CHAPTER VII
ECONOMIC ANALYSIS OF FARM ENTERPRISES

This chapter deals with the economics of production of different farm enterprises i.e. crop and milk enterprises separately, on sample farms, with respect to input-output analysis, net income, family labour income and farm business income. The items of costs used in enterprise analysis are detailed in Appendix.

CROP ENTERPRISES

The important crops of the study area are sugarcane, wheat, maize and jowar for green fodder. The cost incurred on different input factors, physical yields and return obtained per hectare and cost of production per quintal for the same have been worked out separately.

1. Sugarcane

Sugarcane is the most prominent crop of the study area, both from the point of view of area under the crop and the income contribution to total farm output. It covered 34.89% (sugarcane planted 20.85% + sugarcane ratoon 14.04%) of the total cropped area and contributed more than 60% income (sugarcane planted 46.72% + sugarcane ratoon 15.87%) to the total crop output on sample farms.
1.A. Sugarcane planted

**Input cost per hectare**

The cost incurred on different input factors, under different size groups of holdings, have been worked out in Table VII-1.

**Table VII-1: Cost incurred on different input factors on sugarcane planted.**

<table>
<thead>
<tr>
<th>Input factors</th>
<th>0-1</th>
<th>1-2</th>
<th>2-3</th>
<th>3-4</th>
<th>4 &amp; above</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human labour</td>
<td>1212.00</td>
<td>1402.92</td>
<td>1499.20</td>
<td>1504.60</td>
<td>1430.00</td>
<td>1445.39</td>
</tr>
<tr>
<td></td>
<td>(27.04)</td>
<td>(29.47)</td>
<td>(28.45)</td>
<td>(27.25)</td>
<td>(28.00)</td>
<td>(27.65)</td>
</tr>
<tr>
<td>Bullock labour</td>
<td>608.72</td>
<td>712.75</td>
<td>779.84</td>
<td>756.11</td>
<td>637.93</td>
<td>709.02</td>
</tr>
<tr>
<td>Machinery power</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>87.50</td>
<td>87.50</td>
<td>87.50</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(1.58)</td>
<td>(1.70)</td>
<td>(1.67)</td>
</tr>
<tr>
<td>Seed</td>
<td>618.43</td>
<td>488.94</td>
<td>712.74</td>
<td>789.41</td>
<td>703.69</td>
<td>720.67</td>
</tr>
<tr>
<td>Manure &amp; Fert.</td>
<td>690.00</td>
<td>708.85</td>
<td>764.13</td>
<td>810.15</td>
<td>750.98</td>
<td>757.12</td>
</tr>
<tr>
<td>Irrigation</td>
<td>327.09</td>
<td>365.71</td>
<td>415.71</td>
<td>460.97</td>
<td>412.13</td>
<td>411.69</td>
</tr>
<tr>
<td></td>
<td>(7.29)</td>
<td>(7.68)</td>
<td>(7.88)</td>
<td>(8.34)</td>
<td>(8.10)</td>
<td>(7.87)</td>
</tr>
<tr>
<td>Rental value</td>
<td>800.00</td>
<td>800.00</td>
<td>800.00</td>
<td>800.00</td>
<td>800.00</td>
<td>800.00</td>
</tr>
<tr>
<td></td>
<td>(17.85)</td>
<td>(15.80)</td>
<td>(15.18)</td>
<td>(14.48)</td>
<td>(15.55)</td>
<td>(15.30)</td>
</tr>
<tr>
<td>Overhead charges</td>
<td>225.37</td>
<td>280.75</td>
<td>298.26</td>
<td>312.52</td>
<td>291.13</td>
<td>294.11</td>
</tr>
<tr>
<td></td>
<td>(5.06)</td>
<td>(6.92)</td>
<td>(5.68)</td>
<td>(5.70)</td>
<td>(5.65)</td>
<td>(5.68)</td>
</tr>
<tr>
<td><strong>Total cost</strong></td>
<td>4481.61</td>
<td>4759.92</td>
<td>5269.88</td>
<td>5521.26</td>
<td>5113.36</td>
<td>5225.50</td>
</tr>
<tr>
<td></td>
<td>(100.00)(100.00)(100.00)(100.00)(100.00)(100.00)</td>
<td>(100.00)(100.00)(100.00)(100.00)(100.00)(100.00)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Figures in bracket show the percentages of respective costs).
Table VII-1 shows that the average cost of cultivation on sugarcane planted came to Rs. 5225.50 per hectare, which varied from Rs. 4481.61 on smallest size group of 0-1 hectare to Rs. 5521.26 on 3-4 hectares size group. The highest cost of cultivation in 3-4 hectares size group of holding was due to more investment on human labour, manure and fertilizers, seed and irrigation in comparison to other size groups.

Among the input factors, human labour accounted for the highest share of 27.65% followed by manure and fertilizers 14.48%, seed 13.79%, bullock labour 13.95% and irrigation 7.87% to the total cost of cultivation.

Yield and cost of production

The average yield per hectare and cost of production per quintal have been worked out in Table VII-2.

Table VII-2: Yield per hectare and cost of production per quintal.

<table>
<thead>
<tr>
<th>Size group</th>
<th>Yield</th>
<th>Total value</th>
<th>Cost of production per qtl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(in hect.)</td>
<td>(qtls.)</td>
<td>(Rs.)</td>
<td>(Rs.)</td>
</tr>
<tr>
<td>0 - 1</td>
<td>535.17</td>
<td>7224.79</td>
<td>8.43</td>
</tr>
<tr>
<td>1 - 2</td>
<td>573.15</td>
<td>7737.52</td>
<td>8.65</td>
</tr>
<tr>
<td>2 - 3</td>
<td>600.47</td>
<td>8106.34</td>
<td>8.77</td>
</tr>
<tr>
<td>3 - 4</td>
<td>630.89</td>
<td>8517.01</td>
<td>8.75</td>
</tr>
<tr>
<td>4 &amp; above</td>
<td>590.84</td>
<td>7976.34</td>
<td>8.70</td>
</tr>
<tr>
<td>Average</td>
<td>596.71</td>
<td>8055.58</td>
<td>8.75</td>
</tr>
</tbody>
</table>

Table VII-2 shows that average yield of sugarcane came to 596.71 quintals per hectare. It was lowest being 535.17 qtls
on smallest size group of 0-1 hectare and highest being 630.89 quintals in 3-4 hectares size group. A greater use of inputs gave more yield and income on 3-4 hectares size group. As regards cost of production per quintal for sugarcane planted, it worked out to Rs.8.75 and varied from Rs.8.43 to Rs.8.77 per quintal on different size group of holdings.

**Measures of Farm Profit**

The per hectare values of output, net income, family labour income and farm business income received from sugarcane have been worked out in Table VII-3 for different size groups of holdings.

Table VII-3: Per hectare values of output, net income, family labour income, farm business income in sugarcane planted.  
(In Rs. per hectare)

<table>
<thead>
<tr>
<th>Size group (in hect.)</th>
<th>Input</th>
<th>Output</th>
<th>Net income</th>
<th>Family labour income</th>
<th>Farm business income</th>
<th>Input-output income ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>4481.61</td>
<td>7224.79</td>
<td>2743.10</td>
<td>3611.01</td>
<td>3667.26</td>
<td>1:1.61</td>
</tr>
<tr>
<td>1 - 2</td>
<td>4759.42</td>
<td>7737.52</td>
<td>2978.30</td>
<td>3916.73</td>
<td>3986.93</td>
<td>1:1.62</td>
</tr>
<tr>
<td>2 - 3</td>
<td>5269.88</td>
<td>8106.34</td>
<td>2836.96</td>
<td>3494.85</td>
<td>3559.41</td>
<td>1:1.53</td>
</tr>
<tr>
<td>3 - 4</td>
<td>5521.26</td>
<td>8517.01</td>
<td>2995.75</td>
<td>3553.18</td>
<td>3631.31</td>
<td>1:1.54</td>
</tr>
<tr>
<td>4 &amp; above</td>
<td>5143.36</td>
<td>7976.34</td>
<td>2832.98</td>
<td>3383.23</td>
<td>3456.01</td>
<td>1:1.55</td>
</tr>
<tr>
<td>Average</td>
<td>5225.50</td>
<td>8055.58</td>
<td>2830.08</td>
<td>3499.78</td>
<td>3573.30</td>
<td>1:1.54</td>
</tr>
</tbody>
</table>
Table VII-3 shows that sugarcane planted gave an average net income of Rs. 2830.08 per hectare on average investment of Rs. 5225.50 as input cost. The per hectare family labour income and farm business income came to Rs. 3499.78 and Rs. 3573.30 respectively. These values tend to rise with the rise in farm size because of greater investment capacity of the big farmers. The average input-output ratio came to 1: 1.54 which was almost the same in each size group with exception to the smallest size group of 0-1 hectare.

1.B. Sugarcane Ratoon

Taking of sugarcane as ratoon crop is very common in the study area. It is due to the fact that it costs less in comparison to sugarcane planted on account of curtailment in seed and other cultural operations.

Input cost per hectare

Table VII-4 gives an account of the cost incurred on different items of inputs, used in the cultivation of sugarcane ratoon, under different size of holdings.

Table VII-4: Cost on input factors in Sugarcane ratoon.

<table>
<thead>
<tr>
<th>Input factors</th>
<th>0-1</th>
<th>1-2</th>
<th>2-3</th>
<th>3-4</th>
<th>4 &amp; above</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human labour</td>
<td>843.21</td>
<td>945.60</td>
<td>1073.05</td>
<td>1346.90</td>
<td>1008.06</td>
<td>1076.41</td>
</tr>
<tr>
<td></td>
<td>(28.06)</td>
<td>(28.31)</td>
<td>(30.39)</td>
<td>(34.13)</td>
<td>(29.41)</td>
<td>(30.73)</td>
</tr>
<tr>
<td>Bullock labour</td>
<td>506.28</td>
<td>538.24</td>
<td>614.75</td>
<td>668.18</td>
<td>597.07</td>
<td>596.21</td>
</tr>
<tr>
<td></td>
<td>(16.85)</td>
<td>(16.45)</td>
<td>(17.41)</td>
<td>(17.01)</td>
<td>(17.43)</td>
<td>(17.02)</td>
</tr>
<tr>
<td>Seed</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

...cont'd...
Table VII-4 shows that the average cost of cultivation on sugarcane ratoon came to Rs.3502.62 per hectare which varied from Rs.3004.08 to 3932.97 on different size groups of holdings. The higher cost of cultivation in 3-4 hectares size of holding was due to more investment on human labour, bullock labour, manure and fertilizer and irrigation charges in comparison to other size groups.

Among the input factors human labour accounted for 30.73%, bullock labour 17.02%, manure and fertilizer 15.05% and irrigation 8.67% to the total cost of cultivation.

Yield and cost of production

The average yield per hectare and cost of production per quintal for sugarcane ratoon have been worked out in Table VII-5.

<table>
<thead>
<tr>
<th></th>
<th>3004.08</th>
<th>3379.46</th>
<th>3530.64</th>
<th>3933.97</th>
<th>3425.47</th>
<th>3502.62</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cost</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(Figures in bracket show the percentages of respective costs)
Table VII-5: Yield and cost of production per quintal for sugarcane ratoon.

<table>
<thead>
<tr>
<th>Size group</th>
<th>Yield (in qtl/ha)</th>
<th>Total value (in Rs.)</th>
<th>Cost of production per qtl. (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>390.00</td>
<td>5273.10</td>
<td>7.69</td>
</tr>
<tr>
<td>1 - 2</td>
<td>415.13</td>
<td>5604.25</td>
<td>7.74</td>
</tr>
<tr>
<td>2 - 3</td>
<td>435.21</td>
<td>5875.33</td>
<td>8.11</td>
</tr>
<tr>
<td>3 - 4</td>
<td>480.75</td>
<td>6490.12</td>
<td>8.17</td>
</tr>
<tr>
<td>4 &amp; above</td>
<td>426.75</td>
<td>5807.70</td>
<td>7.96</td>
</tr>
</tbody>
</table>

Table VII-5 shows that average yield of ratoon came to 436.46 quintals per hectare which was lowest for 390.00 qtl. in the smallest size group of 0-1 hectare and highest for 480.75 quintals in 3-4 hectares size group. The average cost of production per quintal for sugarcane ratoon was worked out to Rs.8.03.

Measures of farm profit

The per hectare values of output, net income, family labour income, farm business income and input-output ratio for sugarcane have been worked out in Table VII-6.
Table VII-6: Gross income, net income, family labour income and farm business income in sugarcane ratoon.

<table>
<thead>
<tr>
<th>Size group (in hect.)</th>
<th>Input (in Rs. per hect.)</th>
<th>Output (in Rs. per hect.)</th>
<th>Net family income (in Rs. per hect.)</th>
<th>Net farm business income (in Rs. per hect.)</th>
<th>Input-output ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>3004.08</td>
<td>5273.10</td>
<td>2269.02</td>
<td>2290.26</td>
<td>1:1.75</td>
</tr>
<tr>
<td>1 - 2</td>
<td>3339.46</td>
<td>5604.25</td>
<td>2264.79</td>
<td>2723.96</td>
<td>1:1.57</td>
</tr>
<tr>
<td>2 - 3</td>
<td>3530.64</td>
<td>5875.33</td>
<td>2344.69</td>
<td>2755.12</td>
<td>1:1.66</td>
</tr>
<tr>
<td>3 - 4</td>
<td>3933.97</td>
<td>6490.12</td>
<td>2556.15</td>
<td>2940.55</td>
<td>1:1.65</td>
</tr>
<tr>
<td>4 &amp; above</td>
<td>3425.47</td>
<td>5807.70</td>
<td>2335.65</td>
<td>2660.81</td>
<td>1:1.69</td>
</tr>
<tr>
<td>Average</td>
<td>3502.62</td>
<td>5892.21</td>
<td>2389.59</td>
<td>2755.71</td>
<td>1:1.68</td>
</tr>
</tbody>
</table>

(Price of sugarcane @ Rs. 13.50 per qtl. have been calculated)

Table VII-6 shows that the average values of gross income, net income, family labour income and farm business income came to Rs. 5892.21, Rs. 2389.59, Rs. 2755.71 and Rs. 2808.43 respectively. These values were lowest on small farms and tended to increase with the rise in size of farms. It was due to greater utilization of input resources on big farms. The input-output ratio came to 1:1.68 for sugarcane ratoon crop.
Wheat

Wheat is an important food grain crop of the locality. It covered 24.95% to the total cropped area and contributed 24.36% income to total income received from crops. The percentage area under high yielding wheat accounted for 82.72% in its total cropped area.

Input cost per hectare

Table VII-7 shows the cost incurred on different input factors in high yielding varieties of wheat under different size of holdings.

Table VII-7: Cost on input factors in high yielding wheat.

<table>
<thead>
<tr>
<th>Input factors</th>
<th>'0 - 1'</th>
<th>'1 - 2'</th>
<th>'2 - 3'</th>
<th>'3 - 4'</th>
<th>'4 &amp; above'</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human labour</td>
<td>559.30</td>
<td>584.30</td>
<td>618.98</td>
<td>627.72</td>
<td>594.40</td>
<td>605.55</td>
</tr>
<tr>
<td></td>
<td>(22.34)</td>
<td>(21.48)</td>
<td>(21.01)</td>
<td>(19.26)</td>
<td>(20.76)</td>
<td>(20.56)</td>
</tr>
<tr>
<td>Bullock labour</td>
<td>301.26</td>
<td>318.99</td>
<td>329.04</td>
<td>308.23</td>
<td>283.26</td>
<td>308.00</td>
</tr>
<tr>
<td></td>
<td>(12.03)</td>
<td>(11.78)</td>
<td>(11.26)</td>
<td>(9.45)</td>
<td>(9.89)</td>
<td>(10.46)</td>
</tr>
<tr>
<td>Machinery power</td>
<td>302.40</td>
<td>320.40</td>
<td>347.40</td>
<td>477.08</td>
<td>412.01</td>
<td>394.07</td>
</tr>
<tr>
<td></td>
<td>(12.07)</td>
<td>(11.78)</td>
<td>(11.89)</td>
<td>(14.64)</td>
<td>(14.39)</td>
<td>(13.38)</td>
</tr>
<tr>
<td>Seed</td>
<td>145.61</td>
<td>154.84</td>
<td>155.14</td>
<td>165.11</td>
<td>155.02</td>
<td>159.39</td>
</tr>
<tr>
<td></td>
<td>(5.81)</td>
<td>(5.69)</td>
<td>(5.31)</td>
<td>(5.06)</td>
<td>(5.41)</td>
<td>(5.41)</td>
</tr>
<tr>
<td>Manure and fertilizer</td>
<td>417.67</td>
<td>544.00</td>
<td>628.24</td>
<td>774.84</td>
<td>600.21</td>
<td>636.36</td>
</tr>
<tr>
<td></td>
<td>(16.67)</td>
<td>(20.00)</td>
<td>(21.50)</td>
<td>(23.77)</td>
<td>(20.97)</td>
<td>(21.61)</td>
</tr>
<tr>
<td>Irrigation charges</td>
<td>236.16</td>
<td>243.32</td>
<td>277.38</td>
<td>321.25</td>
<td>255.27</td>
<td>276.19</td>
</tr>
<tr>
<td></td>
<td>(9.43)</td>
<td>(8.94)</td>
<td>(9.49)</td>
<td>(9.85)</td>
<td>(8.91)</td>
<td>(9.38)</td>
</tr>
<tr>
<td>Rental value</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
</tr>
<tr>
<td></td>
<td>(15.97)</td>
<td>(14.70)</td>
<td>(13.69)</td>
<td>(12.27)</td>
<td>(13.97)</td>
<td>(13.58)</td>
</tr>
<tr>
<td>Overhead charges</td>
<td>141.74</td>
<td>153.95</td>
<td>165.17</td>
<td>184.45</td>
<td>162.01</td>
<td>166.65</td>
</tr>
<tr>
<td></td>
<td>(5.71)</td>
<td>(5.63)</td>
<td>(5.85)</td>
<td>(5.70)</td>
<td>(5.70)</td>
<td>(5.62)</td>
</tr>
<tr>
<td>Total cost</td>
<td>2504.14</td>
<td>2719.80</td>
<td>2924.55</td>
<td>3258.68</td>
<td>2862.18</td>
<td>2946.21</td>
</tr>
<tr>
<td></td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
</tr>
</tbody>
</table>

(Figures in brackets show the percentage of respective cost)
Table VII-7 shows that the average cost of cultivation for high yielding wheat came to Rs. 2946.21 per hectare which varied from Rs. 2504.14 to Rs. 3258.68 per hectare on different size groups of holdings. The higher cost of cultivation in 3-4 hectares size group of holding was due to more investment on manure and fertilizer, machinery power, human labour, bullock labour and irrigation in comparison to other size group of farms.

Among the input factors manures and fertilizers accounted for the highest cost of 21.61%, followed by human labour 20.56%, machine power 13.38%, bullock labour 10.46% and irrigation charges 9.38% to the total cost of cultivation.

### Yield and cost of production

The average yield per hectare and cost of production per quintal have been worked out in Table VII-8.

Table VII-8: Yield and cost of production per quintal for wheat high yielding variety.

<table>
<thead>
<tr>
<th>Size group</th>
<th>Yield in qtl./hect.</th>
<th>Gross income (Rs.)</th>
<th>Cost of production per quintal (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>25.20</td>
<td>37.98</td>
<td>3527.60</td>
</tr>
<tr>
<td>1 - 2</td>
<td>27.70</td>
<td>37.44</td>
<td>3795.80</td>
</tr>
<tr>
<td>2 - 3</td>
<td>28.95</td>
<td>49.15</td>
<td>4167.50</td>
</tr>
<tr>
<td>3 - 4</td>
<td>31.99</td>
<td>52.14</td>
<td>4561.70</td>
</tr>
<tr>
<td>4 &amp; above</td>
<td>28.85</td>
<td>39.29</td>
<td>3959.10</td>
</tr>
<tr>
<td>Average</td>
<td>29.43</td>
<td>44.83</td>
<td>4122.90</td>
</tr>
</tbody>
</table>


Table VII-8 shows that average yield of wheat came to 29.43 quintals per hectare which varied from 25.20 quintals to 38.75 quintals on different size group of holdings. It was highest in 3-4 hectares size group due to more use of production inputs. Average cost of production per quintal for wheat grain was worked out to Rs. 78.55 and it was Rs. 14.28 for wheat byproduct.

**Measures of farm profit**

The values of output, net income, family labour income, farm business income per hectare and input-output ratio have been worked out in Table VII-9 under different size group of holdings.

Table VII-9: Per hectare value of output, net income, family labour income, farm business income for H.Y.V. wheat (in Rs.).

<table>
<thead>
<tr>
<th>Size group (in hect.)</th>
<th>Input</th>
<th>Output</th>
<th>Net income</th>
<th>Family labour income</th>
<th>Farm business income</th>
<th>Input-output ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>2504.14</td>
<td>3527.60</td>
<td>1023.46</td>
<td>1398.65</td>
<td>1434.08</td>
<td>1:1.40</td>
</tr>
<tr>
<td>1 - 2</td>
<td>2719.80</td>
<td>3795.80</td>
<td>1076.00</td>
<td>1366.17</td>
<td>1404.65</td>
<td>1:1.39</td>
</tr>
<tr>
<td>2 - 3</td>
<td>2921.55</td>
<td>4167.50</td>
<td>1245.95</td>
<td>1481.62</td>
<td>1522.96</td>
<td>1:1.42</td>
</tr>
<tr>
<td>3 - 4</td>
<td>3258.68</td>
<td>4561.70</td>
<td>1303.02</td>
<td>1550.81</td>
<td>1596.92</td>
<td>1:1.39</td>
</tr>
<tr>
<td>4 &amp; above</td>
<td>2862.18</td>
<td>3959.10</td>
<td>1096.92</td>
<td>1311.33</td>
<td>1351.83</td>
<td>1:1.38</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>2946.21</td>
<td>4122.90</td>
<td>1176.69</td>
<td>1433.69</td>
<td>1475.35</td>
<td>1:1.40</td>
</tr>
</tbody>
</table>

Table VII-9 shows that the average values of output, net income, family labour income and farm business income came to Rs. 4122.90, 1176.69, 1433.69 and 1475.35 respectively. These
values showed an increasing trend up to 3-4 hectares size group and decreased afterwards. It was due to greater utilization of input resources with the rise in size of farms. The average input-output ratio was 1:1.40.

Maize

Maize was grown on an area of 24.52 hectares occupying an area of 8.46% to the total cropped area under study. It shared for 4.17% to the total gross income from crop production.

Input cost per hectare

The cost incurred on different input factors in the cultivation of maize crop have been worked in Table VII-10.

Table VII-10: Input cost per hectare (In rupees).

<table>
<thead>
<tr>
<th>Input factors</th>
<th>'0-1'</th>
<th>'1-2'</th>
<th>'2-3'</th>
<th>'3-4'</th>
<th>4 &amp; above</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human labour</td>
<td>468.00</td>
<td>501.43</td>
<td>536.00</td>
<td>553.45</td>
<td>525.00</td>
<td>528.02</td>
</tr>
<tr>
<td></td>
<td>(31.17)</td>
<td>(30.88)</td>
<td>(31.47)</td>
<td>(30.08)</td>
<td>(31.01)</td>
<td>(30.79)</td>
</tr>
<tr>
<td>Bullock labour</td>
<td>229.78</td>
<td>243.71</td>
<td>262.62</td>
<td>296.67</td>
<td>276.24</td>
<td>271.33</td>
</tr>
<tr>
<td></td>
<td>(15.30)</td>
<td>(15.01)</td>
<td>(15.41)</td>
<td>(16.12)</td>
<td>(16.35)</td>
<td>(15.79)</td>
</tr>
<tr>
<td>Seed</td>
<td>30.92</td>
<td>30.53</td>
<td>32.12</td>
<td>33.75</td>
<td>30.37</td>
<td>31.91</td>
</tr>
<tr>
<td></td>
<td>(2.05)</td>
<td>(1.88)</td>
<td>(1.88)</td>
<td>(1.83)</td>
<td>(1.79)</td>
<td>(1.85)</td>
</tr>
<tr>
<td>Manure and fertilizers</td>
<td>216.64</td>
<td>253.34</td>
<td>300.12</td>
<td>380.14</td>
<td>291.88</td>
<td>317.74</td>
</tr>
<tr>
<td></td>
<td>(14.43)</td>
<td>(17.57)</td>
<td>(17.62)</td>
<td>(20.66)</td>
<td>(17.24)</td>
<td>(18.49)</td>
</tr>
<tr>
<td>Irrigation</td>
<td>70.74</td>
<td>70.53</td>
<td>75.21</td>
<td>70.12</td>
<td>72.79</td>
<td>71.64</td>
</tr>
<tr>
<td></td>
<td>(4.71)</td>
<td>(4.34)</td>
<td>(4.41)</td>
<td>(3.81)</td>
<td>(4.30)</td>
<td>(4.16)</td>
</tr>
<tr>
<td>Rental value</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
</tr>
<tr>
<td></td>
<td>(26.64)</td>
<td>(24.63)</td>
<td>(23.48)</td>
<td>(21.74)</td>
<td>(23.62)</td>
<td>(23.27)</td>
</tr>
<tr>
<td>Overhead charges</td>
<td>84.96</td>
<td>91.89</td>
<td>97.56</td>
<td>105.24</td>
<td>95.81</td>
<td>97.69</td>
</tr>
<tr>
<td></td>
<td>(5.70)</td>
<td>(5.69)</td>
<td>(5.73)</td>
<td>(5.76)</td>
<td>(5.69)</td>
<td>(5.72)</td>
</tr>
<tr>
<td>Total cost</td>
<td>1501.04</td>
<td>1623.43</td>
<td>1703.63</td>
<td>1839.37</td>
<td>1692.89</td>
<td>1718.33</td>
</tr>
</tbody>
</table>
| (Figures in bracket show the percentage of the respective costs)
Table VII-10 reveals that the average cost of cultivation on maize came to ₹1718.33 per hectare. It was lowest being ₹1501.04 in 0-1 hectares size group and highest being ₹1859.37 on 3-4 hectares size group. The higher cost on 3-4 hectares size group, was due to greater investment on manure fertilizer, human labour and bullock labour in comparison to other size groups of farms.

Among the input factors, human labour accounted for the highest share of 30.34% followed by manures and fertilizer 18.26%, bullock labour 15.99% to the total cost of cultivation (keeping rental value constant).

**Yield and cost of production**

Table VII-11 gives the per hectare average yield obtained in different size groups and the cost of production per quintal for maize crop.

Table VII-11: Yield and cost of production for maize crop.

<table>
<thead>
<tr>
<th>Size group (in hect.)</th>
<th>Yield in qtl./hect.</th>
<th>Total Main product value (in Rs.)</th>
<th>Total Byproduct value (in Rs.)</th>
<th>Cost of production per quintal (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>17.24</td>
<td>55.73</td>
<td>1756.08</td>
<td>64.96</td>
</tr>
<tr>
<td>1 - 2</td>
<td>18.53</td>
<td>62.79</td>
<td>1910.60</td>
<td>64.57</td>
</tr>
<tr>
<td>2 - 3</td>
<td>20.43</td>
<td>78.15</td>
<td>2177.88</td>
<td>59.43</td>
</tr>
<tr>
<td>3 - 4</td>
<td>21.70</td>
<td>87.24</td>
<td>2347.12</td>
<td>60.20</td>
</tr>
<tr>
<td>4 &amp; above</td>
<td>20.00</td>
<td>75.13</td>
<td>2121.04</td>
<td>60.65</td>
</tr>
<tr>
<td>Average</td>
<td>20.26</td>
<td>75.94</td>
<td>2147.28</td>
<td>60.81</td>
</tr>
</tbody>
</table>
Table VII-11 shows that maize gave an average yield of 20.26 quintals per hectare. The yield showed an increasing trend up to 3-4 hectares size group, afterwards it came down. It was due to higher use of inputs on large farms. The average cost of production per quintal for main product and byproduct came to Rs. 60.81 and Rs. 6.40 respectively.

**Measures of Farm Profit**

The values of output, net income, family labour income and farm business income for maize crop have been presented in Table VII-12.

**Table VII-12:** Gross income, net income, family labour income and farm business income in rupees per hectare.

<table>
<thead>
<tr>
<th>Size group (in hectares)</th>
<th>Input</th>
<th>Output</th>
<th>Net Labour Income</th>
<th>Family Labour Income</th>
<th>Farm Business Income</th>
<th>Input-output ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>1501.04</td>
<td>1756.08</td>
<td>255.04</td>
<td>503.29</td>
<td>524.53</td>
<td>1:1.16</td>
</tr>
<tr>
<td>1 - 2</td>
<td>1623.43</td>
<td>1910.60</td>
<td>282.17</td>
<td>525.82</td>
<td>540.79</td>
<td>1:1.17</td>
</tr>
<tr>
<td>2 - 3</td>
<td>1703.63</td>
<td>2177.88</td>
<td>474.25</td>
<td>675.03</td>
<td>699.42</td>
<td>1:1.27</td>
</tr>
<tr>
<td>3 - 4</td>
<td>1839.37</td>
<td>2347.12</td>
<td>507.75</td>
<td>692.02</td>
<td>718.35</td>
<td>1:1.26</td>
</tr>
<tr>
<td>4 &amp; above</td>
<td>1692.09</td>
<td>2121.04</td>
<td>428.95</td>
<td>631.57</td>
<td>655.52</td>
<td>1:1.25</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>1718.33</td>
<td>2147.28</td>
<td>428.95</td>
<td>642.18</td>
<td>666.59</td>
<td>1:1.25</td>
</tr>
</tbody>
</table>

Table VII-12 shows that the average value of output, net income, family labour income and farm business income came to Rs. 2147.28, 428.89, 642.18, 666.59 respectively. These values were highest on 3-4 hectares size group due to greater utilization of input resources. The input-output ratio came to 1:1.25.
Jowar green fodder (Chari)

Jowar for green fodder (chari) occupies an important place in the cropping pattern of the cultivators due to maintenance of large number of mulch and draft animals on their farms. It accounted for 8.51% of the total cropped area and contributed 5.17% to the total income from the crops.

Input cost per hectare

The cost incurred on different input factors in the cultivation of jowar green fodder (chari) have been worked out in Table VII-13.

Table VII-13: Cost on input factor in jowar green fodder cultivation (in Rs.).

<table>
<thead>
<tr>
<th>Input factors</th>
<th>0 - 1</th>
<th>1 - 2</th>
<th>2 - 3</th>
<th>3 - 4</th>
<th>4 &amp; above</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human labour</td>
<td>305.30</td>
<td>325.38</td>
<td>328.32</td>
<td>330.12</td>
<td>327.85</td>
<td>326.55</td>
</tr>
<tr>
<td></td>
<td>(31.02)</td>
<td>(32.20)</td>
<td>(32.21)</td>
<td>(32.11)</td>
<td>(32.28)</td>
<td>(30.85)</td>
</tr>
<tr>
<td>Bullock labour</td>
<td>177.25</td>
<td>181.61</td>
<td>185.12</td>
<td>191.15</td>
<td>183.19</td>
<td>185.07</td>
</tr>
<tr>
<td></td>
<td>(18.01)</td>
<td>(17.97)</td>
<td>(18.16)</td>
<td>(18.60)</td>
<td>(18.04)</td>
<td>(18.27)</td>
</tr>
<tr>
<td>Seed</td>
<td>45.75</td>
<td>48.21</td>
<td>47.69</td>
<td>48.23</td>
<td>46.85</td>
<td>47.22</td>
</tr>
<tr>
<td></td>
<td>(4.65 )</td>
<td>(4.77 )</td>
<td>(4.68 )</td>
<td>(4.69 )</td>
<td>(4.61 )</td>
<td>(4.64 )</td>
</tr>
<tr>
<td>Manure &amp; Fert.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Irrigation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Rental value</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
<td>400.00</td>
</tr>
<tr>
<td></td>
<td>(40.64)</td>
<td>(39.58)</td>
<td>(39.25)</td>
<td>(38.92)</td>
<td>(39.39)</td>
<td>(39.37)</td>
</tr>
<tr>
<td>Overhead charges</td>
<td>55.62</td>
<td>57.19</td>
<td>57.67</td>
<td>58.17</td>
<td>57.42</td>
<td>57.52</td>
</tr>
<tr>
<td></td>
<td>(6.32 )</td>
<td>(5.48 )</td>
<td>(5.76 )</td>
<td>(5.68 )</td>
<td>(5.68 )</td>
<td>(6.87 )</td>
</tr>
<tr>
<td>Total cost</td>
<td>983.92</td>
<td>1012.39</td>
<td>1019.00</td>
<td>1027.67</td>
<td>1015.31</td>
<td>1016.36</td>
</tr>
<tr>
<td></td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
</tr>
</tbody>
</table>

(Figures in brackets show the percentage of the respective costs.)
Table VII-13 shows that the average cost of cultivation on jowar green fodder (chari) came to Rs. 1015.84 per hectare. It was the lowest being Rs. 986.92 in 0-1 hectare size group and highest being Rs. 1027.67 per hectare in 3-4 hectares size group of holding.

Among the input factors, human labour accounted for the highest cost of 30.85 per cent, followed by bullock labour and seed which accounted for 18.27% and 4.64% respectively (keeping rental value constant).

Yield and cost of production

Table VII-14 shows the per hectare average yield of jowar green fodder and cost of production per quintal under different size groups of holding.

Table VII-14: Yield per hectare and cost of production per quintal.

<table>
<thead>
<tr>
<th>Size group (in hect.)</th>
<th>Yield in quintal/hect.</th>
<th>Total value in Rs.</th>
<th>Cost of production per quintal (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>205.69</td>
<td>2205.52</td>
<td>3.58</td>
</tr>
<tr>
<td>1 - 2</td>
<td>291.29</td>
<td>233.32</td>
<td>3.46</td>
</tr>
<tr>
<td>2 - 3</td>
<td>303.74</td>
<td>2449.04</td>
<td>3.32</td>
</tr>
<tr>
<td>3 - 4</td>
<td>313.51</td>
<td>2509.92</td>
<td>3.27</td>
</tr>
<tr>
<td>4 &amp; above</td>
<td>301.85</td>
<td>2414.80</td>
<td>3.26</td>
</tr>
<tr>
<td>Average</td>
<td>303.31</td>
<td>2426.48</td>
<td>3.35</td>
</tr>
</tbody>
</table>

Table VII-14 reveals that jowar green fodder gave an average yield of 303.31 quintal per hectare. The yield showed an increasing trend up to 3-4 hectares size group afterward it
decreased. It was due to higher investment on different inputs on big farms as compared to smallest one's. The average cost of production came to Rs. 3.35 per quintal for jowar green fodder.

**Measures of farm profit**

The values of output, net income, family labour income, farm business income per hectare and input-output ratio for jowar green fodder under different size group of holdings, have been shown in Table VII-15.

**Table VII-15: Values of output, net income, family labour income and farm business income per hectare (in Rs.).**

<table>
<thead>
<tr>
<th>Size group (in hect.)</th>
<th>Input output</th>
<th>Net income</th>
<th>Family labour income</th>
<th>Farm business income</th>
<th>Input-output ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1</td>
<td>983.92</td>
<td>2205.52</td>
<td>1221.60</td>
<td>1286.59</td>
<td>1:2.24</td>
</tr>
<tr>
<td>1 - 2</td>
<td>1012.39</td>
<td>2330.32</td>
<td>1317.93</td>
<td>1393.08</td>
<td>1:2.30</td>
</tr>
<tr>
<td>2 - 3</td>
<td>1019.00</td>
<td>2449.04</td>
<td>1436.04</td>
<td>1485.17</td>
<td>1:2.40</td>
</tr>
<tr>
<td>3 - 4</td>
<td>1027.67</td>
<td>2509.92</td>
<td>1482.25</td>
<td>1542.08</td>
<td>1:2.44</td>
</tr>
<tr>
<td>4 &amp; above 1015.31</td>
<td>2414.80</td>
<td>1399.49</td>
<td>1458.15</td>
<td>1472.51</td>
<td>1:2.37</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>1016.36</strong></td>
<td><strong>2426.48</strong></td>
<td><strong>1410.12</strong></td>
<td><strong>1467.01</strong></td>
<td><strong>1:2.38</strong></td>
</tr>
</tbody>
</table>

Table VII-15 reveals that the values of output, net income, family labour income and farm business income moved up with the increase in the size of holdings up to fourth size of holding and decrease afterwards on largest size of holding. It was due to higher investment of inputs by the farmers of large size groups which gave more yield and returns. The average values...
of net income, family labour income and farm business income came to Rs. 1410.12, 1467.01 and 1481.40 per hectare respectively. The input-output ratio on an average came to 1:2.38.
Economics of milk production was worked out for those animals who were giving milk during the period of study. The cost on feeds and fodders has been charged on the basis of prevailing market rates in the locality.

Number of milch cattles

The number of milch cattles, i.e. cows and buffaloes kept by the sample farmers of different size groups, on per farm and per hectare basis, have been given in Table VII-16.

Table VII-16: Number of milch cattle per hectare and per farm.

<table>
<thead>
<tr>
<th>Size group (in hect.)</th>
<th>Per farm</th>
<th>Per hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cows</td>
<td>She-buffaloes</td>
</tr>
<tr>
<td>0 - 1</td>
<td>0.49</td>
<td>0.55</td>
</tr>
<tr>
<td>1 - 2</td>
<td>0.85</td>
<td>1.00</td>
</tr>
<tr>
<td>2 - 3</td>
<td>1.00</td>
<td>1.68</td>
</tr>
<tr>
<td>3 - 4</td>
<td>0.88</td>
<td>2.12</td>
</tr>
<tr>
<td>4 &amp; above</td>
<td>0.77</td>
<td>2.40</td>
</tr>
<tr>
<td>Average</td>
<td>0.80</td>
<td>1.32</td>
</tr>
</tbody>
</table>

Table VII-16 shows that on an average, the number of milch cattles per farm and per hectare came to 2.12 and 1.06 respectively. The number showed an increasing trend on per farm basis while a reverse trend was found on per hectare basis with the increase in size of farms. Table also shows that number of shebuffaloes kept by the farmers, on per hectare basis, were
larger than number of cows. On an average, the percentage number of shebuffaloes stood 63% and cows 37% to total milch cattles.

As regards different size groups of farms, it may be noted that number of milch cattles per hectare were greater on small farms as compared to big farms. It was due to the fact that small farmers try to maximise their income by milk enterprises on their farms.

Cost and Returns per milch cattle

(a) Cows

Maintenance cost: The cost of maintenance, per cow, per lactation and its break up has been given in Table VII-17.

Table VII-17: Breakup of maintenance cost per cow per lactation.

<table>
<thead>
<tr>
<th>Items</th>
<th>0-1</th>
<th>1-2</th>
<th>2-3</th>
<th>3-4</th>
<th>Above</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green fodder</td>
<td>361.23</td>
<td>373.12</td>
<td>381.33</td>
<td>398.73</td>
<td>383.41</td>
<td>383.63</td>
</tr>
<tr>
<td></td>
<td>(33.15)</td>
<td>(33.32)</td>
<td>(33.09)</td>
<td>(33.44)</td>
<td>(33.45)</td>
<td>(33.05)</td>
</tr>
<tr>
<td>Dry fodder</td>
<td>144.83</td>
<td>149.43</td>
<td>156.11</td>
<td>164.09</td>
<td>151.63</td>
<td>155.08</td>
</tr>
<tr>
<td>Concentrates</td>
<td>403.69</td>
<td>405.37</td>
<td>409.16</td>
<td>413.95</td>
<td>406.73</td>
<td>408.74</td>
</tr>
<tr>
<td></td>
<td>(37.05)</td>
<td>(36.20)</td>
<td>(35.51)</td>
<td>(34.74)</td>
<td>(35.48)</td>
<td>(36.11)</td>
</tr>
<tr>
<td>Human labour</td>
<td>100.13</td>
<td>109.19</td>
<td>119.12</td>
<td>125.26</td>
<td>118.61</td>
<td>117.30</td>
</tr>
<tr>
<td></td>
<td>(9.19)</td>
<td>(9.75)</td>
<td>(10.33)</td>
<td>(10.50)</td>
<td>(10.34)</td>
<td>(10.19)</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>17.85</td>
<td>19.18</td>
<td>21.15</td>
<td>22.75</td>
<td>20.80</td>
<td>20.86</td>
</tr>
<tr>
<td></td>
<td>(1.63)</td>
<td>(1.71)</td>
<td>(1.83)</td>
<td>(1.90)</td>
<td>(1.81)</td>
<td>(1.81)</td>
</tr>
<tr>
<td>Overhead charges</td>
<td>61.66</td>
<td>63.37</td>
<td>65.21</td>
<td>67.48</td>
<td>64.87</td>
<td>65.13</td>
</tr>
<tr>
<td></td>
<td>(5.69)</td>
<td>(5.68)</td>
<td>(5.69)</td>
<td>(5.69)</td>
<td>(5.69)</td>
<td>(5.69)</td>
</tr>
<tr>
<td>Total cost</td>
<td>1089.39</td>
<td>1119.66</td>
<td>1152.08</td>
<td>1192.26</td>
<td>1146.05</td>
<td>1150.74</td>
</tr>
<tr>
<td></td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
</tr>
<tr>
<td>Income other than milk</td>
<td>60.71</td>
<td>72.84</td>
<td>64.15</td>
<td>79.02</td>
<td>63.74</td>
<td>62.93</td>
</tr>
<tr>
<td>Net maintenance cost</td>
<td>1028.68</td>
<td>1045.82</td>
<td>1086.93</td>
<td>1112.24</td>
<td>1081.31</td>
<td>1087.81</td>
</tr>
</tbody>
</table>

(Figures in brackets show the percentage of total cost)
Table VII-17 shows that the total cost of maintenance on a cow during a lactation period, on an average, came to Rs. 1150.74. The average net maintenance cost after deducting the income from cow dung etc. came to Rs. 1087.81. The maintenance cost per cow, per lactation, was highest in 3-4 hectare size group, due to higher investments on concentrates and green fodder etc.

Among different items of maintenance cost, concentrates accounted for the highest share of 36.11%, followed by green fodder 33.05%, dry fodder 15.15% and human labour 10.19% to the total cost of maintenance.

Milk Yield and Income

The milk yield received per cow per lactation and values of output, net income, family labour income and farm business income and cost of production per litre of milk, have been worked out in Table VII-18.

Table VII-18: Milk yield and income per cow per lactation (in Rs.)

<table>
<thead>
<tr>
<th>Particulars</th>
<th>0 - 1</th>
<th>1 - 2</th>
<th>2 - 3</th>
<th>3 - 4</th>
<th>4 and above</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk yield (in litres)</td>
<td>849.57</td>
<td>839.09</td>
<td>848.67</td>
<td>863.12</td>
<td>826.61</td>
<td>835.33</td>
</tr>
<tr>
<td>Total income</td>
<td>1699.14</td>
<td>1678.18</td>
<td>1697.34</td>
<td>1726.24</td>
<td>1655.22</td>
<td>1670.66</td>
</tr>
<tr>
<td>Net maintenance cost</td>
<td>1028.68</td>
<td>1046.82</td>
<td>1086.93</td>
<td>1112.24</td>
<td>1081.31</td>
<td>1087.81</td>
</tr>
<tr>
<td>Net income</td>
<td>676.46</td>
<td>631.36</td>
<td>610.41</td>
<td>614.00</td>
<td>570.91</td>
<td>582.85</td>
</tr>
<tr>
<td>Family labour income</td>
<td>770.59</td>
<td>740.55</td>
<td>728.53</td>
<td>738.26</td>
<td>689.52</td>
<td>700.15</td>
</tr>
<tr>
<td>Farm business income</td>
<td>786.00</td>
<td>756.39</td>
<td>744.83</td>
<td>755.13</td>
<td>705.63</td>
<td>716.43</td>
</tr>
<tr>
<td>Input-output ratio</td>
<td>1:1.65</td>
<td>1:1.65</td>
<td>1:1.56</td>
<td>1:1.56</td>
<td>1:1.52</td>
<td>1:1.53</td>
</tr>
<tr>
<td>Cost of production per litre</td>
<td>1.21</td>
<td>1.24</td>
<td>1.28</td>
<td>1.28</td>
<td>1.30</td>
<td>1.30</td>
</tr>
</tbody>
</table>
Table VII-18 reveals that on an average a cow gave milk yield of 835.33 litres per lactation amounting to a total gross income of Rs. 1670.66 and net income of Rs. 582.85 by incurring a net maintenance cost of Rs. 1087.81 per cow per lactation. Average values of family labour income and farm business income came to Rs. 700.15 and 716.43 respectively.

The average cost of production per litre of cow milk was worked out to Rs. 130 which showed an increasing trend with the rise in farm size, due to comparatively higher maintenance cost and low milk yields. The average input–output ratio came to 1:1.53.

(B) She-buffaloes

Maintenance cost: The cost of maintenance per she-buffalo per lactation and its break up have been given in Table VII-19.

Table VII-19: Break up of maintenance cost per she-buffalo per lactation (in Rs.).

<table>
<thead>
<tr>
<th>Items</th>
<th>0 - 1</th>
<th>1 - 2</th>
<th>2 - 3</th>
<th>3 - 4</th>
<th>4 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green fodder</td>
<td>384.17</td>
<td>390.24</td>
<td>392.25</td>
<td>401.14</td>
<td>397.19</td>
</tr>
<tr>
<td></td>
<td>(25.96)</td>
<td>(23.79)</td>
<td>(22.81)</td>
<td>(22.63)</td>
<td>(22.53)</td>
</tr>
<tr>
<td>Dry fodder</td>
<td>216.00</td>
<td>229.21</td>
<td>251.21</td>
<td>251.23</td>
<td>256.19</td>
</tr>
<tr>
<td>Concentrates</td>
<td>610.40</td>
<td>723.69</td>
<td>759.61</td>
<td>800.21</td>
<td>805.74</td>
</tr>
<tr>
<td></td>
<td>(41.25)</td>
<td>(44.11)</td>
<td>(44.17)</td>
<td>(45.16)</td>
<td>(45.71)</td>
</tr>
<tr>
<td>Labour charges</td>
<td>160.17</td>
<td>175.11</td>
<td>179.52</td>
<td>183.73</td>
<td>172.41</td>
</tr>
<tr>
<td></td>
<td>(10.82)</td>
<td>(10.67)</td>
<td>(10.43)</td>
<td>(10.36)</td>
<td>(9.78)</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>25.13</td>
<td>27.21</td>
<td>39.65</td>
<td>35.22</td>
<td>31.18</td>
</tr>
<tr>
<td></td>
<td>(1.69)</td>
<td>(1.78)</td>
<td>(1.89)</td>
<td>(1.98)</td>
<td>(1.76)</td>
</tr>
<tr>
<td>Overhead charges</td>
<td>83.75</td>
<td>92.84</td>
<td>97.33</td>
<td>100.29</td>
<td>99.76</td>
</tr>
<tr>
<td></td>
<td>(5.69)</td>
<td>(5.68)</td>
<td>(6.10)</td>
<td>(5.70)</td>
<td>(5.69)</td>
</tr>
<tr>
<td>Total cost</td>
<td>1479.62</td>
<td>1640.30</td>
<td>1719.57</td>
<td>1771.82</td>
<td>1762.47</td>
</tr>
<tr>
<td></td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
<td>(100.00)</td>
</tr>
<tr>
<td>Income other than milk</td>
<td>100.90</td>
<td>108.53</td>
<td>107.61</td>
<td>120.87</td>
<td>103.99</td>
</tr>
<tr>
<td>Net maintenance cost</td>
<td>1378.72</td>
<td>1531.77</td>
<td>1611.96</td>
<td>1650.95</td>
<td>1638.48</td>
</tr>
</tbody>
</table>
Table VII-19 reveals that the average total maintenance cost on a she-buffalo during a lactation period came to Rs. 1711.42. The average net maintenance cost after deducting the income of dung etc. came to Rs. 1601.17 per she-buffalo. The cost showed an increasing trend up to 3-4 hectares size group due to having she-buffaloes of relatively good breed which required higher investment on concentrates and fodders etc. Amongst different items of cost, concentrates accounted for the highest share of 44.67%, followed by green fodder 23.15%, dry fodder 14.33% and labour charges 10.47% to the total maintenance cost.

**Milk Yield and Income**

The milk yield received per she-buffalo, per lactation and values of output, net income, family labour income and farm business income and cost of production per litre of the buffalo milk, have been worked out in Table VII-20.

Table VII-20: Milk yield and income per she-buffalo per lactation (in Rs.).

<table>
<thead>
<tr>
<th>Particulars</th>
<th>0 - 1</th>
<th>1 - 2</th>
<th>2 - 3</th>
<th>3 - 4</th>
<th>Above Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk yield (in litres)</td>
<td>1250.35</td>
<td>1281.90</td>
<td>1295.90</td>
<td>1302.49</td>
<td>1242.48</td>
</tr>
<tr>
<td>Total income</td>
<td>2500.70</td>
<td>2563.80</td>
<td>2591.80</td>
<td>2604.98</td>
<td>2485.16</td>
</tr>
<tr>
<td>Net maintenance cost</td>
<td>1378.72</td>
<td>1531.77</td>
<td>1611.96</td>
<td>1650.95</td>
<td>1638.48</td>
</tr>
<tr>
<td>Net income</td>
<td>1121.98</td>
<td>1032.03</td>
<td>979.84</td>
<td>954.03</td>
<td>846.48</td>
</tr>
<tr>
<td>Family labour income</td>
<td>1282.15</td>
<td>1207.14</td>
<td>1159.36</td>
<td>1137.76</td>
<td>1019.09</td>
</tr>
<tr>
<td>Farm business income</td>
<td>1303.08</td>
<td>1230.35</td>
<td>1183.69</td>
<td>1162.81</td>
<td>1044.03</td>
</tr>
<tr>
<td>Input-output ratio</td>
<td>1:1.81</td>
<td>1:1.67</td>
<td>1:1.60</td>
<td>1:1.57</td>
<td>1:1.51</td>
</tr>
<tr>
<td>Cost of production/litre of milk</td>
<td>1.10</td>
<td>1.19</td>
<td>1.24</td>
<td>1.26</td>
<td>1.31</td>
</tr>
</tbody>
</table>
Table VII-20 shows that a she-buffalo during a lactation period yielded 1285.90 litres of milk. On an average a total gross income of Rs.2570.98 and a net income of Rs.969.81 was obtained by incurring a net maintenance cost of Rs.1601.17 per she-buffalo, per lactation. The average family labour income and farm business income came to Rs.1149.07 and Rs.1173.28 respectively. All these values tended to decrease with the rise in farm size due to higher maintenance cost. The average cost of production per litre of she-buffalo milk was worked out to Rs.1.24.