when a purchasing a product consider the price component as it plays an important role in purchase. However, the price is the monetary aspect of the product. There are also other aspects that are not monetary like price. These aspects are non-monetary aspects. Non-monetary aspect may include the benefits that a buyer securing through consumption. Convenience thus can be viewed as an attribute that reduce the non-monetary price of the product.

### **Buyer waiting and Buyer convenience orientation:**

There are two areas in the literature used in research related to convenience. They are a) consuming waiting and b) buyer convenience orientation. Buyer waiting studies buyers responds to waiting and firms managing the waiting processes. Buyer waiting studies is described in terms of reallocating time across activities to achieve efficiency (Feldman and Hornik 1981). Since time cannot be expanded like

money (Berry 1979; Gross 1987) buyer waiting has been viewed through opportunity cost that is forgone income or participation in other activities (Bivens and Volker 1986). A buyer seeking to purchase a product or services may not always derive the benefits of the process that is simple and time consuming. Buyer waiting may be caused due to resource constraint, unplanned process, rush by other buyers etc. As time has a difficulty in perceiving in monetary terms; researchers have viewed it through the concept of opportunity cost. Opportunity cost in simple words is the opportunity lost.

Buyer convenience orientation explores the reasons behind the likelihood of purchasing convenience related goods and services (Berry et al, 2002). Buyer convenience orientation was first studied by Anderson (1972). Morganosky (1986, p. 37) defines a convenience- oriented buyer as one who seeks to "accomplish a task in the shortest time with the least expenditure of human energy." ( cited by Berry et al, 2002). Understanding various limitations that a buyer experiences; a buyer would definitely like to explore to opportunity to secure the products in least human energy spent. Buyer seeking a product or service for consumption highlights the importance in his consumption cycle. The defined product/service may not have other alternatives. Thus the buyer convenience orientation literature focuses on understanding the reasons behind the likelihood of purchasing convenience of related goods. A buyer tries to concentrate on the process of optimizing human energy in securing the product. Convenience literature explains buyers' energy expenditures, or effort. It further influences perceived convenience (Seiders, Berry, and Gresham 2000) and satisfaction (Lovelock 1994). A buyer after understanding the influence of technique in optimizing human energy can therefore influences perceived convenience.

### **Conservation of cognitive resource during decision making:**

Since physical effort has received less attention as compared to emotional effort in buyer research, (Berry et al, 2002); the conservation of cognitive resource during decision making is important (Fennema and Kleinmuntz 1995; Fiske and Taylor 1984). Convenience literature has cited more on buyers' emotional effort during the

consumption. It is the emotional effort that the buyer undertakes prior to the consumption. Emotional effort helps the buyer to plan for the consumption. However, along with emotional effort of the buyer the physical effort has also to be importance. The physical effort involves his standing in long queues, causing physical exertion while purchasing products from far-away shops. Hence, a buyer while conserving human energy during purchase will also give importance to cognitive resource. It is the cognitive resource conservation that helps him in decision making.

### **Service Convenience:**

The concept of convenience is more frequently used in service context. Berry et al, (2002) have developed service convenience construct. They have also developed the measurement tool for measuring service convenience construct.

### **Types of Service Convenience:**

Literature discusses service convenience and its types decision convenience, access convenience, transaction convenience, benefit convenience and post benefit convenience. The researcher has chosen benefit convenience for the research to study the influence on product variants purchases. Benefit convenience is buyers' perceived time and effort expenditures to experience product variants benefits getting benefits with minimal efforts and the time required to receive the benefits of the product variants.

### **Decision convenience:**

Buyers who desire a particular performance devote time and effort to deciding how to obtain it. According to Berry et al, (2002), decision convenience involves buyers perceived time and effort expenditures to make service purchase or use decisions.

**Access Convenience:** It involves buyers' perceived time and effort expenditures to initiate service delivery. Access convenience plays a more complex role for inseparable services (Berry et al, (2002)

### **Transaction Convenience:**

Transaction convenience involves buyers' perceived expenditures of time and effort to effect a transaction. According to Berry et al, (2002), transaction convenience inherently falls within the domain of service convenience.

### **Benefit Convenience:**

Benefit convenience is buyers' perceived time and effort expenditure to experience the service's core benefits ( Berry et al, (2002).

### **Research Methodology:**

Present research set to test hypotheses,

- There is no significant difference in benefit convenience, of the buyers between pack size variant experience and formula variant experience.
- There is no significant difference in benefit convenience between those who are brand loyal and those who are variant loyal

The conceptual population was the youth in the age group of 16-25 years of age. The youth was identified as any individual who has done or is currently pursuing his studies in Pune and staying in Pune. Study put forth objectives as, to study the level of benefit convenience for formula based and size based variant and to study the level of benefit convenience amongst brand loyal and variant loyal buyers, according to variants. Study was restricted to four product categories, as Toothpaste, Ice cream, Biscuit and Soft drink Only formula (content) based variant and package based variant were studied.

Comparison with each sub variants with content based and packaged based variants will have few respondents for each sub variants and number of variants and also the large number of attributes can explode to an unmanageable size.

Product categories were chosen on the basis of variant availability (multiple formulations, package sizes) and popularity amongst young buyers. The choice was validated through the young buyers (business school students).

Purposeful Non probability sampling plan was adopted. Purposeful non probability sampling is undertaken in non-experimental (non-interventionist use of random selections) (Chris Hart, 2005). Under purposeful non probability sampling units are hand picked on the basis of how they represent a population or category to which they belong.

Structured questionnaire - self-administered, and interviews were used to gather sufficient data from an adequately large number of respondents (435). Benefit convenience was measured with two item statements

*“The soft drink/biscuit/ice cream/ tooth paste based on certain content/certain package size that*

*I want can be located easily in the store”*

*“I am able to purchase my choice of content in soft drink in a minimal time”*

The mode of survey questionnaire administration was through self-administered interviews. Use of logical setting was use during the interview to help respondents to fill in valid response. The key concepts were described. Vignette approach, wherein short consumption stories are narrated so as to relate with the purpose of the research, was used. Vignette approach origins from the quantitative research tradition (Alexander and

Becker, 1978) and is used by researchers to administer the survey research and also its variants are used in qualitative research while conducting personal interviews.

The Shapiro Wilk test is recommended in case of small sample size and when the researcher is not confident of visually interpreting Normal Q-Q Plots. The test was performed on all 8 product variants. The test showed that most of the responses were not normally distributed. Hence, **Non-parametric test shall be used for data analysis purposes.**

While comparing between the same product category and its two variants that is formula based and package size based Mann-Whitney U Test was performed.

Product Category	Soft drink	Ice cream	Biscuit	Toothpaste
Mann-Whitney U Test for ranks				
U value	1708.50	2795.00	719.00	811.000
Wilcoxon W	4634.50	5351.00	1944.00	1672.000
Z	-.41	-.037	-1.48	-.088
Asymp. Sig. (2-tailed)	.68	.97	.13	.930

**While comparing benefit convenience between brand loyal buyers and variant loyal buyers**

Mann-Whitney U Test statistical test was performed

Product Category	Soft drink		Ice cream		Biscuit		Toothpaste	
	Formula based product variant	Bottle size based product variant	Formula based product variant	Pack size based product varian	Formula based product variant	Pack size based product varian	Formula based product variant	Pack size based product variant
<b>U value</b>	508.5	215	569.00	683.50	157.00	241.50	135.00	79.50
<b>Wilcoxon W</b>	1004.5	776	1235.00	1034.50	310.00	361.50	213.00	100.50
<b>Z</b>	-1.466	-0.385	-0.73	-.06	-.15	-.30	-1.01	-.96
<b>Asymp. Sig. (2-tailed)</b>	0.143	0.7	0.47	.95	.88	.77	.31	.33

**Findings and Discussion:**

Both the hypothesis was accepted. There was no significant difference in benefit convenience of the buyers between pack size variant experience

and formula variant experience and there was no significance difference in benefit convenience between buyers those who are brand loyal and those who are variant loyal.



Hypothesis: 1	There is no significant difference in <i>benefit convenience</i> , of the buyers between pack size variant experience and formula variant experience			
Acceptance/Rejection of the hypothesis for various product categories				
Product Category:	Soft drink	Ice cream	Biscuit	Toothpaste
Hypothesis Acceptance:	Accepted	Accepted	Accepted	Accepted

Hypothesis: 2	There is no significant difference in benefit convenience between those who are brand loyal and those who are variant loyal			
Acceptance/Rejection of the hypothesis for various product categories				
Product Category:	Soft drink	Ice cream	Biscuit	Toothpaste
Hypothesis Acceptance:	Accepted	Accepted	Accepted	Accepted

When a preferred variant of biscuit, ice cream, tooth paste and soft drink are not available, a benefit convenience for the buyer will not play a significant role in influencing the purchase of a variant. It has also been observed that there is no significant difference amongst male and female buyers for benefit convenience while purchasing product variants. However, it has been observed that there is a significant difference between buyers between the age groups of 16 to 20 years and 21 -25 years. The buyers between the age group of 16 20 are more influenced by benefit convenience while purchasing content based product variants for biscuit.

Thus, the analysis of the results provides important insights and findings that have important practical implications for the marketers. It will help the marketers in introducing new variants, introducing new brands, refocusing on present variants and most importantly, preventing buyers' switching behavior towards competing substitute product categories.

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# **Performance of Co-Operative Stores in Goa: A Case Study of Mapusa Consumers' Cooperative Society Ltd**

**Paresh R. Sirsat , Mallanagauda R. Patil**

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## **Abstract:**

An attempt is made to STUDY the performance of consumers' cooperative stores in Goa in general and the Mapusa Consumers' Cooperative Society Ltd. in particular, with regard to cost of goods sold, trading and non-trading income, manpower expenditure, administrative expenditure and overall profitability. The study is based on both primary and secondary source of information. The Mapusa Consumers' cooperative store is purposely selected for the study. The period of study is fourteen years from 2000-01 to 2013-14. The different ratios are used to analyse the performance of the store. The study reveals that the cost of goods sold during the study period is very high thereby the size of operating profit is very meagre. This clearly shows inefficiency as far as the use of resources is concerned. Further, it is interesting to note that the profit is highly influenced by the non-trading income of the store, denoting a very weak trading contribution towards the profit. This poor performance really emphasizes on new strategic steps to control overall the cost of the store thereby bring an improvement in the size of profit.

**Keywords:** Consumers, Cooperative Society

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## **Background :**

The first consumer cooperative society called "Rochdale Equitable Pioneers Society" was started in 1844 in Rochdale, England by a group of 28 weavers working in cotton mills. The society was started with the basic aim of providing food and other household goods at a lower price. The movement gradually spread over

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other parts of the Europe and played a significant role in holding the price line in food and consumer articles during the post war era. The introduction of Co-operative Societies Act in 1904 marked the beginning of co-operative movement in India. It enabled the formation of "Agricultural Credit Co-operatives". The 1904 Co-operative Societies Act was replaced by 1912 Co-operative Societies Act, which provided for setting up of other co-operative societies other than credit societies. In 1935 the Reserve bank of India was established and a separate Agricultural credit department was set up, to take care of agricultural credit. In the year 1937, The RBI stressed the importance of organising multi-purpose co-operative societies. During the II World War, when the prices of all the commodities had gone up, many non-credit societies were started. During this period, the concept of multipurpose co-operative society took a momentum. After the independence, political

leaders realised the importance of co-operatives for the development of Rural India and had given appropriate weight age for co-operatives in each five year plan and different committees were formed to take stock of the effectiveness of co-operative societies. Over the years, the Co-operative societies touched all the aspects of rural life and influenced the urban people through credit societies and consumer stores. Today, due to rising inflation, the consumers have become price conscious and they buy their day to day requirement of goods from consumer co-operative stores where goods are sold at a discounted price. The cooperatives in India have made an all round progress and the co-operative sector is recognised as an instrument of reducing rural poverty. In India, the first primary consumer co-operative store was established in 1904 in Tamil Nadu. Prior to independence, droughts, floods, famines and wars recognized the important role of consumer co-operative stores in distributing essential commodities to the affected people.

The co-operative movement in Goa began late with the institution of the office of the Registrar of co-operative societies on 17<sup>th</sup> November, 1962, soon after the liberation from the Portuguese regime. The Co-operative Department of Government of Goa, Daman and Diu, took an active interest in organizing co-operative societies by creating awareness amongst the Goan people about the benefits of co-operation. At the end of the first co-operative year on 30<sup>th</sup> June, 1963, the department had registered 62 co-operative societies of various types with a total membership of 4942 persons. Today, the co-operative movement in the State expanded at a faster pace and embraced co-operative societies of all types. As on 31<sup>st</sup> March, 2013 there are 3727 co-operative societies of all types having a total membership of 10,19,737 with a share capital of Rs 275.17 crores. Out of these 71 are consumer co-operative societies with total membership of 43563 peoples, share capital of Rs. 62.86 Lakhs

and working capital of Rs.183.33 crores. During the year ended 31<sup>st</sup> March 2013, the sales turnover of all the consumer co-operative societies in Goa was 599.56 crores.

The Consumer Co-operatives are playing an important role in providing essential and other commodities to the consumers at reasonable prices. The Consumer Co-operatives always safeguard the interest of consumers against the artificial scarcity, high prices, substandard goods and unfair trade practices.

The reviewed literature on Consumer Co-operatives clearly shows that the performance of the cooperatives is not satisfactory, they suffer losses, they are not efficient and are not managed professionally. This reality has generated interest to know what is happening in the Consumer Cooperative store in Goa and therefore, an attempt is made to analyse the performance of the Mapusa Consumers' Cooperative Society Ltd. in Goa. At present, it has three branches (all in Mapusa town) wherein all types of food and grocery items are sold at discounted prices (less than marked price). In addition to the general discount, the members/share holders get 2% additional discount on their purchases. The society is also running a Fair price shop.

### **Research Methodology:**

The broader objective of the study is to examine the performance of the Mapusa Consumers Co-operative Society Ltd, with regard to its trading and non-trading income, manpower and administrative, selling and distribution expenses and overall profitability and efficiency of the society.

The study is based on secondary and primary source of information. The necessary secondary information is collected from year wise annual reports of the store for the period from 2000-01 to 2013-14. The required primary information is gathered from the officials of the society with the help of an interactive survey method. The different ratios are computed to know the managerial efficiency and input of non-trading income in the total net profits.

## Analysis and Discussion:

Table 1: Profitability Position of Consumers' Cooperative Stores in Goa During 2000-01 to 2013-14.

Sr.	Years	Total no. Of Stores in Goa	No. of Profit making Stores (%)	No. of loss making Stores (%)	No profit no loss stores (%)
1	2000 - 01	101	69 (68.32)	32 (31.68)	0 (0.00)
2	2001 - 02	100	58 (58.00)	41 (41.00)	1 (1.00)
3	2002 -03	96	62 (64.58)	24 (25.00)	10 (10.42)
4	2003 -04	88	59 (67.05)	28 (31.82)	1 (1.14)
5	2004 -05	70	43 (61.43)	27 (38.57)	0 (0.00)
6	2005 -06	70	45 (64.29)	22 (31.43)	3 (4.29)
7	2006 -07	71	48 (67.61)	22 (30.99)	1 (1.41)
8	2007 -08	70	52 (74.29)	17 (24.29)	1 (1.43)
9	2008 -09	70	51 (72.86)	19 (27.14)	0 (0.00)
10	2009 -10	67	53 (79.10)	14 (20.90)	0 (0.00)
11	2010 -11	69	54 (78.26)	14 (20.29)	1 (1.45)
12	2011 -12	71	44 (61.97)	27 (38.03)	0 (0.00)
13	2012-13	71	48(67.61)	21(29.58)	2(2.82)
14	2013-14	72	49(68.06)	23(31.94)	0(0.00)
	Mean	<b>77.57</b>	<b>52.50 (68.10)</b>	<b>23.64(30.19)</b>	<b>1.43 (1.71)</b>

Source: Year-wise published reports of the office of the Registrar of Co-operative Societies, Panaji, Goa

Note: Figures in brackets represents percentage to total number of stores.

Graph 1: Graph showing Profitability of consumers' cooperative stores in Goa

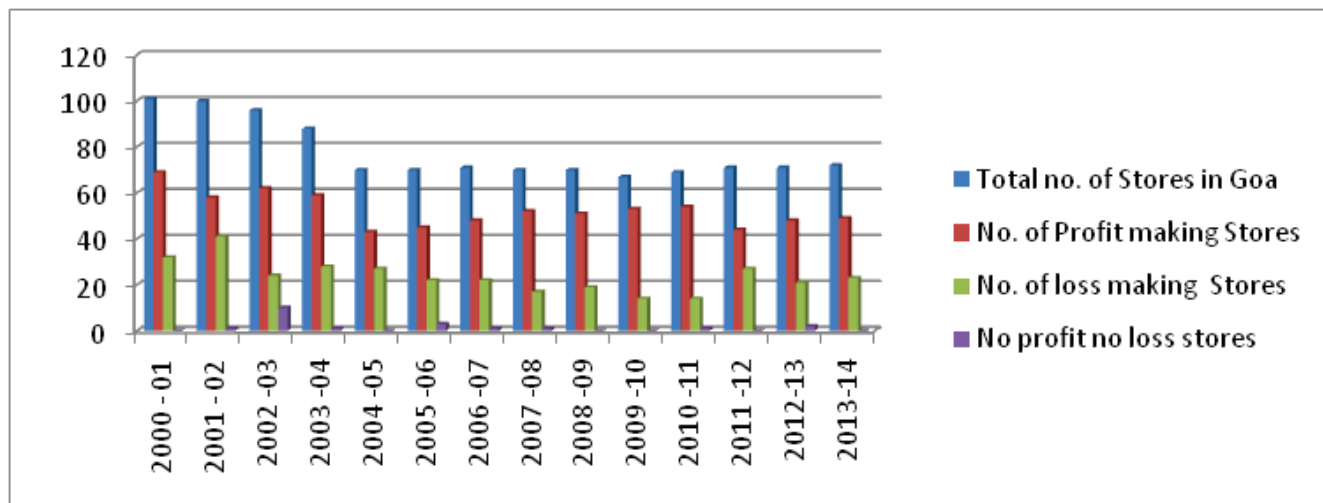


Table 1 and Graph 1 represent the total number of Co-operative Stores in Goa from 2000-01 to 2013-14. It also shows the total number, number of profit making, number of loss making and no profit no loss making stores. The trend shows that the total number of stores were reduced over a period of time from 2001-2004 and their after the

number is steady at around 69 to 71. The average numbers of profit making stores are 68%, Loss making stores are 30% and no profit no loss making stores are 2%. During the period from 2000-01 to 2003-04, loss making and no profit, no loss making (defunct) stores were closed down.

Table 2: Year-wise amount of Profit / Loss of Consumer Cooperative stores in Goa

(Rs. in 000')

Sr.	Year	Amount of Profit	Amount of Loss
1	2000 - 01	2617	13950
2	2001 - 02	6515	17986
3	2002 -03	7999	16376
4	2003 -04	10209	15243
5	2004 -05	6991	12603
6	2005 -06	6602	14492
7	2006 -07	5571	11661
8	2007 -08	6068	2917
9	2008 -09	12944	4031
10	2009 -10	15945	3280
11	2010 -11	33498.41	3307.34
12	2011 -12	25486	2791.77
13	2012-13	31735.92	2413.06
14	2013-14	17336.78	2195.15
	Mean	13537.01	8803.31
	<b>Average Profit / Loss per Store</b>	<b>257.84</b>	<b>372.39</b>

Source: Year-wise published reports of the office of the Registrar of Co-operative Societies, Panaji, Goa

Graph 2: Graph showing amount of Profit / Loss of Consumer Cooperative stores in Goa

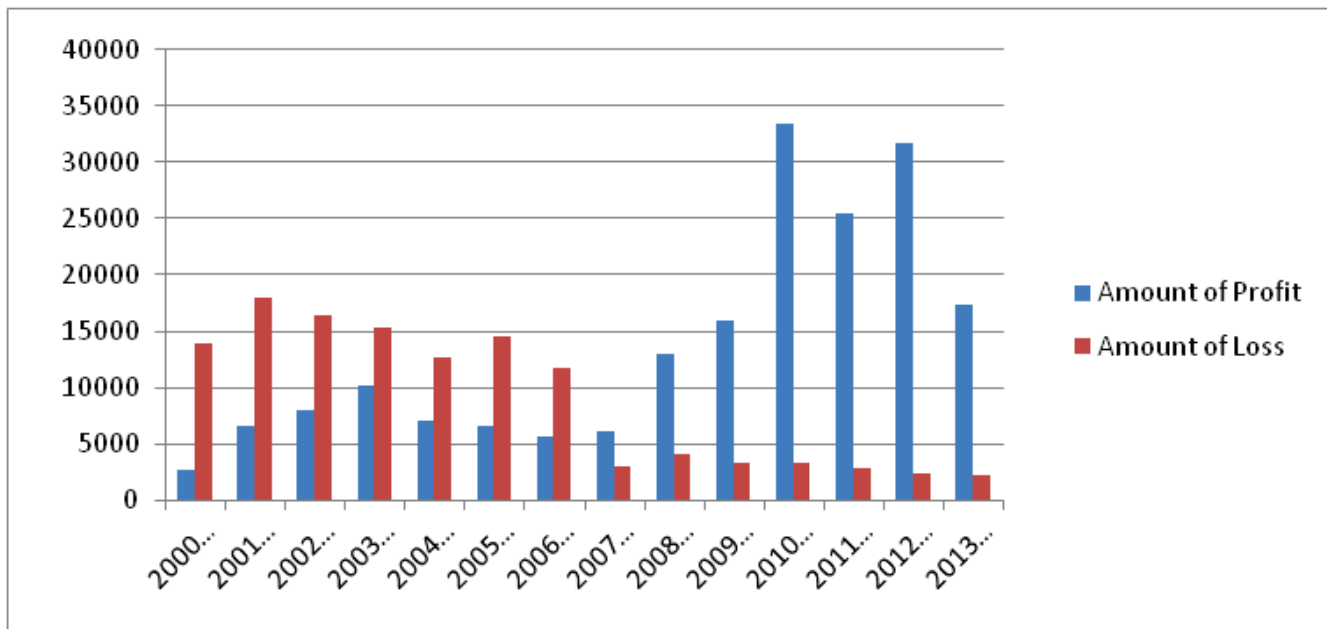


Table 2 and Graph 2 show the amount of profit earned and loss suffered by the consumer cooperative stores in Goa. The year wise profit/loss of the societies was found to have registered a fluctuating trend during the study period. The average profit per store is Rs. 2,57,840 whereas the average loss per store is Rs. 3,72,390. The low profit margin of consumer co-operative societies is one of the reasons for less average profit per store as compared to the average loss per store. The positive sign related to the profit and loss is

till 2006-07 the total amount of loss of the consumer cooperatives was more than the total amount of profit, but thereafter, the total amount of profit exceeded the total amount of loss. The total income for the purpose of this study is classified as 'Trading' and 'Non-Trading' income. Trading income means net trading income which is the total of sales of controlled goods, non-controlled goods and sale of wastage less discount to share holders and less sales tax/VAT paid.

Table 3: Analysis of Non-Trading and Trading Income of the Mapusa Consumers Co-operative Society Ltd. during 2000-01 to 2013-14

(Rs. in 000')

Sr.	Years	Display charge (%)	Bank interest (%)	Sale of Empties/ Cartoon (%)	Excess cash / shop lifting Recovery (%)	Other Income (%)	Total Non-Trading Income (%)	Total Trading Income (Net Sales)
1	2000-01	0.44 (0.23)	127.78 (65.82)	29.68 (15.29)	21.87 (11.27)	14.34 (7.39)	194.12 (100.00)	18024
2	2001-02	2.5 (1.24)	104.22 (51.79)	37.04 (18.40)	28.17 (13.99)	29.33 (14.57)	201.25 (100.00)	23988
3	2002-03	14.85 (7.60)	66.23 (33.92)	49.91 (25.56)	33.29 (17.05)	31.00 (15.87)	195.28 (100)	32342
4	2003-04	4.3 (2.02)	93.72 (43.93)	48.61 (22.79)	37.31 (17.49)	29.38 (13.77)	213.33 (100)	36081

Sr.	Years	Display charge (%)	Bank interest (%)	Sale of Empties/ Cartoon (%)	Excess cash / shop lifting Recovery (%)	Other Income (%)	Total Non-Trading Income (%)	Total Trading Income (Net Sales)
5	2004-05	50.28 (21.21)	98.68 (41.63)	26.99 (11.38)	31.00 (13.07)	30.12 (12.71)	237.07 (100)	35715
6	2005-06	103.3 (33.54)	114.61 (37.22)	33.79 (10.97)	29.71 (9.65)	26.55 (8.62)	307.96 (100)	35124
7	2006-07	128.82 (37.72)	137.66 (40.31)	34.07 (9.97)	20.73 (6.07)	20.26 (5.93)	341.53 (100)	36350
8	2007-08	177.67 (41.67)	156.88 (36.79)	38.16 (8.95)	27.15 (6.37)	26.54 (6.22)	426.39 (100)	40208
9	2008-09	239.52 (47.22)	161.78 (31.89)	40.00 (7.88)	30.17 (5.95)	35.78 (7.05)	507.24 (100)	48221
10	2009-10	361.40 (52.76)	208.44 (30.43)	51.53 (7.52)	31.07 (4.54)	32.54 (4.75)	684.97 (100)	56041
11	2010-11	383.85 (44.82)	305.73 (35.70)	73.62 (8.60)	39.47 (4.61)	53.75 (6.28)	856.42 (100)	62436
12	2011-12	442.98 (49.97)	249.36 (28.13)	83.51 (9.42)	35.16 (3.97)	75.50 (8.52)	886.51 (100)	65447
13	2012-13	482.30 (49.95)	323.33 (33.48)	121.16 (12.55)	36.46 (3.78)	2.38 (0.25)	965.63 (100)	67968
14	2013-14	495.91 (42.83)	461.74 (39.88)	149.51 (12.91)	29.51 (2.55)	21.16 (1.83)	1157.83 (100)	68177
		<b>206.29</b> <b>(30.91)</b>	<b>186.44</b> <b>(39.35)</b>	<b>58.40</b> <b>(13.01)</b>	<b>30.8</b> <b>(8.60)</b>	<b>30.62</b> <b>(8.13)</b>	512.54 (100)	44723

Source: (Annual Reports of the Mapusa Consumers' Co-operative Society Ltd.)

Note: Figures in brackets represent percentage of total non-trading income.

Display charges are the receipts from the different companies for using of society's counters for the display of their products for the specified period. In the initial years, display charges were less as compared to the other non-trading incomes but from the year 2004-05 onwards display charges were observed to be an increasing trend. The average display charges are 31% of the total non-trading income. Bank interest is received on the investments in fixed deposits. The store invests excess cash in fixed deposit account in addition, the amount transferred to different reserves are invested in bank fixed deposit account. The amount of bank interest was the highest amongst all the non-trading income till 2006-07, thereafter

the contribution of display charges to non-trading incomes is increased. The average contribution of interest income is 39% to the total non-trading income. Income from sale of empties and cartoons has increased continuously during the period under consideration. The average income from sale of empties and cartoons is 13%. Excess cash and recovery from shop lifting and other income did not show any change. The contribution of these incomes to the total non-trading income is 8.50 and 8.00% respectively. Other incomes include dividend received on investment in shares of other co-operative societies, income from advertisement published in sovinueire and annual reports of the society and collection from coin phone.

Table 4: Analysis of Human Resource Expenditure During 2000-01 to 2013-14

(Rs. in 000')

Sr.	Years	Salary & Bonus (Rs) (%)	Daily wages & Allowances (Rs.) (%)	Staff Welfare Expd.(Rs.) (%)	Total H R E (Rs.) (%)
1	2000 - 01	358.39 (70.88)	120.07 (23.75)	27.18 (5.37)	505.64 (100)
2	2001 - 02	399.92 (64.36)	157.61(25.36)	63.88(10.28)	621.41(100)
3	2002 -03	477.84 (62.07)	222.23(28.87)	69.78(9.06)	769.85(100)
4	2003 -04	570.22(57.25)	326.51(32.78)	99.34(9.97)	996.07(100)
5	2004 -05	714.62(64.62)	279.65(25.29)	111.63(10.09)	1105.91 (100)
6	2005 -06	866.78(74.14)	167.79(14.35)	134.61(11.51)	1169.18(100)
7	2006 -07	969.29(75.54)	173.60(13.53)	140.21(10.93)	1283.10(100)
8	2007 -08	866.84(65.64)	321.49(24.34)	132.26(10.02)	1320.58(100)
9	2008 -09	852.64(63.80)	351.03(26.27)	132.81(9.94))	1336.48(100)
10	2009 -10	944.88(65.27)	351.05(24.25)	151.75 (10.48)	1447.68(100)
11	2010 -11	1066.39(63.72)	468.23(27.98)	138.98(8.30)	1673.60(100)
12	2011 -12	1135.67(64.95)	475.85(27.21)	137.11 (7.84)	1748.63 (100)
13	2012-13	1257.93(66.38)	494.87(26.11)	142.22(7.50)	1895.02 (100)
14	2013-14	1827.79(74.28)	413.38(16.80)	219.61(8.92)	2460.78 (100)
	Mean	879.23(66.63)	308.81(24.06)	121.53(9.30)	1309.57 (100)

Source: (Annual Reports of the Mapusa Consumers' Co-operative Society Ltd.)

Note: Figures in brackets represent percentage of total HRE.

The total Human resource expenditure includes salary & bonus, daily wages & allowances and other staff welfare expenditure. Salary and Bonus include salary, bonus, stipend, leave encashment and incentives to staff. Daily wages and allowances include payment to workers on daily wages, especially during festivals for packing

purpose. This head includes daily wages, overtime allowance, uniform and washing allowance, cashier allowance and travelling allowance. Staff welfare expenses include refreshment to staff, contribution to Provident fund, Labour welfare fund, Gratuity fund, etc.



Table 5: Table Showing Administrative and Selling and Distribution Expenses During 2000-01 to 2013-14

(Rs. in 000')

Sr.	Years	Gen. Exp. (%)	Functions & Social Welfare (%)	Depreciation (%)	Sitting fees and Allow. (%)	Total Admin. Expd. (%)	Selling Expd.
1	2000-01	179.18 (62.31)	27.74 (9.65)	43.59 (15.16)	37.033 (12.88)	287.55 (100)	26.85
2	2001-02	265.66 (66.15)	44.42 (11.06)	37.63 (9.37)	53.864 (13.41)	401.57 (100)	35.04
3	2002-03	335.84 (63.65)	34.63 (6.56)	90.58 (17.17)	66.563 (12.62)	527.61 (100)	37.56
4	2003-04	318.92 (64.93)	5.38 (1.09)	110.36 (22.47)	56.548 (11.51)	491.20 (100)	57.84
5	2004-05	375.33 (67.10)	28.81 (5.15)	106.36 (19.02)	48.845 (8.73)	559.34 (100)	31.75
6	2005-06	373.67 (71.13)	4.33 (0.82)	112.46 (21.41)	34.893 (6.64)	525.35 (100)	29.42
7	2006-07	361.37 (71.04)	7.78 (1.53)	99.8 (19.62)	39.72 (7.81)	508.68 (100)	29.04
8	2007-08	356.68 (70.73)	1.27 (0.25)	111.54 (22.12)	34.786 (6.90)	504.27 (100)	18.68
9	2008-09	420.55 (68.04)	20.54 (3.32)	129.89 (21.02)	47.07 (7.62)	618.05 (100)	57.40
10	2009-10	548.49 (69.69)	46.60 (5.92)	133.45 (16.96)	58.516 (7.43)	787.05 (100)	73.50
11	2010-11	519.77 (75.07)	2.25 (0.32)	118.53 (17.12)	51.809 (7.48)	692.36 (100)	42.52
12	2011-12	443.18 (71.84)	5.82 (0.94)	109.48 (17.75)	58.404 (9.47)	616.88 (100)	66.52
13	2012-13	578.38 (52.80)	30.27 (2.76)	429.69 (39.23)	57.019 (5.21)	1095.36 (100)	76.05
14	2013-14	675.82 (66.56)	42.68 (4.20)	227.01 (22.36)	69.781 (6.87)	1015.30 (100)	51.55
	Mean	410.92 (67.22)	21.61 (3.83)	132.88 (20.05)	51.06 (8.90)	616.47 (100)	45.27

Source: (Annual Reports of the Mapusa Consumers' Co-operative Society Ltd.)

Note Figures in brackets represent percentage of total administrative expenditure.)

Total Administrative expenses are classified as general expenses, functions & social welfare expenses and depreciation. The depreciation is shown separately as it is non cash expenditure; functions and social welfare expenses are separated from other expenses as expenditure on such headed can be avoided or reduced. General expenditure include expenditure on printing & stationery, annual maintenance contracts, repairs and maintenance, electricity, telephone, postage, study tour, sundry, insurance, rent, house tax, licence fees, registration fees, annual general meeting expenses etc. Functions and social

welfare expenses include donations, medical aid, refreshment to guests, gifts and other functions. Depreciation includes depreciation on furniture and premises. Sitting fees and allowances include the expenditure on sitting fees, travelling allowances to the board of directors and expenditure on board of directors meetings. Selling and distribution expenses include advertisement and sales promotion expenses incurred on the prizes of lucky draw coupons which are given free on purchases above the limit of certain amount of purchases.

Table 6: Management Efficiency performance of The Mapusa Consumers' Cooperative Society Ltd. During 2000-01 to 2013-14

Sr.	Years	Cost of goods sold to net sales Ratio	HR exp. to net sales Ratio	Admi. exp. To net sales Ratio	Operating expense Ratio	Net Profit Ratio
		(X)	(Y)	(Z)	(X)+ (Y)+ (Z)	
1	2000-01	94.11	2.81	1.60	<b>98.51</b>	<b>2.41</b>
2	2001-02	94.39	2.59	1.67	<b>98.65</b>	<b>2.04</b>
3	2002-03	94.37	2.38	1.63	<b>98.38</b>	<b>2.11</b>
4	2003-04	94.60	2.76	1.36	<b>98.72</b>	<b>1.71</b>
5	2004-05	94.29	3.10	1.57	<b>98.95</b>	<b>1.63</b>
6	2005-06	95.01	3.33	1.50	<b>99.84</b>	<b>0.96</b>
7	2006-07	95.18	3.53	1.40	<b>100.11</b>	<b>0.75</b>
8	2007-08	95.32	3.28	1.25	<b>99.86</b>	<b>1.15</b>
9	2008-09	95.57	2.77	1.28	<b>99.63</b>	<b>1.31</b>
10	2009-10	95.91	2.58	1.40	<b>99.90</b>	<b>1.19</b>
11	2010-11	96.25	2.68	1.11	<b>100.04</b>	<b>1.26</b>
12	2011-12	96.81	2.67	0.94	<b>100.43</b>	<b>0.83</b>
13	2012-13	95.30	2.79	1.61	<b>99.70</b>	<b>1.61</b>
14	2013-14	94.18	3.61	1.49	<b>99.28</b>	<b>2.34</b>
	<b>Mean</b>	<b>95.09</b>	<b>2.92</b>	<b>1.42</b>	<b>99.43</b>	<b>1.52</b>

*Source Compilation from Annual Reports of the society.)*

The management efficiency of Mapusa Consumers' Co-operative Society Ltd.(MCCSL) is measured with the help of operating expense ratio. The operating expenses over a period of fourteen years, varies between 98.5% to 100.5% . The detail analysis of operating expenses ratio reveals that the average net cost of goods sold to sales ratio is 95%, Interaction with the officials of the cooperative store tells that the society procures goods from the local suppliers and very few grocery items are bought from the wholesale

markets from outside Goa. It is also understood from the interaction with the officials that the society did not negotiate with the suppliers for the purchase price and that is one of the reasons for the high cost of goods sold.

Average Human resource expenditure to net sales is 3% It means that for every Rs. 100 worth sales Rs. 3 is paid toward salary and allowance to the staff members, which is quite high and the average administrative expenditure ratio is 1.5%.

Table 7: Analysis of Non-Trading income and its impact on Net Profit of The Mapusa Consumers' Cooperative Society Ltd. during 2000-01 to 2013-14

Sr.	Years	Display charges to net profit	Bank interest to net profit	Sale of Empties / Cartoons to net profit	Excess cash / shop lifting Recovery to net profit	Other Income to net profit	Total non-trading income to net profit
1	2000-01	0.10	29.36	6.82	5.03	3.30	44.60
2	2001-02	0.51	21.31	7.57	5.76	6.00	41.15
3	2002-03	2.18	9.71	7.32	4.88	4.54	28.63
4	2003-04	0.70	15.19	7.88	6.05	4.76	34.57
5	2004-05	8.66	16.99	4.65	5.34	5.18	40.81
6	2005-06	30.77	34.14	10.07	8.85	7.91	91.74
7	2006-07	47.42	50.67	12.54	7.63	7.46	125.73
8	2007-08	38.34	33.86	8.23	5.86	5.73	92.02
9	2008-09	37.99	25.66	6.34	4.78	5.67	80.45
10	2009-10	54.23	31.28	7.73	4.66	4.88	102.78
11	2010-11	48.74	38.82	9.35	5.01	6.82	108.74
12	2011-12	81.76	46.02	15.41	6.49	13.94	163.62
13	2012-13	44.00	29.50	11.05	3.33	0.22	88.09
14	2013-14	31.02	28.89	9.35	1.85	1.32	72.43

Source: (Compilation from Annual Reports of the society.)

The profitability of the MCCSL is further analysed and the analysis shows that the non-trading income contributes 72% to the net profit. The detail analysis shows that only the display charges contribute 31% to the net profit and 29% is in terms of interest (Interest is received on the investments of the accumulated profits in the form

of investments in fixed deposit). During 2006-07, 2009-10, 2010-11 and during 2011-12, the percentage of total non-trading income to net profit exceeds 100% which means that if there were no non-trading incomes during these years, the society would have incurred losses.

**Conclusion:**

The study shows that the performance of Mapusa Consumers' Cooperative Society Ltd, with regard to the cost of efficiency is not satisfactory. The average operating profit over a period of 14 years is just 1.50%, 95% of the sales revenue is spent on the cost of goods and 3% of the sales revenue is spent on salaries, allowances and administrative expenditure. The store shows some amount (1.50%) of book profits only due to the contribution of non-trading income and non-trading incomes such as income from display charges, bank interest etc. Even though the profit is not the main motive of the consumer cooperative store, the management must try to achieve efficiency by reducing the cost of goods sold to net sales by procuring goods from the right source at a competitive price. The benefits of efficient operations can be passed on to the members in the form of dividend and discounts. The management has the advantage of obtaining the benefits of bulk purchases as the sales turnover of the society is quite high. The cost of salaries, allowances and administrative expenses needs to be controlled. The management should also try to increase the revenue from display charges by negotiating with the suppliers or negotiate for more discount from the suppliers or should obtain more credit period and transfer more funds to fixed deposit and indirectly earn income in the form of Interest. The goods should be handled and stored properly and wastage should be avoided.

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# **An Evaluation of Labour Productivity & Organization Productivity in Manufacturing Organizations**

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## **Abstract:**

The workplace environment creates impact on employee productivity positively and negatively. Productivity is decreased due to the workplace environment because workplace becomes an integral part of work itself. The study examines impact of workplace policies implemented by organization. The analysis was carried out for period of 2 years i.e. prior to changes made at workplace & after changes made at workplace. The paired T-test showed significant improvement in both labour & organization productivity ratios. All credit goes to positive changes made at workplace. Ultimately researcher wants to analyze working environment of manufacturing organizations of North Maharashtra region & understand productivity level of employees as well as organization due to the work environment, and also aims to suggest few interactions for better work environment.

**Keywords:** Labour Productivity, Organization Productivity, Workplace Policies

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## **Introduction:**

The workplace environment creates impact on employee morale, productivity and engagement - both positively and negatively. These includes poorly designed workstations, unsuitable furniture, lack of ventilation, inappropriate lighting, excessive noise, insufficient safety measures in fire emergencies and lack of personal protective equipment. People working in such environment are prone to occupational disease and it impacts on employee's performance & ultimately labour & organization productivity. Productivity is

decreased due to the workplace environment because productivity is the quality of the employee's workplace environment that most impacts on their level of motivation, subsequent performance, their error rate, level of innovation and collaboration with other employees, absenteeism. The relationship between the work, the workplace and the tools of work is important because workplace becomes an integral part of work itself. The management should dictate how, exactly, to maximize employee productivity & organization productivity centre around two major areas i.e. : personal motivation and the infrastructure of the work environment. In today's competitive business environment, organizations can no longer afford to waste the potential of their workforce. The workplace environment that is set in place impacts employee morale, productivity and engagement - both positively and negatively. In an effort to motivate workers, firms have implemented a number of practices such as performance based pay, employment security agreements, practices to help balance work and family, as well as various forms of information sharing. In addition

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to motivation, workers need the skills and ability to do their job effectively. And for many firms, training the worker has become a necessary input into the production process.

Ultimately researcher wants to analyse the working environment of manufacturing organizations and the research done to understand the productivity level of the employees as well as organisation due to the work environment, and also aims to suggest few interactions for better work environment at manufacturing organizations.

### **Background of Research :**

North Maharashtra region forms northern west portion of Maharashtra state. It covers geography of Jalgaon, Dhule, Nandurbar district. It is also known as Khandesh region. The region is famous for cotton production & associated industries having rich black cotton soil. North Maharashtra region is not developed up to the mark as compared to western Maharashtra & others in case of industrial development. Though there are infrastructure facilities, DIC & MIDC schemes, 5 growth centers & 4 major industrial areas, 2 major national highways, various nationalized banks etc. exist in this region; industrial development is still underdeveloped. Obviously this underdevelopment is multifactorial; but here researcher wants to focus only on organizational environment which is very important to increase the productivity of particular organization. To take the advantage of these strength points of this region there is need to find out exact problems of growth of organizations. This study is expected to provide valuable insight to improve productivity of labour & at the same time whole organization.

### **Review of Literature :**

“Workplace design may promote organizational success by creating environments that support work quantity, quality, and style, while improving turnover and absentee rates (Becker, 1981).”

Dr. K Chandrasekar mentioned that, “The management must take an active role in not only defining the physical environment of the workplace and making it conducive for workers but also alter the management style to suit the employees. His study refers to changing aspects like ethics, behavior, commitment,

professionalism, drive and interpersonal relations in employees for the better. It is the quality of the employee's workplace environment that most impacts on their level of motivation and subsequent performance. How well they engage with the organization, especially with their immediate environment, influences to a great extent their error rate, level of innovation and collaboration with other employees, absenteeism and ultimately, how long they stay in the job. Many studies have revealed that most employees leave their organization because of the relationship with their immediate supervisor or manager. (Jan. 2011)”

Akinyele Samuel Taiwo suggests that, “Productivity in an organization can be influenced by a wide range of internal and external variables, which may be categorized as:

1. General factors: Among which are climate, geographic distribution of raw materials, fiscal and credit policies, adequacy of public utilities and infrastructural facilities, etc.

2. Organizational and Technical factors: Namely, the degree of integration, percentage of capacity, size and stability of production, etc.

3. Human factors: Which include labour-management relations, social and psychological conditions of work, wage incentives, physical fatigue, trade union practices, etc. (Dec.2009)”

Brill, Margulis, & Konar, 1985; Clements-Croome, 2000; Davis, 1984; Dolden & Ward, 1986; Newsham, Veitch, Charles, Clinton, Marquardt, Bradley, Shaw, & Readon, 2004; Vischer, 1989, mentioned that, “Studies of stress in the work environment tend to focus on psychosocial influences in the environment where work is performed. His paper asserts that another important influence on work performance results from physical features of the work environment. Evidence is accumulating that the physical environment in which people work affects both job performance and job satisfaction.”

“The physical layout of the workspace, along with efficient management processes, is playing a major role in boosting employees' productivity and improving organizational performance (Uzee, 1999; Leaman and Bordass, 1993; Williams et al. 1985).”

## Research Methodology:

The present study is entirely based on secondary data. To calculate various ratios of productivity publications, profile & accounting statements of selected manufacturing organization has been used throughout the study.

The present study aims to explore the impact of workplace environment policies on labour productivity & organization productivity of selected manufacturing organizations of north Maharashtra region.

The study examines the impact of the workplace environment policies. For that 6 organizations were selected out of them 2 from Dhule district, 2 from Jalgaon district & 2 from Nandurbar district. Between January 2000 to March 2010 workplace policies & HRM policies were changed in these selected manufacturing industries. These organizations made positive changes within their workplace environment. These changes may vary organization to organization but ultimately it contributes betterment of workplace environment. Researcher evaluates figures of production, cost, expenses & profits of each organization before changes made & after changes made at workplace. Listed below are some changes made by these organization.

### 1. Preventive Changes

- Pre-employment medical examination.
- Periodic post employment medical examination.
- Removal of job stress & hazardous conditions to the extent possible.
- Proper redesign of job to remove monotony & fatigue.
- Proper scheduling of the work with adequate rest.
- Provide emergency treatment in case of accidents.

### 2. Curative Changes

- Good physical facilities like furniture,

light, ventilation, safety measures

- Adequate compensation.
- Facilitate Open Communication
- Appropriate Employee Reward Program
- Implement Career Development Program
- Distribute Performance Based Bonus
- Provide Recreation facilities
- Give Gifts at some occasions
- Creating a Motivating Environment

Due to unavailability of data only 6 organizations were selected for research work across the north Maharashtra region. All these 6 organizations are private sector – small scale organizations. Due to promise of confidentiality matter of financial figures here researcher can't use original names of organization. So imaginary names of sample organization are listed below.

Table 1: Changes Made At Workplace

Sr.	Name of organization	Year of changes made at workplace
1.	A	2000
2.	B	2004
3.	C	2006
4.	D	2007
5.	E	2009
6.	F	2009

The analysis was carried out for a period of 2 years i.e. prior to changes made at workplace & after changes made at workplace. Here researcher consider the year of changes made as a base year. Apart from the calculation of averages the analysis in the present study has been carried out with the help of printed t-test because this test is appropriate when the 2 samples are dependent.

## Results & Discussion:

Productivity can be defined as the ratio of output to input. Here researcher used number of units produce per employee as an indicator of labour productivity while organization productivity was measured in terms of total business & profit per organization.

1) Labour productivity : Labour productivity is nothing but the capacity of an employee to produce. It is the ratio of output to labour for a specific time period. Now let's discuss briefly ratios for measuring labour productivity.

A) Output per employee

Output per employee can be computed by

dividing the amount of total output by number of employees in the organization. From the following table we can see that 'C' organization achieves highest output per employee after changes made. At the same time lowest output per employee were observed in 'E' organization.

Table 2: Output per employee (in Rs. Lacks)

Sr.	Name of Organization	Before changes made at workplace	After changes made at workplace
1.	A	119.6	163.1
2.	B	174.0	225.4
3.	C	241.6	332.0
4.	D	265.9	365.5
5.	E	671.0	615.9
6.	F	293.7	296.8

Source: (Computed from production figures of organization.)

B) **Business per employee :**

This is the most commonly used productivity indicator used by manufacturing organization. Business per employee is the total profit generated per employee. This shows the efficiency of an organization with respect to its human asset. Business per employee can be calculated as a ratio of total profit per year to the number of employees. It has a direct positive impact on profitability of organization.

Table 3: Business per employee (in Rs. Lacks)

Sr.	Name of Organization	Before changes made at workplace	After changes made at workplace
1.	A	181.7	252.5
2.	B	245.6	353.1
3.	C	379.5	542.6
4.	D	398.5	599.5
5.	E	966.0	1081.0
6.	F	556.5	518.0

Source: (Computed from financial statements of organization.)



It can be clearly understood from the above table that business per employee in these organizations considerably increases after changes made at workplace.

1) **Organization Productivity :**

Organization productivity refers to the capacity of an organization to produce. An increase in organization productivity would mean increase in labour productivity of organization & total business of organization.

A) **Total productivity per organization :**

Here researcher used total productivity model developed by David J. Sumanth in 1979. Sumanth consider 5 items as inputs those were human, material, capital, energy & an item called other expenses. This model can be applied in any manufacturing or service organization. Total productivity of an organization is calculated by using following formula.

$$\text{Total organizational productivity} = \frac{\text{Total tangible output}}{\text{Total tangible input}}$$

Total tangible output= Value of finished units produce

- + Partial units produced
- + Dividends from securities
- + Interests from bonds
- + Other incomes

Total tangible inputs= Value of human inputs (employee)

- + Capital inputs
- + Material purchased
- + Energy inputs
- + Other expenses (taxes, transport, office etc.)

Table 4: Total productivity per organization (in lacks)

Sr.	Name of Organization	Before changes made at workplace	After changes made at workplace
1.	A	1736.5	2325.0
2.	B	2504.3	3147.9
3.	C	3147.0	4159.2
4.	D	3463.8	4121.5
5.	E	30648.5	17514.5
6.	F	12107.1	19904.0

Source: (Computed from accounting statements of organization.)

From the above table we can see that total productivity of 'F' organization is increased by Rs. 7796.9 lacks after changes made at workplace as compare to before changes made.

B) Total business per organization:

Total business per organization is the total revenue/profit generated per organization. The ratio has been computed by deducting total expenses from gross profits.

Table 5: Total business per organization (in lacks)

Sr.	Name of Organization	Before changes made at workplace	After changes made at workplace
1.	A	2662.4	3634.7
2.	B	3778.6	5006.0
3.	C	4845.8	6653.7
4.	D	5615.6	7051.1
5.	E	30671.5	17537.5
6.	F	12136.1	9981.0

Source: (Computed from accounting statements of organization.)

Table 6: T-statistical analysis for selected organization

Particulars	Before changes made at workplace (Mean)	After changes made at workplace (Mean)	S.D.	T-value
Labour productivity				
1. Output per employee	294.4	333.2	57.7	-1.65 (0.160)
2. Business per employee	455.0	558.0	83.0	-3.05 (0.029)
Organization productivity				
1. Total productivity per organization	8935	8529	6849	0.15 (0.890)
2. Business per organization	9952	8311	5810	0.69 (0.520)

Note: Figures in parenthesis show the p-values

Table 6 shows the paired t-test for the combined organization during before & after changes made periods. All labour productivity showed an improvement when averages were compared. In consideration of statistical calculations significant increase in labour productivity ratios on an average it may be inferred that the productivity of organization employees has remarkably increase in post changes made period.

So as far as organization productivity is concerned the average total productivity per organization in post change period were Rs. 8529 lacks as compared to the pre changes value of Rs. 8935 lacks. As the analysis shows the decline in organization productivity was not statistically significant putting two & two together organization productivity has increase in post changes scenario.

### **Conclusion :**

From the above calculations researcher conclude that good workplace environment creates positive increases in labour productivity & it ultimately contribute rise in total organizational productivity. People working in adverse environment are prone to occupational disease and it impacts negatively on labour's productivity. It is the responsibility of management to create healthy workplace environment. For that management must think about suggestion given by researcher-

- Take time to listen to your employees
- Elicit employee participation in goal setting
- Provide timely feedback to employees
- Respect the employee's break times and time to go home
- Distribute the workload evenly
- Review the employees' tools and equipment
- Try to promote from within
- Train your employees

- Avoid Micromanagement
  - Implement Employee Reward Practices
  - Good human resource practices
- When organization implements these strategies productivity raised automatically because organization gain following strengths which are very helpful for growth of organization.
- Maintain & improve the employee performance both qualitatively & quantitatively.
  - Reduce employee absenteeism & turnover.
  - Minimize industrial unrest & indiscipline.
  - Improve employee moral & motivation.
  - It serves positive environment to built healthy relationship among management & employees.
  - Employees can release his job stress & do his work without tension.
  - Maximum utilization of existing employees is possible.

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## **A Study of APMCS in Sangli District**

**Shreya V. Patil, Ramchandra G. Phadtare**

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### **Abstract:**

India is an agrarian economy. Agriculture plays vital role in the economic development of a country. It is the backbone of an agricultural country like India. Agriculture contributes nearly 40% to 45% of the national income & provides livelihood about 70% of the population of the country. It provides goods for the exports & manufacturing sectors.

Indian agriculture is dependent on rain and Indian economy is dependent on agriculture. Earlier the farmers were worried about the sales of their produce and due to low quality they could not fetch a good price. The prevalence of the various malpractices such as short weights, excessive market charges, unauthorized deductions, adulteration of the produce & absence of machinery to settle disputes between the sellers & buyers were recognized as the main hinderances in agricultural marketing. The marketing system should be designed in such a way which gives proper rewards to the efforts of the tiller of soil. But unfortunately in India the middlemen enjoy the cream due to the disability & illiteracy of the poor Indian farmers. By considering the various issues in marketing of agricultural commodities, Indian planners have decided to establish the regulated market to eliminate unhealthy market practices, to reduce the marketing charges & to provide fair prices to the farmers. These defects & malpractices can be recovered by the establishment of regulated market which was suggested first in 1928 by the Royal commission on Agriculture & accordingly various market committees were incorporated in every state. The regulated markets are established as per the provisions of the 'Marketing of Agricultural Produce Acts' of the State Government. The present paper attempts to study the profile & workings of the APMCs in the Sangli district, infrastructural facilities of the market committee, farmers satisfaction from the APMCs in respect of services provided with some concluding remarks.

**Keywords:** Agriculture, Market, Committee, Services

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### **Introduction:**

Regulated Market is a medium for the exchange of goods or services over which a government body exerts a level of control. This control may require market participants to comply with environmental standards, product-safety specifications,

information disclosure requirements and so on. In other words regulated market is wholesale market where buying & selling is controlled by the state government through the market committee.

Now, all the states have passed legislation for the establishment of regulated markets. The market committee regulates & controls the regulated markets, which consists of representatives of the growers, traders, local bodies, marketing co-operatives & govt.

Agricultural Markets in most states of India are established and regulated under the State APMC (Agricultural Produce Marketing Committee) Acts. The whole geographical area of the State is

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divided into smaller market areas where in the markets are managed by the Market constituted by the State Governments. Once a particular area is declared a market area and falls under the jurisdiction of a Market Committee, no person or agency is allowed freely to carry on wholesale marketing activities. Introduced mostly in the 1960s the APMC Acts prohibited farmers from dealing directly with retailers and required them to sell their produce to licensed middlemen or 'market functionaries'.

### **Statement of the Problem:**

In agricultural marketing the marketing of the agricultural produce is crucial aspect having direct impact on the economic conditions of the farmers. The present system of agricultural marketing is not well organized & the farmers have to depend largely on the middlemen for the disposal of the farm products who have taking advantage of the farmers dependence upon them & exploit the farmers to increase their own profits.

From long time the marketing conditions in India are primitive & farmers were exploited by traders, mercantile agents & other middlemen in the process of marketing of the agricultural produce. Now a day's co-operative sector has emerged as a helping hand to the farmers & it undertakes marketing & processing of the agricultural produce. APMCs are development oriented & socio-commercial institutions. Some Economists & Commerce Experts have attempted to review the performance of the regulated markets & their impact on market structure as well as efficiency. Most of these studies were conducted in late 1980 & early 1990's. While significant changes in marketing policies & structure have occurred since then, the conclusion obtained from them have very little relevance in the modern era of Liberalization, Privatization & Globalization.

Regulation of agricultural produce markets is of prime importance because it ensures proper returns to the farmer for his produce. Besides safeguarding the farmer from possible malpractices & exploitation, it provides better prices for the produce. Thus researcher has selected this topic to examine & evaluate the "Role of APMCs in Marketing of the Agricultural

Produce in Sangli District".

### **Regulated Market of Sangli District:**

Regulated market of Sangli district is one of the well reputed markets all over the world. Sangli is known all over the world as a major trade centre of turmeric. Trade worth millions of dollars take place at Sangli Spices Exchange which is the only body in India regulating prices of the turmeric. Sangli is also famous for grapes, rasins, sugar, jiggery chillies, soyabeens etc. The Sangli district has large wholsale market for agricultural goods. Vasantdada Patil market yard of Sangli is one of the largest regulated markets for agro produce having turnover 1610 crores as on 31<sup>st</sup> March 2011. There are 7 Agricultural Market Committees in Sangli district (main markets) along with 20 submarkets which are as follows.

1. Agricultural Produce Market Committee Sangli (8 submarkets)
2. Agricultural Produce Market Committee Tasgaon
3. Agricultural Produce Market Committee Vita
4. Agricultural Produce Market Committee Atpadi (5 submarkets)
5. Agricultural Produce Market Committee Palus
6. Agricultural Produce Market Committee Islampur(5 submarkets)
7. Agricultural Produce Market Committee Shirala (2 submarkets)

### **Research Methodology:**

Study put to test hypotheses as,

1. APMCs have inadequate infrastructural facilities to fulfill the satisfaction of its stakeholders
2. APMCs provide best marketing services to its farmers.
3. The system of marketing of agricultural produce is not beneficial and the farmers are cheated (exploited) by mediators (agents).
4. There is limited access by the farmers for the market information

Study has undertaken with objectives that, to study the profile & workings of the APMCs in the Sangli district, to study the infrastructural facilities of the market committees and to study the farmers satisfaction from the APMCs in

respect of services provided.

There are 10 tehsils in Sangli district. APMCs are established in the drought prone areas as well as irrigated areas in selected villages of the Sangli districts. The sample of farmers who utilize the services of the APMCs are taken from the Agricultural Produce Market Committees located

Table- 1: Sampling scenario of Study

Sr.	Name of the APMC	Number of Sample taken from farmers
1	Sangli	60
2	Miraj	30
3	*Jat	30
4	*Kavthemahankal	30
5	Tasgaon	150
6	*Vita	150
7	*Atpadi	150
8	Palus	150
9	Islampur	150
10	Shirala	100
	Total	1000

#### APMCs in Sangli District:

Since 8<sup>th</sup> August 1950 Agricultural Produce Market Act 1939 was implemented to the southern part of the India i.e. Miraj tehsil of Sangli district. The traders were not happy for such change but Padmabhushan Dr. Vasant Rao Dada Patil helps them to know the importance of such Act & during 17<sup>th</sup> Jan. 1951 Sangli Krushi Utpann Bajar Committee was started. After that APMCs are started in various tehsils of the Sangli district i.e. in Miraj, Jat, Kavathemahankal, Tasgaon Vita, Atpadi, Palus, Islampur & Shirala.

Formation of APMCs in Sangli district:

1. APMC Sangli:

Sangli Krushi Utpann Bajar Sammittee Sangli

Table 2: APMC Sangli at a Glance:

Implementation of the APMC Act	16 August 1950
Establishment or formation of APMc	17 Jan. 1951
Actual Commencement of the business	16 July 1951
Own market Land	99 acres 38 gunthe
Work Area	Miraj, Kavathemahanka, Jath(3 tehsils)
Total Villages	Miraj-66 Kavathemahankal-54 Jath-118 Total=238 villages
Total Agro Products Traded	36 types of agroproducts

in Sangli (covered by Miraj, Jat & Kavthemahankal tehasils), Tasgaon, Vita, Atpadi, Palus, Islampur & Shirala.

Random sampling method and quota sampling method was used for collecting information through personal interviews of farmers through questionnaires.

was established by Ex Chief Minister Late Padmabhushan Dr. Vasant Rao Dada Patil. This regulated market was one of the well known & reputed markets all over the world. It is one of the regulated markets famous for the trading of the turmeric. Turmeric from the various states is traded here. Andhrapradesh, Tamilnadu, Karnataka are the major participants for the turmeric. Turmeric is also exported to the foreign countries. The products were exported toward the Gujarat, Rajasthan, Delhi, Punjab, Goa etc. There is separate market for the raisins. This is also popular product of such yard.

Such APMC cover the Jat, Miraj & Kavathemahankal APMCs.

List of regulated agroproducts traded in APMC Sangli : Groundnut, Turmeric, Jiggary, Chilly, Cotton, Tour, Gram, Moong, Mataka, Udid, Jawar, Bajara, Wheat, Corn, Rice, Masoor, Soyabeen, rice, Sunflower, Raisins etc, all types of animal hasebandary such as Buffellow, Goat, Ship, Horse, Bail etc, Fruits & vegetables such as Onion, Pottato, Mango, Lemon, Watermelon, Pomegranate, Tomato, Anjeer etc,

### Financial Analysis of APMC Sangli

Table 3: Financial Aspects

Sr.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
1	Incomes	576.27	795.92	1175.60	1158.48	1270.80
2	Expenses	481.93	542.42	620.91	715.48	923.87
3	Surplus	99.34	253.50	554.69	443.00	346.93

Source: (Annual reports of APMC)

The above table indicates the Incomes, Expenses and surplus of the APMC Sangli for the period of five years. It has been seen that Income of the APMC increases from Rs. 576.27 lakhs in the year 2008-09 to Rs. 1270.80 lakhs during the year 2012-13. Expenses also increases from Rs. 481.93 lakhs to Rs. 923.87 lakhs during the period of five year. It has been observed that surplus increases from Rs. 99.34 lakhs to Rs. 554.69 lakhs from the year 2008-09 to 2010-11 but after that it has been decreased consistently in the year 2011-12 and 2012-13 up to Rs. 346.93 lakhs.

#### 1. APMC Tasgaon:

After APMC Sangli it is 2<sup>nd</sup> popular market in Sangli District. Tasgaon is a centre of wholesale trade in groundnut, jowar, turmeric and Jaggery. Most of the trade transactions are held in the market-yard. Local oil millers purchase groundnut for oil crushing. Groundnut seed as well as oil is exported from Tasgaon.

Table 4 : APMC Tasgaon at a Glance:

Name of the APMC	Agricultural Produce Market Committee, Tasgaon, Dist. Sangli
Establishment or formation of APMC	27 <sup>th</sup> Jan 1954
Own market Land	4 hector 55R(main yard)& 30 acquires for sub yards
Work Area	Entire Tasgaon Tehsil
Total Villages	Total villages covered =68
Total Agro products traded	56

- Name of the Agroproducts traded: Groundnuts, Turmeric, Jaggery, Tour, Karadi, Jawar, Bajara, Udid, Gram, Wheat, Maka, Chilly, Chawali, Tamrind, Arandi, Moong, Onion, Sunflower, Mataka, Kulith, Rice, Soyabeen, Cotton, Masoor, Nachani, Jawas, Fruits, Vegetables, Bamboos, Raisins, Almonds, Cashew nuts, All animal husbandary, etc.
- Infrastructural Facilities: Office building, Farmers rest house, Water tank, Internal Roads, Traders shops, Compound wall, Electric motar, Canteen, Lights, Borewells, Banks etc.



## Financial Analysis of APMC Tasgaon

Table 5: Financial Aspects of APMC Tasgaon

Sr.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
1	Incomes	67.43	96.75	118.96	135.17	171.48
2	Expenses	41.06	47.45	57.70	61.99	67.30
3	Surplus	26.37	49.30	61.26	73.18	104.18

From the above table it is clear that Income, expenses as well as surplus of the APMC Tasgaon increases consistently during the period of the five years. When we compared the surplus of APMC it was observed that it increases approx. four times in the year 2012-13 as compared with the year 2008-09.

### 3. APMC Vita:

Vita is a centre of wholesale transactions in groundnut, jiggary, jawar, turmeric, coriander, sunflower, gram, tur and cattle. Trade of cattle, groundnut, jiggary and jawar is, however, more important. Business in all the above mentioned commodities is regulated and is supervised by the market committee. Hon. Sampatrao Sitaram Mane was a founder member & Chairmen of APMC Vita.

Table 6: APMC Vita at a Glance:

Name of the APMC	Agricultural Produce Market Committee, Vita
Establishment or formation of APMC	13 <sup>th</sup> Oct. 1960
Actual Commencement of the business	13 <sup>th</sup> Oct. 1960
Own market Land	11 aqures, 19 Gunthe, 4 Hector, 59 R
Work Area	Entire Khanapur & Kadegaon tehsil
Total Villages	120 villages
Types of Agro products traded	36

- Name of the Agro products Traded : Groundnut, Turmeric, Jiggary, Jawar, Bajara, Gram, Toor, Udud, Wheat, Moong, Chawali, Rice, Cotton, Raisins, Bull, Gay, Baffellow, Horse, Sheep, Goat, Eggs, Sunflower, Tamrind, Potato, Soyabeen, Mataki, Banana, Grapes, etc.
- Infrastructural Facilities: Office building, Farmers rest house, Water tank, Internal Roads, Traders shops, Compound wall, Electric motar, Canteen, Lights, Banks, Animal fodder etc.

### Financial Aspects:

Table 7: Financial Analysis of APMC Vita

Sr.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
1	Incomes	17.37	20.08	20.77	24.56	29.97
2	Expenses	16.82	19.79	20.02	22.29	27.07
3	Surplus	0.55	0.29	0.75	2.27	2.90

From the above table it is clear that Income, expenses as well as surplus of the APMC Vita increases consistantly during the period of the five years. When we compared the surplus of APMC it was observed that it increases approx. five times in the year 2012-13 as compared with the year 2008-09.

From the above table it is clear that Income, expenses as well as surplus of the APMC Vita increases consistently during the period of the five years. When we compared the surplus of APMC it was observed that it increases approx. five times in the year 2012-13 as compared with the year 2008-09.

#### 4. APMC Atpadi:

Atpadi is an administrative town of the [Atpadi Taluka](#) township of [Sangli District](#). Atpadi is located north-east of Sangli District and shares borders with the adjacent Solapur and Satara Districts. Atpadi's economy is based on the cultivation and sale of agricultural products, with [pomegranates](#) and cotton constituting the core of the industry. The town is also home to the Manganga Sahakari Sugar factory, a Pomegranate auction center and various small scale industries in fields such as manufacturing, processing, servicing and repairs.

Table 8 : APMC Atpadi at a Glance:

Name of the APMC	Agricultural Produce Market Committee, Atpaadi
Establishment or formation of APMc	2 <sup>nd</sup> Nov. 1972
Actual Commencement of the business	2 <sup>nd</sup> Nov. 1972
Own market Land	
Work Area	Entire Atpadi Tehsil
Total Villages	Total villages covered =60
Total Agro products traded	79

- Name of the Agro products Traded :

Wheat, Jawar, Bajara, Groundnuts, Chawali, Mataki, Harbhara, Udid, Tur, Moong, Grapes, Apples, Dalimb, Warermellon, Mango, Strwaberry, Tomato, Potato, Onion, Cabbage, Flower, Shewaga ,Ladyfinger, Ginger, Chilly, Tamrind, cucumber, All types of flowers, ship, goat, Baffallow, Rice, Eggs, etc.

- Facilities provided in market committee

Own Land, Compound, Road, Office Building, Godowns, Water, Bank, light, canteen, traders shop, auction sale platform etc.

#### Financial Aspects

Table 9: Financial Analysis of APMC Atpadi

Sr.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
1	Incomes	25.12	31.16	45.29	46.56	42.11
2	Expenses	18.95	23.69	34.90	30.53	36.76
3	Surplus	6.17	7.47	10.39	16.03	5.35

From the above table it is observed that income as well as surplus of the APMC increases consistently up to the year 2011-12 but after that income as well as surplus decreases considerably. Expenses increases in large proportion which affects the profit of the APMC in the year 2012-13. The profit of the APMC shows decreasing trend from Rs. 16.03 lakhs in 2011-12 to Rs.5.35 lakhs in the year 2012-13.

#### 5 .APMC Palus:

The name of APMC located in the palus tehsil is the Agricultural Produce Market Committee, Palus. This market Committee was established on 24<sup>th</sup> Oct. 2002. There are 34 villages are located in this tehsil & all these villages are covered by this APMC Palus.

Table 10: APMC Palus at a Glance:

Name of the APMC	Agricultural Produce Market Committee, Palus
Establishment or formation of APMc	24 <sup>th</sup> Oct. 2002
Actual Commencement of the business	24 <sup>th</sup> Oct. 2002
Own market Land	2 hectares
Work Area	Entire Palus Tehsil
Total Villages	Total villages covered = 34
Total Agro products traded	26

List of various products traded:

Groundnut, Jawar, wheat, Turmeric, Rice, Jaggery, Tur, Mung, Matali, Udid, Soyabeen, Harbhara, tamrind, raisins, animals husbandry such as baffallow, sheep, goat etc.

Table 11: Infrastructural Facilities provided at the Market Yard

Sr.	Facilities	Sr.	Facilities
1	Office Building	7	Hand Pump
2	Farmers Rest House	8	Internal Roads
3	Water Tank	9	Compound
4	Drinking Water	10	Canteen
5	Bore	11	Light
6	Electric Motor	12	Traders shop

Table 12: Financial Analysis of APMC Palus

Sr.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
1	Incomes	28.65	23.45	33.17	35.49	37.54
2	Expenses	12.62	21.87	18.09	24.75	25.12
3	Surplus	16.03	1.59	15.08	10.74	12.42

From the above table it has been observed that during the year 2008-09 Income of the APMC Palus is Rs. 28.65 lakhs which is decreased in the year 2009-10 up to Rs. 23.46 lakhs, but again it shows an increasing trend in the year the next three years.

It has been observed that the Expenses of the APMC is maximum during the year 2012-13 i.e. Rs. 37.54 lakhs. On the other hand surplus of the APMC is highest during the year 2008-09. The surplus of the APMC is decreased considerably during the year 2009-10 up to Rs. 1.59 lakhs as compared to the other years.

## 6.APMC Islampur

The name of APMC located in the Islampur tehsil is the Agricultural Produce Market Committee, Islampur. This market Committee was established on 28<sup>th</sup> March 1948. There are 110 villages are located in this tehsil & all these villages are covered by this APMC Islampur. The APMC owned 13 acers, 6 gunthe& 99 square yard land in which it trade its business transactions.

Following is the list of various products traded by this APMC unde regulation of the APMC act:

Groundnut, Jawar, wheat, Turmeric, Rice, Jaggery, Tur, Mung, Udid, Soyabeen, Harbhara, chilly, onion, sunflower, methi, cucumber, coconut, potato, tomato, orange, ginger, mango,jiratamrind, Animals husbandry such as baffallow, sheep, goat, all types of fruits & vegetables etc.

Table 13: APMC Islampur at a Glance

Establishment or formation of APMc	28 <sup>th</sup> March 1951
Own market Land	13 acers, 6 gunthe& 99 square yard
Sub market yards	2 (Takari&Kasegaon)
Work Area	Walwatehsil, Takari & Kasegaon
Total Villages	110 villages

Table 14: Facilities provided in the Market Yard

Sr.	Facilities	Sr.	Facilities
1	Office Building	10	Hand Pump
2	Farmers Rest House	11	Internal Roads
3	Water Tank	12	Compound
4	Drinking Water	13	Canteen
5	Bore	14	Light & electricity
6	Electric Motor	15	Traders shop 96
7	Auction Platform	16	Godowen
8	Store room	17	Animal Shed
9	HamalBhavan	18	Traders shops

Financial Aspects:

Table 15: Financial Analysis of APMC Islampur

Sr.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
1	Income	55.42	50.72	63.03	69.39	60.01
2	Expenses	53.97	51.94	57.85	46.79	57.01
3	Surplus	1.45	-1.22	5.18	22.60	3.00

From the above table it has been observed that during the year 2008-09 Income of the APMC Islampur is Rs. 55.42 lakhs which is decreased in the year 2009-10 up to Rs. 50.72 lakhs, but again it shows an increasing trend up to the year 2011-12 of Rs. 69.39 lakhs. In the last study year income decreases from Rs. 69.39 lakhs to Rs. 60.01 lakhs.

It has been observed that the Expenses of the APMC is maximum during the year 2010-11 i.e. Rs. 57.85 lakhs. On the other hand surplus of the APMC is highest during the year 2011-12 i.e. Rs. 22.60 lakhs however during the year 2009-10 APMC suffer loss of Rs. 1.22 lakhs due to excess of expenses over the income.

#### 7. APMC Shirala :

The tehsil has large area under thick forests due to heavy monsoon rains. The town holds weekly farmers market on every Monday (aka “Monday Bajar”). Farmers and small vendors from the area put up temporary tents on small streets of town for the entire day. Fresh vegetables, meat, fish and other goods including clothing are sold in this market. Classical “Indian Style bargain” is expected during each transaction. The “Monday Bajar” is a must-see experience if you are visiting the town.

Table 16: APMC Shirala at a Glance:

Date of Establishment	19 <sup>th</sup> Feb. 2009
Total Market Area	1 hectar 85 R
Total no. of villages	106
Sub market yard	2 ( Mangle&Charan)
Animal bazaar	Mangle – Wednesday Charan – Thursday
Own Warehouse	2 (800-metric tones& 3200 metric tones)
Total staff	8
Processing Units	2 sugar factories, Rice mill 2, Starch factory 2

Table 17: Infrastructural Facilities available

Shoping centre 35 shops	Internal roads	Farmers rest house	Hamalbhavan
Toilet	Traders bhavan	Drinking water	Auction sale platform
Office building	Electricity	Warehouse	Water

List of agroproduce traded in market yard : Rice, Corn, Soyabeen, Sugarcane, Jawar, Nachani, Udid, Jiggary, Wheat, Chilly, Gram, Tour

Following Infrastructural facilities are not available in the market committee:

Compound wall, Adat shops, RCC Gatars i.e. Drainage system, Cold storage, Weigh bridge, Electronics galan machine.

Financial Aspect:

Table 18: Financial Analysis of APMC Shirala

Sr.	Particulars		2008-09	2009-10	2010-11	2011-12	2012-13
1	Incomes		-	15.59	15.93	23.93	23.09
2	Expenses		-	17.75	23.70	25.35	26.16
3	Deficit		-	-2.16	-7.77	-1.42	-3.07

The income of the APMC Shirala shows an increasing trend up to the year 2011-12 but during the year 2012-13 it was decreases slightly. It has been observed from the table that APMC Shirala consistently in loss due to increase in the expenses as compared to the income.

Analysis& interpretation of the data collected from Farmers Questionnaire (figures in bracket indicates %)

Age wise classification of the farmers:

Table 19: Classification of Farmer According Age

Age Groups	Name of the APMCs														Total Study Area
	Sangli		Tasgaon		Vita		Atpadi		Palus		Islampur		Shirala		
Gender	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
20 – 30	05 (4.43)	01 (2.70)	09 (6.92)	1 (5)	04 (2.85)	-	17 (12.31)	2 (16.67)	09 (6.76)	03 (17.64)	04 (2.94)	-	09 (11.39)	05 (23.80)	69 (6.9%)
31 – 40	38 (33.62)	04 (10.81)	33 (25.38)	05 (25)	24 (17.14)	01 (10)	47 (34.05)	4 (33.33)	37 (27.81)	02 (11.76)	28 (20.59)	03 (21.42)	17 (21.52)	-	243 (24.3%)
41 – 50	41 (36.28)	11 (29.73)	46 (35.38)	03 (15)	53 (37.85)	03 (30)	39 (28.26)	-	44 (33.08)	04 (23.52)	38 (27.94)	05 (35.71)	22 (27.85)	04 (19.04)	313 (31.3%)
51 – 60	21 (18.58)	17 (45.95)	29 (22.30)	05 (25)	33 (23.57)	02 (20)	31 (22.46)	5 (41.67)	29 (21.80)	06 (35.29)	45 (33.08)	01 (7.14)	20 (25.32)	06 (28.57)	249 (24.9%)
Above 60	8 (7.09)	04 (10.81)	13 (10)	06 (30)	26 (18.57)	04 (40)	04 (2.90)	1 (8.33)	14 (10.52)	02 (11.76)	21 (15.44)	05 (35.71)	11 (13.92)	06 (28.57)	126 (12.6%)
Total	113	37	130	20	140	10	138	12	133	17	136	4	79	21	1000
Total	150		150		150		150		150		150		100		1000

Source: (Field data)

The age group of 18 to 40 is treated as working young group. This age group is treated as productive and efficient for any type of work. It has been observed that out of total study area most of the farmers belong to the 41-50 years age group i.e. 31.3%. It reveals that such age group is to be considered favorable age group for the farming occupation.

Educational Status of the farmers:

Table 20: Classification of Farmers according to Education

Status of Education	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Illiterate	24 (16)	25 (16.67)	56 (37.33)	41 (27.33)	35 (23.33)	32 (21.33)	17 (17)	230 (23)
Up to 5 <sup>th</sup> Std.	19 (12.67)	37 (24.67)	43 (28.67)	33 (22)	45 (30)	37 (24.67)	26 (26)	240 (24)
Up to 7 <sup>th</sup> Std.	33 (22.01)	39 (26)	21 (14)	29 (19.33)	34 (26.67)	44 (29.33)	21 (21)	221 (22.1)
Up to 10 <sup>th</sup> Std.	29 (19.33)	35 (23.33)	14 (9.33)	26 (17.33)	25 (16.67)	24 (16)	16 (16)	169 (16.9)
Up to Graduate	32 (21.33)	07 (4.67)	10 (6.67)	14 (9.33)	07 (4.67)	08 (5.33)	11 (11)	89 (8.9)
Up to Post Graduate	11 (7.33)	02 (1.33)	04 (2.67)	03 (2)	01 (0.67)	04 (2.67)	-	25 (2.5)
Any Other	02 (1.33)	05 (3.33)	02 (1.33)	04 (2.68)	03 (2)	01 (0.67)	09 (9)	26 (2.6)
Total	150	150	150	150	150	150	100	1000

Source: (Field Data)

The above table shows the educational status of the farmers. It is seen that 23% of the farmers from the total study area are illiterate. Such illiterate farmers are majority from Vita, Atpadi & Palus APMC, 24% farmers have studied up to 5<sup>th</sup> std, 22.1% farmers have studied up to 7<sup>th</sup> & 16.9% have studied up to 10<sup>th</sup> std. Only 8.9% farmers are graduate & 2.5% are postgraduate whereas, 2.6% have other qualification.

Annual income of the family

Table 21: Classification of Farmers according to Annual Income

Income	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Up to 1 lakhs	25 (16.67)	42 (28)	21 (14)	39 (26)	8 (5.33)	-	26 (26)	161 (16.1%)
Up to 3 lakhs	75 (50)	74 (49.33)	44 (29.33)	51 (34)	51 (34)	68 (45.33)	58 (58)	421 (42.1%)
Up to 5 lakhs	18 (12)	21 (14)	57 (38)	47 (31.33)	61 (40.67)	49 (32.67)	15 (15)	282 (28.3%)
Above 5 Lakhs	32 (21.33)	13 (8.67)	28 (18.67)	13 (8.67)	30 (20)	33 (22)	01 (1)	136 (13.7%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

In the total study area majority of the farmers have income up to Rs.3 Lakhs (42.1%) which includes 50% farmers from Sangli APMC & 49.33% of the farmers from Tasgaon APMC. Only 13.7% farmers have income above 5 lakhs rupees. Farmers in Sangli, Vita, Palus & Islampur APMCs are more prosperous having their income above 5 lakhs as compared with the other APMCs.

Carry out process of Cleaning of agro products before sale

Table 22: Responses for Cleaning of products

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Yes	54 (36)	22 (14.46)	21 (14)	11 (7.33)	26 (17.33)	24 (16)	09 (9)	167 (16.7%)
No	84 (56)	92 (61.34)	119 (79.33)	130 (86.67)	119 (79.33)	114 (76)	85 (85)	743 (74.3%)
Sometimes	12 (8)	36 (24)	10 (6.67)	09 (6)	05 (3.33)	12 (8)	06 (6)	90 (9%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

From the above table it is clear that only 16.7% of the respondents out of the total study area are carried out the process of Cleaning of agro products before sale, 9% of the respondents sometimes carried out the cleaning of the goods, on the other hand 74.3% of the respondents does not carried out cleaning of the agro products before sale.



Carry out the process of grading of agro products before sale

Table 23: Grading of product

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Yes	47 (31.33)	38 (25.33)	41 (27.33)	24 (16)	21 (14)	39 (26)	05 (5)	215 (21.5%)
No	87 (58)	93 (62)	104 (69.33)	117 (78)	119 (79.33)	95 (43.33)	81 (81)	696 (69.6%)
Sometimes	16 (10.67)	19 (22.67)	05 (3.34)	09 (6)	10 (6.67)	16 (10.67)	14 (14)	89 (8.9%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

From the above table it is observed that only 21.5% of the farmers out of the total study area are carried out grading of the agro products, 69.6% of the respondents do not carried out grading of the agro produce. So it is the main reason of getting the fewer prices for the agro-products at the time of the sale.

#### Grading Made Good Prices

Table 24: grading made good prices

Sangli	Name of the APMC						Total Study Area
	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
100 (66.67)	117 (78)	97 (64.67)	104 (69.33)	86 (57.33)	89 (59.33)	51 (51)	644 (64.4%)
22 (14.67)	19 (12.67)	28 (18.67)	34 (22.67)	38 (25.33)	27 (18)	28 (28)	196 (19.6%)
24 (16)	14 (9.33)	16 (10.66)	08 (5.33)	16 (10.67)	21 (14)	19 (19)	118 (11.8%)
04 (2.67)	-	09 (6)	04 (2.67)	10 (6.67)	13 (8.67)	02 (2)	42 (4.2%)
150	150	150	150	150	150	100	1000

Source: (Field data)

The above table 24 throws the light on the opinion of the respondents regarding the relationship with the grading & good price. More than 60% of the farmers out of the total study area reply that grading made the good price for the agricultural products, 19.6% respondent opinioned that grading do not made good price for the products, whereas 11.8% of the respondents reply that grading of the agroproducts sometimes made a good price for the products.

Mode used for transportation of the produce to the market yard

Table 25: Mode of transportation

Mode	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Bullock cart	39 (26)	44 (29.33)	12 (8)	23 (15.33)	14 (9.33)	26 (17.33)	54 (54)	212 (21.2%)
Own vehicle	18 (12)	08 (5.33)	09 (6)	08 (5.33)	16 (10.67)	10 (6.67)	-	79 (7.9%)
Hired vehicle	93 (62)	98 (65.33)	129 (86)	119 (79.33)	120 (80)	114 (76)	46 (46)	719 (71.9%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

From the above mentioned table it is seen that majority of the respondents i.e. 71.9% out of the total study area use hired vehicle for transportation of the produce to the market yard, 21.2% respondents send their products by own bullock cart however only 7.9% respondent send it through their own vehicle other than the bullock carts.

Appropriate weighting is done of the product

Table 26: Responses for weighting

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Yes	99 (66)	131 (87.33)	110 (73.33)	95 (63.33)	101 (67.33)	125 (83.33)	82 (82)	743 (74.3%)
No	34 (22.67)	14 (9.33)	28 (18.67)	29 (19.33)	24 (16)	13 (8.67)	05 (5)	147 (14.7%)
Sometimes	14 (9.33)	05 (3.33)	02 (1.33)	14 (9.34)	18 (12)	12 (8)	08 (8)	73 (7.3%)
Can't Say	03 (2)	-	10 (6.67)	12 (8)	07 (4.67)	-	05 (5)	37 (3.7%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

Above table 26 indicates the opinion of the respondents about weighting of the agro products. More than 70% of the respondents out of the total study area are reply that proper weighting is done, 14.7% respondents are not satisfied about the proper weighting which whereas 3.7% are reluctant to share their opinion of proper weighting system.

It has been observed that highest percentage of the farmers from APMC Tasgaon i.e. 87.33% & lowest percentage of the farmers from APMC Atpadi i.e. 63.33% are reply that proper weighting is done for their agro produce.

Preferred purchaser at the market yard

Table 27: Preferred Purchaser

Opinion	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Local trader	49 (32.67)	71 (47.33)	36 (24)	81 (54)	85 (56.67)	49 (32.67)	51 (51)	422 (42.2%)
Comission agent	75 (50)	56 (37.33)	107 (71.33)	48 (32)	57 (38)	79 (52.67)	48 (48)	470 (47%)
Out of district trader	17 (11.33)	11 (7.34)	02 (1.33)	04 (2.67)	-	13 (8.66)	-	47 (4.7%)
Co-operative society	9 (6)	12 (8)	05 (3.34)	17 (11.33)	08 (5.33)	09 (6)	01 (1)	61 (6.1%)
Govt.	-	-	-	-	-	-	-	-
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

The above table 27 indicates the preferred purchaser of the agro products at the market yard. In the total study area commission agents & local traders are the largest purchaser of the product at the market yard which is 47% & 42% respectively. On the other hand 6.1% purchase of the produce is from the co-operative society & only 4.7% is from the out of the district traders.

Preferred Purchase Method

Table 28: Method of Purchase

Purchase Method	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Open auction	92 (61.33)	107 (71.33)	105 (70)	70 (46.67)	84 (56)	112 (74.76)	64 (64)	634 (63.4%)
Secret	13 (8.67)	19 (12.67)	17 (11.33)	45 (30)	14 (9.33)	7 (4.67)	8 (8)	123 (12.3%)
Bargaining	40 (26.67)	22 (14.67)	20 (13.33)	28 (18.67)	41 (27.33)	12 (8)	27 (27)	190 (19%)
Approx. pricing	05 (3.33)	02 (1.33)	08 (5.34)	07 (4.66)	11 (7.33)	19 (12.67)	01 (1)	53 (5.3%)
Any Other	-	-	-	-	-	-	-	-
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

Above table 28 display preferred purchase method at the market yard. Majority of the products out of the total study area are purchased by open auction system i.e. 63.4% whereas 19% of the products are purchased by bargaining between the buyer & seller, 12.3% products are purchased secretly & only 5.3% respondents reply that their products are purchased at approx. price declared by the State Agricultural Marketing Board or Agmark office.

Issue of Sale Note

Table 29: Issue of Sale Note

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Yes	150 (100)	131 (87.33)	138 (92)	115 (76.67)	120 (80)	138 (92)	70 (70)	862 (86.2%)
No	-	-	--	14 (9.33)	08 (5.33)	07 (4.67)	02 (2)	31 (3.1%)
Sometimes	--	17 (11.33)	12 (8)	14 (9.33)	21 (14)	-	28 (28)	92 (9.2%)
Can't Say	-	02 (1.34)	-	07 (4.67)	01 (0.67)	05 (3.33)	-	15 (1.5%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

Above table number 29 shows the views of the farmers about the issue of the sale note. More than 85% of the farmers out of the total study area are reply that they get the sale note, only 3.1% farmers reply that they do not get the sale note after sale

Opinion about role of the APMC & system of marketing of agricultural products at the market yard

Table 30: Opinion for Role & System of Marketing

Opinion	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Favourable	90 (60)	69 (46)	91 (60.67)	72 (48)	81 (54)	126 (84)	29 (29)	558 (55.8%)
Unfavourable	60 (40)	81 (54)	59 (39.33)	78 (52)	69 (46)	24 (16)	71 (71)	442 (44.2%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

From the above number 30 mentioned it clear that out of the total study area 55.8% of the respondents are respond that role of the APMC & system of marketing of agricultural products at the market yard is favourable to them, whereas 44.2% respondents reply that it is unfavourable.

Monopoly between the traders/ commission agents while purchasing products

Table 31: Opinion for Monopoly

Response	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Yes	78 (52)	61 (40.67)	66 (44)	84 (56)	97 (64.67)	80 (53.33)	62 (62)	528 (52.8%)
No	61 (40.67)	82 (54.67)	75 (50)	52 (34.67)	33 (22)	58 (38.67)	33 (33)	394 (39.4%)
Can't Say	11 (7.33)	07 (4.66)	09 (6)	14 (9.33)	20 (13.33)	12 (8)	05 (5)	78 (7.8%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

Above table 31 reflects the farmer's opinion about monopoly purchase of the agro products. Out of total respondents from the total study area 52.8% respondents express that there is monopoly between the traders or commission agents while purchasing of the products that's why they get less price for their agro products, 39.4% farmers say no about the monopoly purchasing on the other hand 7.8% refuse to give their opinion.

Satisfaction about cash value of agricultural products sold

Table 32: Satisfaction about Cash Value

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Fully satisfied	27 (18)	19 (12.67)	08 (5.33)	04 (2.67)	06 (4)	14 (9.33)	04 (4)	82 (8.2%)
Partly satisfied	24 (16)	22 (14.67)	19 (12.67)	10 (6.67)	14 (9.33)	21 (14)	32 (32)	142 (14.2%)
Not satisfied	87 (58)	109 (72.66)	113 (75.33)	129 (86)	128 (85.33)	109 (72.67)	64 (64)	739 (73.9%)
Neutral	12 (8)	-	10 (6.67)	07 (4.66)	02 (1.34)	06 (4)	-	37 (3.7%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

From the above table 32 it is clear that only 8.2% respondents out of the total study area are fully satisfied with the cash price they get after sale of their agro products. 14.2% respondents are partly satisfied & 3.7 %are neutral to reply their opinion. 73.9% respondents are not satisfied for the cash price they get after the sale of their agricultural products.

Farmers opinion about marketing services provided by APMC to its farmers.

Table 33: Opinion for marketing services

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Good	24 (16)	38 (25.33)	21 (14)	45 (30)	17 (11.33)	20 (13.33)	36 (36)	201 (20.1%)
Better	30 (20)	31 (20.67)	60 (40)	29 (19.33)	59 (39.33)	48 (32)	48 (48)	305 (30.5%)
Best	79 (52.67)	72 (48)	59 (39.33)	64 (42.67)	70 (46.67)	82 (54.67)	16 (16)	442 (44.2%)
Neutral	17 (11.33)	09 (6)	10 (6.67)	12 (8)	04 (2.67)	-	-	52 (5.2%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

From the above table 33 it is observed that 44.2% respondents out of the total study area are reply that APMC provide best marketing services to its farmers, 30.5% respondents reply that APMC provide better marketing services & 20.1% respondents express the view that they get good marketing services from the APMC.

Satisfaction about services provided by APMCS in marketing of the agricultural products

Table 34: Opinion for Services Provided by APMC

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Fully satisfied	41 (27.33)	63 (42)	37 (24.67)	46 (30.67)	61 (40.67)	56 (37.33)	36 (36)	340 (34%)
Partly satisfied	88 (58.67)	54 (36)	99 (66)	76 (50.67)	64 (42.67)	73 (48.67)	20 (20)	474 (47.4%)
Not satisfied	17 (11.33)	25 (16.67)	14 (9.33)	28 (18.66)	19 (12.67)	21 (14)	44 (44)	168 (16.8%)
Neutral	04 (2.67)	08 (5.33)	-	-	06 (4)	-	-	18 (1.8%)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

Above table 34 indicate the responses of the farmers regarding services provided by APMCs in marketing of the agricultural products. Out of the total study area 16.8% farmers are not satisfied, 34% are fully satisfied & 47.4% are partly satisfied with the services provided by APMCs in marketing of the agricultural products.

File complaint while sale of agro products in the market yard

Table 35: Complaint filing

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Yes	47 (31.33)	24 (16)	37 (24.67)	49 (32.67)	57 (38)	38 (25.33)	12 (12)	264 (26.4%)
No	103 (68.67)	124 (82.67)	113 (75.33)	101 (67.33)	93 (62)	112 (74.67)	88 (88)	734 (73.4%)
Can't Say	-	02 (1.33)	-	-	-	-	-	02 (0.02)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

Out of the total study area 73.4% farmers do not file any complaint, whereas 26.4% farmers filed their complaint while sale of their agro products in the market yard.

## Purpose Farmers File Their Complaint

Table 36: Purpose of Complaint filling

Purpose	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Cash Recovery	02 (4.25)	-	01 (2.70)	01 (2.04)	08 (14.03)	-	-	12 (5.54%)
Price Calculation	07 (14.89)	04 (16.67)	05 (13.51)	07 (14.28)	13 (22.80)	09 (23.68)	-	45 (17.05%)
Weighting	03 (6.38)	02 (8.33)	01 (2.70)	04 (8.16)	04 (7.01)	06 (15.79)	03 (25)	23 (8.71%)
Adatya	06 (12.76)	03 (12.5)	-	03 (6.12)	07 (12.28)	01 (2.63)	01 (8.33)	21 (7.95%)
Traders	07 (14.89)	06 (25)	02 (5.41)	10 (20.40)	09 (15.79)	12 (31.58)	01 (8.33)	47 (17.80%)
Agents/ Brokers	18 (38.29)	09 (37.5)	26 (70.27)	17 (34.69)	14 (24.56)	07 (18.42)	07 (58.34)	98 (37.12%)
Hamali	04 (8.54)	-	02 (5.41)	07 (14.31)	02 (3.53)	03 (7.90)	-	18 (6.82%)
Total	47	24	37	49	57	38	12	264

Source: (Field data)

Out of 264 farmers majority of the farmers i.e. 37.12% of the total study area file their complaint against cheating of the agents or brokers, 17.80% farmers file their complaints against traders however 17.05% farmers complaint regarding the calculation of the price. Regarding the recovery of the cash 5.54% respondents file their complaints on the other hand 7.95% respondents file their complaint regarding the ADTYAS(Middlemen).

## Opinion about infrastructural facilities provided by APMCs

Table 37: Opinion about Infrastructures

Opinion	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Adequate	54 (36)	48 (32)	26 (17.33)	34 (22.67)	44 (29.33)	39 (26)	14 (14)	259 (25.9%)
Partly Adequate	52 (34.67)	59 (39.33)	66 (44)	51 (34)	49 (32.67)	49 (32.67)	19 (19)	345 (34.5%)
Inadequate	32 (21.33)	29 (19.33)	56 (37.33)	61 (40.67)	57 (38)	59 (39.33)	67 (67)	361 (36.1%)
Can't Say	12 (8)	14 (19.34)	02 (1.34)	04 (2.66)	-	03 (2)	-	35
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

The above table number 37 throws light on the infrastructural facilities provided by the seven APMCs located in the Sangli district. Out of the total study area more than 36% farmers reply that Infrastructural facilities are not adequate to them. 25.9% respondents reply that infrastructural facilities are adequate whereas 34.5% respondents reply that infrastructural facilities are partly adequate.

Have access to market information while selling of the agricultural products

(Access to market information)

Table 38: Access to Market Information

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Full Access	36 (24)	21 (14)	15 (10)	11 (7.33)	09 (6)	31 (20.67)	06 (6)	129 (12.9)
Limited Access	46 (30.67)	32 (21.33)	29 (19.33)	36 (24)	58 (38.67)	46 (30.67)	49 (49)	296 (29.6)
No Access	68 (45.33)	92 (61.33)	96 (64)	100 (66.67)	78 (52)	73 (48.66)	45 (45)	552 (55.2)
Can't Say	-	05 (3.34)	10 (6.67)	03 (2)	05 (3.33)	-	-	23 (23)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

From the above mentioned table number 38, 55.2% respondents out of the total study area are reply that they does not have any access to market information while selling of the agricultural products on the other hand 12.9% respondents reply that they have proper access to the market information. 29.6% farmers reply that they have limited access to the market information.

Your opinion about financial services you get before & after marketing of the agricultural products

Table 39: Financial Service Provision

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Satisfactory	84 (56)	55 (36.67)	61 (40.67)	52 (34.67)	79 (52.67)	92 (61.33)	24 (24)	444 (44.4)
Not Satisfactory	59 (39.33)	83 (55.33)	85 (56.67)	98 (65.33)	69 (46)	54 (36)	71 (71)	519 (51.9)
Can't Say	07 (4.67)	12 (8)	04 (2.66)	-	02 (1.33)	04 (2.67)	05 (5)	34 (3.4)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)



Above mentioned table number 39 states that out of the total study area 51.9% respondents reply that financial services they get before & after marketing of the agricultural products are not satisfactory to them. More than 44% farmers state that financial services they get before & after marketing of the agricultural products are not satisfactory to them.

Satisfaction about working of APMCs

Table 40: Opinion about Working of APMC

Responses	Name of the APMC							Total Study Area
	Sangli	Tasgaon	Vita	Atpadi	Palus	Islampur	Shirala	
Yes	87 (58)	91 (60.67)	76 (50.67)	62 (41.33)	64 (42.67)	89 (59.33)	32 (32)	501 (50.1)
No	56 (37.33)	58 (38.67)	69 (46)	84 (56)	78 (52)	57 (38)	66 (66)	468 (46.8)
Can't Say	07 (4.67)	01 (0.66)	05 (3.33)	04 (2.67)	08 (5.33)	04 (2.67)	02 (2)	31 (31)
Total	150	150	150	150	150	150	100	1000

Source: (Field data)

The above table indicates that 50.1% respondents out of the total study area are satisfied with the working of the APMC whereas 46.8% are not satisfied with the working of the APMC & 3.1% respondents do not provide their opinion.

### Testing of Hypothesis:

Hypothesis 1: APMCs have inadequate infrastructural facilities to fulfill the satisfaction of its stakeholders (table no. 5.66, 5.71 to 5.76, 5.90)

HO: APMCs have inadequate infrastructural facilities to fulfill the satisfaction of its stakeholders

HI: APMCs have adequate infrastructural facilities to fulfill the satisfaction of its stakeholders'

$H_0 : P=0$  Vs  $H_1 : P>0$

Table 41: Hypothesis Testing

Sr.	Particulars	Test Statistics	Calculated Value	Table Value	Decision
1	Farmers opinion about the infrastructure	Z test of proportion	Z=23.77	P=0	Reject the Hypothesis

Table 42: Hypothesis Testing

Hypothesis 2 : APMCs do not provide best marketing services to its farmers

Sr.	Null Hypothesis	Test statistic	Calculated Value	Table Value	Decision
1.	APMCs provides best marketing services to its farmers	Chi square test	3.300	27.5871 (5% level of significance at 17 d.f.)	Accept the null hypothesis
2.	Role of the APMC and system of marketing of agricultural products at the market yard are not favourable to the farmers	Chi square test	0.976173	12.59159 (5% level of significance at 6 d.f.)	Accept the null hypothesis
3.	Farmers are not satisfied with the services provided by APMCs in marketing of the agricultural products	Chi square test	8.4196	19.675137 (5% level of significance at 11 d.f.)	Accept the null hypothesis

Using the pooling techniques for chi square test, with  $(r-1)(c-1) = 6 \times 3 - 1 = (18-1) = 17$  degrees of freedom, test value calculated as 3.300 and tabulated chi square value is 27.5872 which is highly greater than calculated value, so we accept the hypothesis at 5 percent level of significance and conclude that APMCs do not provide best marketing services to its farmers.

Using the pooling techniques for chi square test, with  $(r-1)(c-1) = 6$  degrees of freedom, calculate test value as 0.976173 and tabulated chi square value is 12.59159 which is highly greater than calculated value, so we accept the hypothesis at 5 percent level of significance and conclude that role of the APMC & system of marketing of agricultural products at the market yard are not favorable to the farmers and also using the pooling techniques for chi square test, with  $(r-1)(c-1) = 11$  degrees of freedom, we calculate test value as 8.4196 and tabulated chi square value is 19.6751 which is highly greater than calculated value, so we accept the hypothesis at 5 percent level of significance and conclude that farmers are not satisfied about services provided by APMCs in marketing of the agricultural products because APMC's do not provide best marketing services.

Hypothesis 3: The system of marketing of agricultural produce is not beneficial and the farmers are cheated (exploited) by mediators (agents).

Use the test of proportion,

Ho:  $P=0$  Vs

Hi:  $P > 0$  where P is proportion of the farmers to be exploited by mediators.

Table 43: Hypothesis Testing

Sr.	Null Hypothesis	Test statistic	Calculated value	Table value	Decision
1.	The system of marketing of the agricultural produce is not beneficial and the farmers are cheated (exploited) by the mediators	Z test of proportion	33.44	$P=0$ (5% level of significance)	Reject the null hypothesis

From the above table 43, statistics calculated value is 33.44 which is highly significant than p value at 5 percent level of significance ,so we reject the hypothesis and conclude that ,The system of marketing of agricultural produce is not beneficial and the farmers are cheated by mediators (agents).

Hypothesis 5: There is limited access by the farmers for the market information

HO : P=0 that is There is no "lack of access" for the market information Vs

HI : P > 0 that is There is significantly high "lack of access" for the market information where P is proportion of the fanners having no access for the market information.

Table.44: Hypothesis Testing

Sr.	Null Hypothesis	Test statistic	Calculated value	Table value	Decision
1	There is limited access by the farmers for the market information	Z test of proportion	35.10	P=0 (5% level of sig.)	Reject the null hypothesis

From the above table 44, statistics calculated value is 35.10 which is highly significant than P value at 5 percent level of significance ,so we reject the hypothesis and conclude that , There is limited access by the farmers for the market information.

### Observations and Conclusions:

1. It was observed that most of the farmers belong to the 41-50 years age group i.e. 31.3%. It reveals that such age group is to be considered favorable age group for the farming occupation.
2. It has been found that, 23% of the farmers from the total study area are illiterate. Such illiterate farmers are majority from the Vita, Atpadi and Palus APMC. Only 8.9% farmers are graduate and 2.5% are postgraduate
3. Majority of the farmers have income up to Rs.3 Lakhs (42.1%) which includes 50% farmers from Sangli APMC and 49.33% farmers from Tasgaon APMC. Only 13.7% farmers have income above 5 lakhs rupees. Farmers in Sangli, Vita, Palus and Islampur APMCs are more prosperous having their income above 5 lakhs as compared to the other APMCs.
4. Only 16.7% of the respondents carried out the process of cleaning of agro products before sale, 9% of the respondents reply that they carried out the cleaning of the goods sometimes. On the other hand 74.3% of the respondents do not carry out cleaning of the

- agro products before sale. In APMC Sangli large number of the farmers i.e. 36% follow cleaning of the products as compared with the other APMCs, whereas in APMC Shirala very few farmers i.e. only 9% carried out cleaning of their agro products before sale
5. Only 21.5% of the farmers carried out grading of the agro products whereas 69.6% of the respondents do not carried out grading which are large in number. Farmers from Sangli and Vita APMC prefer grading of produce before sale as compared with the other APMCs. So it is the main reason of getting the lesser prices for the agro products at the time of the sale.
6. More than 60% of the farmers reply that grading made the good price for the agricultural products, 19.6% respondent opinioned that grading do not made good price for the products, whereas 11.8% of the respondents reply that grading of the agro products sometimes made a good price for the products.
7. Majority of the respondents i.e. 71.9% use hired vehicle for transportation of the

produce to the market yard. This percentage is maximum in Vita, Atpadi and Islampur, 21.2% respondents send their products by own bullock cart. Only 7.9% respondent sends it through their own vehicle other than the bullock carts.

8. There is lot of fraudulent practices in weighting of the agro produce. More than 70% of the respondents reply that proper weighting is done; in this regard farmers from Islampur APMC and Vita APMC are more in the study area. Only 14.7% respondents are not satisfied about the proper weighting which includes maximum farmers from the APMC Sangli out of the study area. Only 3.7% farmers are reluctant to share their opinion of proper weighting system.
9. Commission agents and local traders are the largest purchaser of the product at the market yard which is 47% and 42% respectively. In APMC Vita and Sangli preferred purchaser of the product is commission agent in large number. In APMC Palus and Atpadi local traders purchase the majority of the products.
10. Majority of the products are purchased by open auction system i.e. 63.4% in total study area, 19% of the products are purchased by bargaining between the buyer and seller, 12.3% products are purchased secretly. Only 5.3% respondents reply that their products are purchased at approx. price declared by the State Agricultural Marketing Board or Agmark office. In Palus APMC 27.33% of the respondents and from Sangli APMC 26.67% of the respondents replies that their products are purchased by bargaining.
11. More than 85% of the farmers respond that they get the sale note, 9.2% respondents reply that they sometimes get the sale note. Only 3.1% farmers reply that they do not get the sale note after sale which includes very few respondents. Sale note is a proof of transaction of sale. It is seen that more than 85% of the farmers get sale note after sale. In the study area only in APMC Atpadi 9% farmers does not get the sale note which is very less percentage. Sale note is prepared in triplicate copy one for trader, one for farmer

and one for APMC.

#### **12. Opinion about role of the APMC & system of marketing of agricultural products at the market yard (Table no. 30)**

APMC is a medium for the exchange of goods or services. It acts as a friend, philosopher and guide of the farmer. Majority of the farmers i.e. 55.8% have been responded that the role of the APMC and system of marketing of agricultural products at the market yard is favourable to them, whereas 44.2% respondents reply that it is unfavorable. Majority of the respondents are from Tasgaon (54%), Atpadi (52%) & Shirala (71%) are reply about their unfavorableness about the system. Large number of farmers from APMC Shirala i.e. 71% are express their unfavourableness because APMC Shirala needs more improvement in its working, it is newly started APMC in the year 2009-10. So due to less income some time may need to its development.

#### **13. Monopoly between the traders or commission agents while purchasing the products: (Table no. 31)**

Out of total respondents 52.8% respondents express that there is monopoly between the traders or commission agents while purchasing of the products that's why they get less price for their agro products. It has been found that 39.4% farmers reply that there is no any monopoly between the traders or commission agents, on the other hand 7.8% refuse to give their opinion. Generally most of the traders are brokers and commission agents. There is a big unity among them.

#### **14. Satisfaction about cash value of agricultural products sold (Table no. 32)**

Only 8.2% respondents are fully satisfied with the cash price they get for their agro products. It has been observed that 14.2% respondents are partly satisfied and 3.7% are neutral to reply their opinion. It has been seen that, 73.9% respondents are not satisfied for the cash price they get after the sale of their agricultural products, large number are from Atpadi and Palus APMC which is 86% and 85.33% respectively. The farmer gets fewer prices for his product.

**15. Farmers opinion about marketing services provided by APMC to its farmers (Table no. 33)**

It is observed that 44.2% respondents reply that APMC provide best marketing services to its farmers. It includes highest farmers from Islampur i.e. 54.67% and Sangli APMC i.e. 52.67%. It has been found that 30.5% respondents reply that APMC provide better marketing services. Such response includes highest percentage of the farmers from Vita and Palus APMC. It has been found that 20.1% respondents express the view that they get good marketing services from the APMC. Such response includes highest farmers from Atpadi and Shirala APMC.

It is concluded that APMC is a link between purchaser and seller of the agricultural products. APMC provide platform to both of them. It is found that 44.2% of the farmers respond that they get best marketing services from APMC. Such response includes large number of farmers from APMC Islampur and Sangli.

**16. Satisfaction about services provided by APMCs in marketing of the agricultural products (Table no.34)**

It is found that 16.8% farmers are not satisfied, 34% are fully satisfied and 47.4% are partly satisfied with the services provided by APMCs in marketing of the agricultural products. It has been observed that 44% of the farmers from Shirala APMC are reply that they are not satisfied, which is highest percentage as compared with the other APMCs.

It has been concluded that only 16.8% of the respondents are not satisfied with the services provided by APMCs in marketing of the agricultural products, which includes more farmers from APMC Shirala otherwise remaining farmers out of total study area are either fully satisfied or partly satisfied with the APMC services.

**17. Filling of complaint while sale of agro products in the market yard: (Table no. 35)**

Out of the total study area 73.4% farmers do not file any complaint whereas 26.4% farmers filed their complaint while sale of their agro products in the market yard. In this regard farmers from Palus APMC file more complaints as compared

with other APMCs. In the total study area only 26.4% of the respondents file their complaints in the market yard. The large number of farmers from APMC Palus i.e. 38% files their complaints. The farmers have low awareness of making complaints instead of that they can resolve it because they don't waste their time for that. Some farmer does not have any information about how to file the complaint & get justice.

**18. For which purpose farmers file their complaint (Table no. 36)**

It was found that 37.12% of the farmers out of the total study area file their complaint against cheating of the agents or brokers. It has been observed that 17.80% respondents file their complaints against traders, 17.05% farmers complaint regarding the calculation of the price which includes more farmers from the APMC Palus. Regarding the recovery of the csh 5.54% respondents file their complaint which again includes more farmers from APMC Palus. It is concluded that most of the farmers file their complaints against agents and brokers i.e. 37.12% of the total study area. Such complaint is observed more in Vita APMC i.e. 70.27%. The farmers reply that brokers can not pay determined price and there is big monopoly among them so they fall the rate of a particular product by the unity among them.

**19. Opinion about infrastructural facilities provided by APMCs: (Table no. 37)**

It is seen that 36.1% farmers reply that Infrastructural facilities are not adequate to them. In such a reply more farmers are from Shirala and Atpadi APMC and less from Tasgaon and Sangli APMC whereas 34.5% respondents reply that infrastructural facilities are partly adequate. Infrastructure facilities are cornerstone in the success of APMCs. Adequate infrastructural facilities must provide to the farmer otherwise they cannot brought their products in APMC.

It is conclude that, in the Sangli district 21.33% farmers are reply that infrastructural facilities are not adequate to them, especially the farmers of APMC Shirala reply that basic infrastructural facilities are also not available. Farmers from APMC Sangli & Tasgaon get adequate infra facilities.

**20. Access to market information while**

### **selling of the agricultural products (Table no. 38)**

Farmers have no any access to the market information while selling of the agricultural products. They cannot know even the minimum marketing price of the agri product, so they cannot get good prices for their product. It has been observed that 55.2% respondents do not have any access to market information while selling of the agricultural products.

#### **21. Opinion about financial services farmers get before and after marketing of the agricultural products (Table no. 39)**

Small and marginal farmers cannot get financial assistance properly as compared with the financial assistance received by big land holders. Various financial services are provided by banks at lower rate of interest but they cannot reach up to the farmers. It has been noted that, 51.9% respondents reply that financial services they get before and after marketing of the agricultural products are not satisfactory to them.

#### **22. Satisfaction about working of APMCs (Table no. 40)**

It has been found that 50.1% respondents are satisfied with the working of the APMCs and 46.8% respondents are not satisfied with the working of the APMCs. Respondents from Shirala and Atpadi express more negative approach for working of the APMC.

So it is concluded that APMC should find out new ways to improve its working and try to provide various services to its stakeholders to increase their satisfaction level as well as participation.

### **Part II: Suggestions for Farmers**

1. Sangli district has an ample natural resources and good climate condition for farming occupation so young farmers are motivated to do modern farming. The age group of 18 to 40 years is treated as working young group. This age group is treated as productive & efficient for any type of work so it is essential to induce such age group for farming.
2. In order to have easy access to market information literacy is very important factor. The farmers from India are poor

because of their illiteracy and uneducatedness. The money lenders, traders, brokers, middlemen etc. are exploit them. So creating educational awareness among the farmers is very important to improve their economic condition & standard of living.

3. Agriculture is main source of family income in the study area so modern and sophisticated techniques are developed and employed to increase the income from the agriculture. It is suggested that training facilities are crated by the APMC and govt. to improve the economic conditions of the farmer.
4. It is suggested that govt. should provide certain subsidy for the farmers for the purchase of the land to improve the income and standard of living of the farmers in drought prone area. Irrigation facilities must be increased so that their income increases and ultimately their capacity of land holding will be improved.
5. The agriculture is depends on the rain. But in order to utilize such water properly dams, canals and ponds must be erected. So that farmers can get plenty of water throughout the year. Govt. should implement various schemes for preservation of water in drought prone area.
6. It is suggested that APMC should pay attention to give best prices to the farmers. It is also suggested that crop pattern should be implemented as a remedial measure for large quantity of product. Survey is to be made of each villages and farmers are suggested to cultivate a particular crops to remove the bulkiness of the particular crop e.g. once tomato fetch good prices in the market all farmer try to cultivate the tomato which result in bulkiness of the product & reduces the price of the tomato so for that crop pattern scheme should be implemented by APMC.
7. In order to save high cost of the transportation of the farmers it is suggested that, APMC should provide cheapest

transport by arranging their own vehicle and collect the products from more than one farmer from the same village. APMC should demand the subsidy from govt. and purchase the own vehicle for making available free or moderate cost of transport to the farmers. It results into increasing the arrival of products in the APMC market and farmers can not sale their product at local bazaars at cheapest rate. It is also suggested that APMC should collaborate with the various transport agencies for providing transport facilities to the farmers at cheapest rate.

8. No doubt that APMC should play very important role for upliftment of the economic conditions of the farmers. But its role and system of the marketing of the agricultural products at the market yard needs more improvement as per instructions received from the farmers. The system needs more transparency in the transactions without any political barriers.
9. APMC should find out certain strategy so that monopoly between traders and commission agent is disappeared in the market. APMC employees should pay attention towards that the selling prices of agro products are should not be less than minimum assured price of the product decided by MSAMB Pune. If the traders fall the rats beyond minimum declared price his licence will be forfeited. Untill and unless monopoly is abolished from the market, farmers can not get the best price for their products
10. APMC should improve its role and provide best services to the farmers. The services of APMC Vita, Atpadi and Shirala needs more improvement as compared with other APMCs, for that govt. should provide subsidy to the APMCs for their overall developments because due to the less income they fail to make its developments. order to give full satisfaction to the farmer, APMC try to improve and develop its services, to find out their own loopholes and find out

strategies for farmers satisfaction. Develop itself and encourage the farmers confidence, so instead of selling their products in local bazaars and traders they definitely use the services of the APMCs.

11. It is suggested that APMC should find out the loopholes in the development of the infrastructural facilities, collect the funds from Govt. and Maharashtra State Agricultural Marketing board Pune to fulfill all infrastructural demands of its stakeholders. Similarly APMC should use its own funds properly for the development of the infrastructure.
12. The farmers must have encouraged to get full market information and then only sale their products. Prudent farmers are essential so that they can get best price and best income. Therefore it is suggested that farmers should take efforts to develop their information channels such as TV, radios, magazines, internet etc.
13. It is suggested that APMC should provide before and after sale financial services to the farmers by making tie up with the banks in the nearby areas. Otherwise farmers take the finance from the private money lenders who take undue advantage of the farmer and exploit him. It is also recommended that govt. should take the lead in starting agricultural funding agencies for the farmers who provide loans to the farmers at very cheaper rate of interest and by fulfilling less number of formalities.

### **Conclusion:**

APMCs regulate the wholesale selling of the agricultural produce in their defined area of operation. The aim of regulating the market functioning was to introduce or establish an open & transparent trading environment wherein the sellers who are mostly farmers would bring their agricultural produce in the market to sell in open auctions. The complete process of such sale including the auction, weighting, & grading, payment & temporary storage then would be controlled by a regulating body represented by the democratically elected members. Moreover even the behavior of the functionaries operating in the

marketing area would be closely monitored. Updated information about the total inflow of various agricultural commodities, their prices, month wise demand or supply position would be easily available.

APMCs in the Sangli district plays very important role for the upliftment of the economic development of the farmers but their working needs more improvement in the era of the globalization. Some hindrances and obstacles are observed in the working of the APMCs but these are removed by framing new strategies and policies with the help of the agricultural marketing experts.

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## Online Buying Behaviour of Consumable Products

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