7.1 INTRODUCTION
The main aim of any organization is to make profit or maximum welfare. Generally, profit can be made by higher price level of product or reduction in cost of production, as there is cut throat competition in marketing products therefore an organization can’t by increasing price of their product. Hence, reduction in cost is only alternative for an organization to fulfill their main objective. It can be done through higher productivity of all resources. Productivity is being one of the key measures of the effectiveness and excellence of the operations of an organization.

7.2 MEANING AND DEFINITION OF PRODUCTIVITY
As is well known productivity is ratio of output to input when other things remain constant. An increase in index denotes better utilization of resources. Productivity management evolves maximum output with minimum input. It means that the higher rate of output with a given amount of inputs. In the ultimate analysis, the productivity management concept becomes one of effecting maximum economy in the utilization of scarce resources for the attainment of specific output. “Productivity means different things to different people. To workers productivity means a speed up in their work pattern. To union leaders it means opportunities to negotiate for higher wages. To management, it means increased profitability. To customers, it betters goods after costs. To marketing directors productivity improvement increases the firm’s competitiveness abroad by reducing cost of good sold in foreign market and to economists; it means an increase in country’s standard of living field, to gain output per man-hour.”

7.3 DEFINITIONS OF PRODUCTIVITY
- According to oxfords Illustrated Dictionary, productivity is defines, “efficiency in industrial production to be measured by some relationship of output- inputs.”
According to G.C. Beri, “productivity is the ratio between the production of a given commodity measured by volume and one or more of the corresponding input factors also measured by volume.”

According to C.B. Gupta:
Productivity is the ratio of output produced per unit of resources consumed by the process.

According to Prokopenko Joseph,
"The Productivity of factory is defined as its total output divided by the hours of work required producing it, assuming that the quality of output is constant."

The Organization for European Economic Co-operation has defined
"Productivity is the quotient obtained by dividing outputs by one of the factors of Productions."

From the above definitions we can conclude that the productivity is a ratio of output to input. It can be figured as under.

\[
\text{Productivity} = \frac{\text{Output}}{\text{Input}}
\]

7.4 OBJECTIVES OF PRODUCTIVITY
The objectives of productivity are as under:

- To reduce the wastage and cost.
- To improve product quality.
- To improve living standard of people.
- To reduce fatigue of workers.
- To improve working condition in organization.
- To give higher remuneration and welfare schemes for employees.
- To generate revenue for government.
7.5 GAINS OF HIGHER PRODUCTIVITY
The higher productivity may give the following benefits:
- Reduction in cost
- Reduction in selling price or increase in profit to the concern.
- Lower prices increase the purchasing power of money and generate higher demand for existing as well as the new products. This would also lead to higher wages for workers and suitable incentives.
- Higher profit helps in expanding or starting factors. This creates all round development and more employment and in general leads to higher standards of living.
- Better working conditions for workers and reduction in working hours.
- Improved morale of workers and staff.
- Improved quality of product to the consumers.
- Increase of National wealth.
- Increase of national wealth. Increase of per capita Income.
- Higher tax revenues to Government.
- Better utilization of resources.
- Expansion of International market with the help of standardized goods and services.

7.6 IMPORTANCE OF PRODUCTIVITY
The productivity consciousness has increased all types of activities because it gives the following advantages:
- It emphasis on the efficient utilization of all the factors of production which are scar universally. It attempts to eliminate the wastage of every kind.
- It facilitates the comparison of performance of the firm with that of its competitors or related firm both in terms of aggregate results and in term of measure component of performance.
- It enables the management to control the performance of the firm by identifying the comparative benefits rising out of the huge different inputs currently and over longer period has the basic for considering alternative adjustment over period.
It also provides a reliable data for certain managerial decision such as collective bargaining regarding the wages with the trade union, effective presentation before the government against the imposition of prospective restrictions etc.

At national level also the concept of productivity is useful. The statistical data about productivity assist the government in framing certain economic policies regarding business community, trade unions, employment, hours of work, wages, price control, protection to industries, technological developments, taxation and fiscal policies, allocation of scarce natural resources, extension of labour welfare and social extension scheme etc.

7.7 LABOUR PRODUCTIVITY

Manpower plays vital role in an organization. Success of any enterprise depends on labour productivity. Human skill is very relatively costlier to other ingredients of total input resources. The term "Labour Productivity" is generally defined as "the ratio of physical amount of output achieved in given period to the corresponding amount of labour expended." The management of labour productivity is complex issue due to the fact that its productivity depends on many factors such as degree of skill, education, training, better working conditions, high degree of moral etc. Improving of labour productivity is not an easy task in view of the strength of union. The state of productivity is likely to be ideal when attitudes of labors and the management are Co-operative. It is likely to be dismal when the attitudes of labour and the management are antagonistic. For higher productivity, the front line labour supervisors as well as the senior executives would have to formulate policies and strategies as well as implement actions those are appropriate to the situations.

7.8 ANALYSIS OF LABOUR PRODUCTIVITY IN APMCS

The labour productivity is considered as the most important factor in productivity competitions. There are various methods for calculating labour productivity. The simplest method is, “output divided by input the method, the output, per man, year of man-hour, and the input per man-years or per man-hour. But this concept can not be directly applied in APMCs because; it is
Analysis of Productivity

primarily a service sector. Thus, in present study labour output is calculated by income of Market fees and License fees and input is calculated by cost/expense for assessing labour productivity of APMCs. The following perspectives are used.

- Market fees collection to labour cost
- License fees collection to labour cost
- Total fees collection to labour cost

7.8.1 Market fees to Salaries & wages

Unlike other forms of organizations, a market committee does not involve the manufacturing and selling activities. The main source of income of market committees are market fees and license fees. In all the acts, provision has been made empowering the market committees to levy and collect the market fees on produce bought or sold in the market committee. The market fee constitutes the main source of income to the market committees and the income from this source determines to a great extent the pace of development of market yard and it depends on employees working in market committees. In present study employees’ productivity is figured as under:

\[
\text{Labour Productivity} = \frac{\text{Market Fees}}{\text{Salary & Wages}}
\]

Higher the ratio shows higher productivity while lower the ratio indicates poor labour productivity. Table no. 7.1 shows the labour productivity, in times market fees to salaries and wages.

APMC Amreli

The ratio of market fees to salaries and wages in APMC Amreli witnessed fluctuating trend during study period. It ranged between 1.42 times in 2003-04 and 2.36 in 1999-00 with an average ratio of 1.92 times. The ratio was lower than the average ratio of this APMC during study period except the year 1999-00, 2001-02 and 2007-08, when it was 2.36, 2.29 and 2.16 respectively. The ratio was equal to the average ratio (2.36) of sampled APMCs in the year the
### Table 7.1

Market Fees to Salary & Wages Ratio of APMCs from 1999-00 to 2008-09

<table>
<thead>
<tr>
<th>Year</th>
<th>APMC Amreli</th>
<th>APMC Bhavnagar</th>
<th>APMC Junagadh</th>
<th>APMC Hapa</th>
<th>APMC Rajkot</th>
<th>APMC Wadhwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-00</td>
<td>2.36</td>
<td>1.67</td>
<td>2.55</td>
<td>2.72</td>
<td>1.85</td>
<td>1.02</td>
</tr>
<tr>
<td>2000-01</td>
<td>1.90</td>
<td>1.54</td>
<td>2.77</td>
<td>3.69</td>
<td>1.77</td>
<td>1.56</td>
</tr>
<tr>
<td>2001-02</td>
<td>2.29</td>
<td>2.09</td>
<td>2.92</td>
<td>3.86</td>
<td>1.85</td>
<td>1.51</td>
</tr>
<tr>
<td>2002-03</td>
<td>1.75</td>
<td>2.53</td>
<td>2.65</td>
<td>2.77</td>
<td>1.60</td>
<td>0.99</td>
</tr>
<tr>
<td>2003-04</td>
<td>1.42</td>
<td>5.67</td>
<td>2.28</td>
<td>3.61</td>
<td>3.02</td>
<td>1.20</td>
</tr>
<tr>
<td>2004-05</td>
<td>1.71</td>
<td>2.14</td>
<td>3.60</td>
<td>2.22</td>
<td>1.93</td>
<td>1.69</td>
</tr>
<tr>
<td>2005-06</td>
<td>1.89</td>
<td>2.55</td>
<td>3.60</td>
<td>2.58</td>
<td>1.76</td>
<td>1.35</td>
</tr>
<tr>
<td>2006-07</td>
<td>1.80</td>
<td>3.21</td>
<td>3.79</td>
<td>3.69</td>
<td>2.00</td>
<td>1.28</td>
</tr>
<tr>
<td>2007-08</td>
<td>2.16</td>
<td>2.56</td>
<td>3.50</td>
<td>3.71</td>
<td>1.70</td>
<td>1.17</td>
</tr>
<tr>
<td>2008-09</td>
<td>1.90</td>
<td>2.44</td>
<td>4.01</td>
<td>2.52</td>
<td>1.89</td>
<td>1.75</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>1.92</strong></td>
<td><strong>2.64</strong></td>
<td><strong>3.17</strong></td>
<td><strong>3.14</strong></td>
<td><strong>1.94</strong></td>
<td><strong>1.35</strong></td>
</tr>
</tbody>
</table>

**Average Of All APMCs Under Study 2.36**

**Source:** Computed and Compile from the Annual Reports of Sampled APMCs

### Chart 7.1

Market Fees to Salary & Wages Ratio of APMCs from 1999-00 to 2008-09

**Source:** Computed and Compile from the Annual Reports of Sampled APMCs
1999-00. Moreover the average ratio of this APMC was lower than the average ratio of all APMCs under study.

**APMC Bhavnagar**

In APMC Bhavnagar ratio of market was to salaries & wages was highest (5.67) times in the year 2003-04 and lowest (1.54) in the 2000-01. The trend of the ratio was fluctuating during study period with an average ratio of 2.64 times. Moreover the ratio was lower than average ratio of this APMC except the year 2003-04 when it was 5.67 times. The average ratio of this APMC was more than average ratio (2.36) of all APMCs under study.

**APMC Junagadh**

The ratio of market fees to salaries and wages showed increasing trend during first three years of study period. It was 2.55 times in the year 1999-00 and increased and reached to 2.92 times in the year 2001-02. The ratio decreased trend in the year 2002-03 and 2003-04 when it was 2.65 times and 2.28 times respectively. The ratio remained constant during year 2004-05 and 2005-06. and again it increased up to 3.79 times in the year 2006-07 and decreased to 3.50 times in the year 2007-08 in the final year of study period the ratio was 4.01 times which was at the highest level. The average salaries and wages ratio of this APMC was higher the average ratio of all APMCs under study. The ratio was more than the average ratio of sampled APMCs except the year 2003-04.

**APMC Hapa**

The range of market fees to salaries and wages ratio in APMC Hapa was 2.22 times in the year 2004-05 and 3.86 times in the year 2001-02 with an average ratio of 3.14 times. This was highest average ratio among all APMCs under study. Moreover, during study period the ratios were more than the average ratio of sampled APMCs except the year 2004-05. The ratio was higher than average ratio of this APMC during the years 200-01, 2001-02, 2003-04, 2006-07 and 2007-08.
APMC Rajkot
In APMC Rajkot ratio of market fees to salaries and wages witnessed fluctuating trend during study period. It varied between 1.60 times in the year 2002-03 and 3.02 times in the year 2003-04. The average ratio of this APMC (1.94 times) was lower than the sampled APMCs ratio (2.36 times). The ratio of this APMC was almost lower than all APMCs under study except year 2003-04. Thus it can be said that labour productivity is lower in this APMC during study period.

APMC Wadhwan
The ratio of market fees to salaries and wages in APMC Wadhwan showed fluctuating trend during study period. The ratio witnessed increasing trend during the year 2000-01 when it was 1.56 times. The ratio was decreased to 1.51 times in the year 2001-02 and 0.99 times, (lowest level) in the year 2002-03. Then with ups and down trend the ratio reached to 1.75 times (the highest) in the year 2008-09. The average ration of this APMC was 1.35 times which was much lower than the average ratio of all APMC under study which indicated lower productivity of employees.
As a whole it can be concluded that labour productivity was highest in APMC Junagadh while lowest in APMC Wadhwan.

Hypothesis:
\( H_0: \) There is no significant difference in the Market fees to salaries and wages of sampled APMCs during study period.

\( H_1: \) There is significant difference in the Market fees to salaries and wages of the sampled APMCs during study period.

\( H_0: \) There is no significant difference in the Market fees to salaries and wages in between the years among the sampled APMCs during study period.

\( H_1: \) There is significant difference in the Market fees to salaries and wages in between the years among the sampled APMCs during study period.
Table – 7.2
F – TEST (ANOVA TABLE) – Market Fees to Salary & Wages

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P-value</th>
<th>F Critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Year</td>
<td>3.6404</td>
<td>9</td>
<td>0.4044</td>
<td>1.00</td>
<td>0.4547</td>
<td>2.10</td>
</tr>
<tr>
<td>Between APMC</td>
<td>27.2529</td>
<td>5</td>
<td>5.4505</td>
<td>13.46</td>
<td>4.8737</td>
<td>2.42</td>
</tr>
<tr>
<td>Error</td>
<td>18.2209</td>
<td>45</td>
<td>0.4049</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>49.1143</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is evident from the table 7.2 that there was significant difference in the market fees to salaries and wages of sampled APMCs because the calculated value of ‘F’ (13.46) was greater than that of the table value (2.42) at 5% level of significance. Hence, the null hypothesis was rejected and alternative hypothesis is accepted. The difference in market fees to salaries and wages in between the years was not significant, because the calculated value of ‘F’ (1.00) was less than that of the table value (2.10) at 5% level of significance. Hence, the null hypothesis was accepted and alternative hypothesis is rejected.

Therefore, it is concluded that there was a significant difference in the market fees to salaries and wages of sampled APMCs during study period. It is also concluded that there is no significant difference in the market fees to salaries and wages in between the years of sampled APMCs during study period.

7.8.2 License Fees to Salaries and Wages
For the analysis of labour productivity of market committee the second important source of income is license fees. The license fee is charged on various market functionaries such as trader, weight man, brokers, hamals etc. The formula for derivation the labour productivity of license fees is figured as under:

\[
\text{Labour Productivity} = \frac{\text{License Fees}}{\text{Salary & Wages}}
\]
Higher the ratio indicates higher productivity where as lower the ratio shows poor labour productivity. Labour productivity in APMCs under study with reference to license fees to salaries and wages are shown in table no. 7.3

APMC Amreli
The ratio of license fees to salaries and wages in APMC Amreli showed fluctuating trend. It ranged between 0.010 times in the year 2005-06 and 0.020 times in the year 2004-05 with an average ratio of 0.015 times which was the equal to average ratio of all APMCs under study. The ratio was above the average ratio of this APMC during the years 1999-00 to 2001-02, and 2004-05 equal to average in the year 2008-09 and lower during the years 2002-03, 2003-04 and 2005-06 to 2007-08.

APMC Bhavnagar
In APMC Bhavnagar the ratio of license fees to salaries and wages in APMC Bhavnagar revealed fluctuating trend during the study period. It was 0.006 times and 0.002 times (the lowest ratio) in the years 1999-00 and 2000-01 respectively. The ratio remained constant during year 2001-02 and 2002-03 and it was increased to 0.012 times (the highest) in the year 2003-04, further it went down to 0.009 times in the year 2004-05. During last four years of study period the trend of ratio was decreasing the average ratio of this APMC was 0.008 times which was lower than the average ratio of all APMCs under study.

APMC Junagadh
In APMC Junagadh the ratio of license fees to salaries and wages was highest 0.24 times in the year 2007-08 and lowest 0.001 times in the year 2001-02. Moreover it was lowest among all APMCs under study. The average ratio of license fees to salaries and wages of this APMC was 0.016 which was the more than average ratio of all APMCs under study. The ratio was more than average ratio of this APMC during the years 1999-00 to 2000-01, 2002-03 to 2003-04 and 2006-07 to 2007-08. Further the ratio was higher than the average ratio of all APMCs under study except year 2001-02 and 2008-09.
Table 7.3
License Fees to Salary & Wages Ratio of APMCs from 1999-00 to 2008-09

<table>
<thead>
<tr>
<th>Year</th>
<th>APMC Amreli</th>
<th>APMC Bhavnagar</th>
<th>APMC Junagadh</th>
<th>APMC Hapa</th>
<th>APMC Rajkot</th>
<th>APMC Wadhwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-00</td>
<td>0.019</td>
<td>0.006</td>
<td>0.019</td>
<td>0.030</td>
<td>0.017</td>
<td>0.015</td>
</tr>
<tr>
<td>2000-01</td>
<td>0.017</td>
<td>0.002</td>
<td>0.021</td>
<td>0.024</td>
<td>0.016</td>
<td>0.017</td>
</tr>
<tr>
<td>2001-02</td>
<td>0.018</td>
<td>0.005</td>
<td>0.001</td>
<td>0.028</td>
<td>0.015</td>
<td>0.020</td>
</tr>
<tr>
<td>2002-03</td>
<td>0.013</td>
<td>0.005</td>
<td>0.019</td>
<td>0.026</td>
<td>0.013</td>
<td>0.017</td>
</tr>
<tr>
<td>2003-04</td>
<td>0.014</td>
<td>0.012</td>
<td>0.017</td>
<td>0.040</td>
<td>0.011</td>
<td>0.046</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.020</td>
<td>0.009</td>
<td>0.016</td>
<td>0.018</td>
<td>0.011</td>
<td>0.027</td>
</tr>
<tr>
<td>2005-06</td>
<td>0.010</td>
<td>0.011</td>
<td>0.015</td>
<td>0.011</td>
<td>0.008</td>
<td>0.018</td>
</tr>
<tr>
<td>2006-07</td>
<td>0.010</td>
<td>0.010</td>
<td>0.019</td>
<td>0.011</td>
<td>0.007</td>
<td>0.016</td>
</tr>
<tr>
<td>2007-08</td>
<td>0.012</td>
<td>0.009</td>
<td>0.024</td>
<td>0.010</td>
<td>0.006</td>
<td>0.014</td>
</tr>
<tr>
<td>2008-09</td>
<td>0.015</td>
<td>0.007</td>
<td>0.012</td>
<td>0.006</td>
<td>0.006</td>
<td>0.018</td>
</tr>
<tr>
<td>average</td>
<td>0.015</td>
<td>0.008</td>
<td>0.016</td>
<td>0.020</td>
<td>0.011</td>
<td>0.021</td>
</tr>
</tbody>
</table>

**Source:** Computed and Compile from the Annual Reports of Sampled APMCs

Chart 7.2
License Fees to Salary & Wages Ratio of APMCs from 1999-00 to 2008-09

**Source:** Computed and Compile from the Annual Reports of Sampled APMCs
**APMC Hapa**
In APMC Hapa ratio of license fees to salaries and wages revealed ups and down trend during first five years of study period and had shown decreasing trend during last five years of study period. The ratio was 0.030 times in the years 1999-00 and 0.40 times in the year 2003-04 which was the highest ratio during study period. The ratio was 0.018 times in 2004-05 and declined to 0.006 times in the year 2008-09. The average ratio of this APMC was 0.020 times which was higher than average ratio all APMCs under study.

**APMC Rajkot**
In APMC Rajkot license fees to salaries and wages witnessed decreasing trend during study period. It was 0.017 in the year 1999-00 and declined to 0.006 times in the year 2008-09. The average ratio of this APMC was 0.011 times which was lower than the average ratio (0.015 times) of all APMCs under study. The ratio was more than average ratio of this APMC from the year 1999-00 to 2004-05 and lower from year 2005-06 to 2008-09.

**APMC Wadhwan**
In APMC Wadhwan the ratio of license fees to salaries and wages witnessed fluctuating trend. It varied between 0.014 times in the year 2007-08 and 0.046 times in the year 2003-04 with an average ratio of 0.021 times which was the highest average among all APMCs under study. The ratio was almost higher than average ratio (0.015 times) of all APMCs under study during the study period except the year 2007-08.

From the above the discussion it can be said that income from licenses fees contributed very small portion to pay remuneration to employees.

**Hypothesis:**

\( H_0: \) There is no significant difference in the License fees to salaries and wages of sampled APMCs during study period.

\( H_1: \) There is significant difference in the License fees to salaries and wages of the sampled APMCs during study period.
H₀: There is no significant difference in the License fees to salaries and wages in between the years among the sampled APMCs during study period.

H₁: There is significant difference in the License fees to salaries and wages in between the years among the sampled APMCs during study period.

### Table – 7.4

F – TEST (ANOVA TABLE) – License Fees to Salary & Wages

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P-value</th>
<th>F Critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Year</td>
<td>0.0007</td>
<td>9</td>
<td>7.9534</td>
<td>1.91</td>
<td>0.0754</td>
<td>2.10</td>
</tr>
<tr>
<td>Between APMC</td>
<td>0.0013</td>
<td>5</td>
<td>0.0002</td>
<td>6.46</td>
<td>0.0001</td>
<td>2.42</td>
</tr>
<tr>
<td>Error</td>
<td>0.0018</td>
<td>45</td>
<td>4.1724</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.0039</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is evident from the table 7.4 that there was significant difference in the license fees to salaries and wages of sampled APMCs because the calculated value of ‘F’ (6.46) was greater than that of the table value (2.42) at 5% level of significance. Hence, the null hypothesis was rejected and alternative hypothesis is accepted. The difference in License fees to salaries and wages in between the years was not significant, because the calculated value of ‘F’ (1.91) was less than that of the table value (2.10) at 5% level of significance. Hence, the null hypothesis was accepted and alternative hypothesis is rejected.

Therefore, it is concluded that there was a significant difference in the license fees to salaries and wages of sampled APMCs during study period. It is also concluded that there is no significant difference in the license fees to salaries and wages in between the years of sampled APMCs during study period.
7.8.3 Total fees Collection to Salaries and Wages

The APMC has two main sources of income the market has statutory power to levy markets fees on notified produce that are transacted in the notified area. The market fees are the main source of income (output) for the APMCs and the second source of income for APMC is levy of license fees. License fees is levied on market functionaries, such as traders, wightman, brokers, hamals etc. license fees are fixed and so amount of license fees varies with number of licenses issued. Labour productivity in terms of the total fees to salaries and wages calculated as under in present study:

\[
\text{Labour Productivity} = \frac{\text{Market Fees} + \text{License Fees}}{\text{Salary & Wages}}
\]

Higher the ratio reflects the higher labour productivity while lower the ratio indicates poor labour productivity. The table no 7.5 shows total fees collection to salaries and wages in all APMCs under study.

APMC Amreli

The ratio of total fees collected to salaries and wages in APMC Amreli showed fluctuating trend during study period. It varied between 1.43 times in the year 2003-04 and 2.38 times in the year 1999-00 with an average ratio of 1.93 times. The ratio was lower than average ratio of APMC Amreli except the years 1999-00, 2001-02 and 2007-08 when it was 2.38 times, 2.31 times and 2.17 times respectively. The average ratio of APMC Amreli was lower than average ratio (2.37 times) of all APMCs under study. Moreover the ratio was lower than average ratio of sampled APMCs except the year 1999-00 during study period.

APMC Bhavnagar

In APMC Bhavangar ratio of total fees collected to salaries was highest 5.69 times in the year 2003-04 and lowest 1.54 times in the year 2000-01. The trend of ratio was much fluctuated with an average ratio of 2.65 times. The ratio was lower than the average ratio of this APMC except the year 2003-04 when it was 5.69 times which was highest ratio among all APMCs under
### Table 7.5
Total Fees to Salary & Wages Ratio of APMCs from 1999-00 to 2008-09

<table>
<thead>
<tr>
<th>Year</th>
<th>APMC Amreli</th>
<th>APMC Bhavnagar</th>
<th>APMC Junagadh</th>
<th>APMC Hapa</th>
<th>APMC Rajkot</th>
<th>APMC Wadhwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-00</td>
<td>2.38</td>
<td>1.67</td>
<td>2.57</td>
<td>2.75</td>
<td>1.87</td>
<td>1.04</td>
</tr>
<tr>
<td>2000-01</td>
<td>1.92</td>
<td>1.54</td>
<td>2.79</td>
<td>3.71</td>
<td>1.79</td>
<td>1.57</td>
</tr>
<tr>
<td>2001-02</td>
<td>2.31</td>
<td>2.10</td>
<td>2.92</td>
<td>3.89</td>
<td>1.86</td>
<td>1.53</td>
</tr>
<tr>
<td>2002-03</td>
<td>1.76</td>
<td>2.54</td>
<td>2.67</td>
<td>2.80</td>
<td>1.61</td>
<td>1.01</td>
</tr>
<tr>
<td>2003-04</td>
<td>1.43</td>
<td>5.69</td>
<td>2.30</td>
<td>3.65</td>
<td>3.03</td>
<td>1.25</td>
</tr>
<tr>
<td>2004-05</td>
<td>1.73</td>
<td>2.15</td>
<td>3.62</td>
<td>2.24</td>
<td>1.94</td>
<td>1.71</td>
</tr>
<tr>
<td>2005-06</td>
<td>1.90</td>
<td>2.56</td>
<td>3.62</td>
<td>2.59</td>
<td>1.77</td>
<td>1.37</td>
</tr>
<tr>
<td>2006-07</td>
<td>1.81</td>
<td>3.22</td>
<td>3.81</td>
<td>3.70</td>
<td>2.00</td>
<td>1.29</td>
</tr>
<tr>
<td>2007-08</td>
<td>2.17</td>
<td>2.57</td>
<td>3.52</td>
<td>3.72</td>
<td>1.71</td>
<td>1.19</td>
</tr>
<tr>
<td>2008-09</td>
<td>1.91</td>
<td>2.44</td>
<td>4.02</td>
<td>2.53</td>
<td>1.90</td>
<td>1.77</td>
</tr>
<tr>
<td><strong>average</strong></td>
<td><strong>1.93</strong></td>
<td><strong>2.65</strong></td>
<td><strong>3.18</strong></td>
<td><strong>3.16</strong></td>
<td><strong>1.95</strong></td>
<td><strong>1.37</strong></td>
</tr>
</tbody>
</table>

**Average of All APMCs Under Study 2.37**

**Source:** Computed and Compile from the Annual Reports of Sampled APMCs

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### Chart 7.3
Total Fees to Salary & Wages Ratio of APMCs from 1999-00 to 2008-09

**Source:** Computed and Compile from the Annual Reports of Sampled APMCs
study. The ratio was more than average ratio of the sampled APMCs except year 1999-00 to 2001-02 this indicated the high labour productivity in this APMC.

**APMC Junagadh**

The ratio of total fees collected to salaries and wages in APMC Junagadh witnessed fluctuating trend during study period. It ranged between 2.30 times in the years 2003-04 and 4.02 times in the year 2008-09 with an average ratio of 3.18 times. The ratio was lower than the average ratio of this APMC during first five years of study period and higher than average ratio during last five years of study period .moreover the ratio was more than the average ratio of sampled APMCs during studies period except the year 2003-04 when it was 2.30 times.

**APMC Hapa**

The ratio of total fees collected to salaries and wages showed increasing trend during first three years of the study period. It was 2.75 times in the year 1999-00 and reached to 3.89 times (the highest) in the year 2001-02. The ratio was decreased to 2.80 times in the year 2002-03 which increased to 3.65 times in the year 2003-04 and went down to 2.24 times in the year 2004-05 which was the lowest during study period. The ratio has started increasing trend during the years 2005-06 to 2007-08. It was 2.59 times in the year 2005-6 and reached to 3.72 times in the year 2007-08. In the final year of study period the ratio was went down to 2.53 times. The average ratio of this APMC was 3.16 times that is more than the average ratio (2.37 times) of all APMCs under study. It indicated the higher labour productivity.

**APMC Rajkot**

In APMC Rajkot ratio of total fees collected to salaries and wages revealed fluctuating trend during study period. It ranged between 1.61 times in the year 2002-03 and 3.03 times in the year 2003-04 with an average ratio of 1.95 times. The ratio was 1.87 times in the year 1999-00 and decreased to 1.79 times in the year 2000-01. The ratio was increased to 1.86 times in the year 2001-02 further it increased to 1.61 times in the year 2002-03. The ratio was
increased with rocketing speed in the year 2003-04 when it was 3.03 times. Then the ratio has started ups and down trend and reached to 1.90 times in the final year of study period. The average ratio of this APMC was lower than the average ratio of all APMCs under study. Moreover the ratio of this APMC was lower than the average ratio of sampled APMCs during study period except the year 2003-04 which indicates the lower labour productivity in this APMC.

APMC Wadhwan

In APMC Wadhwan the ratio of total fees collected to salaries and wages showed fluctuating trend it ranged between 1.01 times in the year 2002-03 and 1.77 times in the year 2008-09 with an average ratio of 1.37 times. Which was lowest the average ratio among sampled APMCs. The ratio was 1.04 times in the year 1999-00 and it increased to 1.57 times in the year 2000-01. Then it was continuously decreased during next two years. It was 1.53 times and 1.01 times in the year 2001-02 and 2002-03 respectively. The ratio was further increased to 1.25 times and 1.71 times in the year 2003-04 and 2004-05 respectively. Then with ups and down trend the ratio reached to 1.77 times in then year 2008-09. The ratio of total fees collected to salaries and wages of this APMC was lower than average ratio of all APMCs under study during whole study period. It indicates lower productivity of employees in this APMC.

As a whole it can be concluded that labour productivity in APMC Bhavnagar Junagadh and Hapa was satisfactory while in APMC Amreli, Rajkot and Wadhwan should try to improve the labour productivity in regards to total fees collected. The APMCs in which labors productivity is poor is advised to motivate the employees to increase their efficiency.

Hypothesis:

H₀: There is no significant difference in the Total fees to salaries and wages of sampled APMCs during study period.

H₁: There is significant difference in the Total fees to salaries and wages of the sampled APMCs during study period.
\[ H_0: \] There is no significant difference in the Total fees to salaries and wages in between the years among the sampled APMCs during study period.

\[ H_1: \] There is significant difference in the Total fees to salaries and wages in between the years among the sampled APMCs during study period.

\begin{table}[h]
\centering
\caption{F – TEST (ANOVA TABLE) – Total Fees to Salary & Wages}
\label{tab:anova_table}
\begin{tabular}{|c|c|c|c|c|c|}
\hline
Source of Variation & SS   & df  & MS   & F    & P-value & F Critical \\
\hline
Between Year & 3.6611 & 9   & 0.4067 & 1.00 & 0.4531 & 2.10 \\
Between APMC & 27.2413 & 5   & 5.4482 & 13.41 & 5.1331 & 2.42 \\
Error & 18.2864 & 45  & 0.4063 & & & \\
\hline
Total & 49.1889 & 59  & & & & \\
\hline
\end{tabular}
\end{table}

It is obvious from the table No. 7.6 that there was significant difference in the total fees to salaries and wages of sampled APMCs because the calculated value of ‘F’ (13.41) was greater than that of the table value (2.42) at 5% level of significance. Hence, the null hypothesis was rejected and alternative hypothesis is accepted. The difference in total fees to salaries and wages in between the years was not significant, because the calculated value of ‘F’ (1.00) was less than that of the table value (2.10) at 5% level of significance. Hence, the null hypothesis was accepted and alternative hypothesis is rejected.

Therefore, it is concluded that there was a significant difference in the total fees to salaries and wages of sampled APMCs during study period. It is also concluded that there is no significant difference in the total fees to salaries and wages in between the years of sampled APMCs during study period.
7.9 REFERENCES:


2. Singh N.K., (Productivity in edited book of AIMA, op. Cit,1.4

