Impact of Watershed Programme on the Living Conditions of Farmers in Kadapa District - A Comparative Analysis of the Selected Mandalas,

Summary and Conclusions
The earlier analysis reveals that the farmers could not avail themselves of the benefits of the watershed programme to the full extent required in all the mandals of the District. In this chapter an attempt is made to gain a comparative perspective of the selected mandals which intern represents, the district as a whole.

Caste of the farmers is one of the most significant aspects which influences the life style of the farmers. Poor socio-economic conditions of the farmers will have a definite effect on the proper usage of the facilities and hence the farmers are discussed by caste.

Table 8.1
COMPARATIVE ANALYSIS OF CASTE-WISE COVERAGE OF FARMERS UNDER WATERSHED PROGRAMME AT THE DISTRICT LEVEL

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Caste</th>
<th>No. of Farmers in Developed Mandal</th>
<th>No. of Farmers in Moderately Developed Mandal</th>
<th>No. of Farmers in Less Developed Mandal</th>
<th>All Mandals/ at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Scheduled Tribes</td>
<td>34 (22.67)</td>
<td>29 (19.33)</td>
<td>37 (24.67)</td>
<td>100 (22.22)</td>
</tr>
<tr>
<td>2.</td>
<td>Scheduled Caste</td>
<td>37 (24.67)</td>
<td>31 (20.67)</td>
<td>35 (23.33)</td>
<td>103 (22.89)</td>
</tr>
<tr>
<td>3.</td>
<td>Backward Castes</td>
<td>39 (26.00)</td>
<td>49 (32.67)</td>
<td>38 (25.33)</td>
<td>126 (28.00)</td>
</tr>
<tr>
<td>4.</td>
<td>Other Castes</td>
<td>40 (26.66)</td>
<td>41 (27.33)</td>
<td>40 (26.67)</td>
<td>121 (26.89)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>450 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey
(Figures in Brackets are Percentage to totals)

Caste-wise particulars of the selected farmers are presented in table 8.1. It is learnt from the table that out of the total farmers 22.67 per cent of the farmers belonged to Scheduled Tribes 24.67 per cent of the farmers belonged to Schedule Caste, 26 per cent of the farmers belonged to
Backward Castes and 26.66 per cent of the farmers belonged to Other Castes in Developed Mandal.

Out of the total farmers in Moderately Developed Mandal 19.33 per cent of the farmers belonged to Scheduled Tribes, 20.67 per cent of the farmers belonged to Scheduled Castes, 32.67 per cent of the farmers belong to Backward Castes and 27.33 per cent of the farmers belonged to Other Castes.

From the total farmers in Less Developed Mandal 24.67 per cent of the farmers belonged to Scheduled Tribes 23.33 per cent of the farmers belonged to Scheduled Castes 25.33 per cent of the farmers belonged to Backward Castes and 26.67 per cent of the farmers belonged to Other Castes.

Out of the total farmers at the District level 22.22 per cent of the farmers belonged to Scheduled Tribes, 22.89 per cent of the farmers belonged to Scheduled Castes 28 per cent of the farmers belonged to Backward Castes and 26.89 per cent of the farmers belonged to Other Castes.

**CATEGORY-WISE COMPARATIVE ANALYSIS OF THE SELECTED FARMERS UNDER WATERSHED PROGRAMME IN KADAPA DISTRICT**

Category-wise details of selected farmers are presented in table 8.2.
Table 8.2
CATEGORY WISE COMPARATIVE ANALYSIS OF THE FARMERS UNDER WATERSHED PROGRAMME AT THE DISTRICT LEVEL

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Category</th>
<th>No. of Farmers in Developed Mandal</th>
<th>No. of Farmers in Moderately Developed Mandal</th>
<th>No. of Farmers in Less Developed Mandal</th>
<th>All Mandalas at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Small Farmers</td>
<td>38 (26.00)</td>
<td>42 (28.00)</td>
<td>27 (18.00)</td>
<td>108 (24.00)</td>
</tr>
<tr>
<td>2.</td>
<td>Marginal Farmers</td>
<td>43 (28.67)</td>
<td>43 (28.67)</td>
<td>44 (29.33)</td>
<td>130 (28.89)</td>
</tr>
<tr>
<td>3.</td>
<td>Medium Farmers</td>
<td>37 (24.67)</td>
<td>35 (23.33)</td>
<td>54 (36.00)</td>
<td>126 (28.00)</td>
</tr>
<tr>
<td>3.</td>
<td>Large Farmers</td>
<td>31 (20.66)</td>
<td>30 (20.00)</td>
<td>25 (16.67)</td>
<td>86 (19.11)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>450 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey
(Figures in Brackets are Percentage to totals)

As per the table 8.2 out of the total farmers in Developed Mandal 26 per cent of the farmers are Small Farmers, 28.67 per cent of the farmers are Marginal Farmers, 34.67 per cent of the farmers are Medium Farmers and 20.66 per cent of the farmers are Large Farmers.

Out of the total farmers in Moderately Developed Mandal 28 per cent of the farmers are Small Farmers, 28.67 per cent of the farmers are Marginal Farmers, 23.33 per cent of the farmers are Medium Farmers and 20 per cent of the farmers are Large Farmers.

Out of the total farmers in Less Developed Mandal 18 per cent of the farmers are Small Farmers, 29.33 per cent of the farmers are Marginal Farmers, 36 per cent of the farmers are Medium Farmers and 16.67 per cent of the farmers are Large Farmers.

Out of the total farmers at the District level 24 per cent of the farmers are Small Farmers, 28.89 per cent of the farmers are Marginal
Farmers, 28 per cent of the farmers are Medium Farmers and 19.11 per cent of the farmers are Large Farmers.

**LITERACY PARTICULARS OF THE FARMERS UNDER WATERSHED PROGRAMME IN KADAPA DISTRICT**

Education, not only makes the people literate but also provide skills. The progress of any Nation depends upon the nature of education imparted to its people. The upliftment of Scheduled Castes, Scheduled Tribes and other weaker sections solely depends upon the educational facilities provided to these groups, which certainly improve their Socio-economic conditions. To a large extent the Socio-economic life of a society or community is determined by its level of education. Education can transform unproductive human labour in to productive human capital. It directly and indirectly increases the productivity of the people. Education levels of the people reflect their socio-economic status and hence the literacy particulars of the selected farmers at the district level are presented in Table 8.3

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Literacy Level</th>
<th>No. of Farmers in Developed Mandal</th>
<th>No. of Farmers in Moderately Developed Mandal</th>
<th>No. of Farmers in Less Developed Mandal</th>
<th>All Mandals/at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Literates</td>
<td>84 (56.00)</td>
<td>72 (48.00)</td>
<td>76 (50.67)</td>
<td>232 (51.56)</td>
</tr>
<tr>
<td>2</td>
<td>Illiterates</td>
<td>21 (14.00)</td>
<td>30 (20.00)</td>
<td>22 (14.67)</td>
<td>73 (16.22)</td>
</tr>
<tr>
<td>3</td>
<td>Below SSC</td>
<td>27 (18.00)</td>
<td>39 (26.00)</td>
<td>47 (31.33)</td>
<td>113 (25.11)</td>
</tr>
<tr>
<td>4</td>
<td>Intermediate and above</td>
<td>18 (12.00)</td>
<td>9 (6.00)</td>
<td>5 (3.33)</td>
<td>32 (7.11)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>450 (100.00)</td>
</tr>
</tbody>
</table>

**Table 8.3**

**COMPARATIVE ANALYSIS OF LITERACY PARTICULARS OF THE SELECTED FARMERS UNDER WATERSHED PROGRAMME AT THE DISTRICT LEVEL**

*Source: Primary Data from the field Survey, (Figures in Brackets are Percentage to totals)*
Out of the total farmers in Developed Mandal 56 per cent of the farmers are literates, 14 per cent of the farmers are illiterates, 18 per cent of the farmers have studied upto SSC and 12 per cent of the farmers who have studied upto intermediate.

Out of the total farmers in Moderately Developed Mandal 48 per cent of the farmers are literates, 20 per cent of the farmers are illiterates, 26 per cent of the farmers have studied upto SSC and 6 per cent of the farmers who have studied upto intermediate.

Out of the total farmers in Less Developed Mandal 50.67 per cent of the farmers are literates, 14.67 per cent of the farmers are illiterates, 31.33 per cent of the farmers have studied upto SSC and 3.33 per cent of the farmers have studied intermediate.

Out of the total farmers at the District Level 51.56 per cent of the farmers are literates, 16.22 per cent of the farmers are illiterates, 25.11 per cent of the farmers have studied upto SSC and 7.11 per cent of the farmers have studied intermediate.

PARTICULARS OF LIABILITIES OF SELECTED FARMERS UNDER WATERSHED PROGRAMME AT THE DISTRICT LEVEL

Particulars of liabilities of Watershed Programme is presented in Table 8.4
### Table 8.4

**COMPARATIVE ANALYSIS OF LIABILITIES OF THE FARMERS UNDER WATERSHED PROGRAMME AT THE DISTRICT LEVEL**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Type of Financial Institutions</th>
<th>Total Amount of Developed Mandal (in Rs)</th>
<th>Total amount of Moderately Developed Mandal (in Rs)</th>
<th>Total amount of Less Developed Mandal (in Rs)</th>
<th>Total Amount of Dist., Level (in Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Co-operative Banks</td>
<td>55,900 (13.82)</td>
<td>48,500 (13.53)</td>
<td>55,000 (15.49)</td>
<td>1,59,400 (14.26)</td>
</tr>
<tr>
<td>2</td>
<td>Rural Banks</td>
<td>79,600 (19.68)</td>
<td>73,000 (20.36)</td>
<td>65,000 (18.31)</td>
<td>2,17,600 (19.46)</td>
</tr>
<tr>
<td>3</td>
<td>Commercial Banks</td>
<td>1,10,500 (27.32)</td>
<td>91,000 (25.38)</td>
<td>83,000 (23.38)</td>
<td>2,84,500 (25.45)</td>
</tr>
<tr>
<td>4</td>
<td>Money lenders</td>
<td>69,700 (17.24)</td>
<td>64,000 (17.85)</td>
<td>60,000 (16.90)</td>
<td>1,93,700 (17.33)</td>
</tr>
<tr>
<td>5</td>
<td>Land Lords</td>
<td>51,200 (12.66)</td>
<td>45,500 (12.70)</td>
<td>50,000 (14.09)</td>
<td>1,46,700 (13.12)</td>
</tr>
<tr>
<td>6</td>
<td>Others</td>
<td>37,500 (9.28)</td>
<td>36,500 (10.18)</td>
<td>42,000 (11.83)</td>
<td>1,16,000 (10.38)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>4,04,400 (100.00)</td>
<td>3,58,500 (100.00)</td>
<td>3,55,000 (100.00)</td>
<td>11,17,900 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey  
(Figures in Brackets are Percentage to totals)

As per the table 8.4, in Developed Mandal 13.82 per cent of the farmers have liabilities to Co-operative Banks, 19.68 per cent of the farmers have liabilities to Rural Banks, 27.32 per cent of the farmers have liabilities to Commercial Banks, 17.24 per cent of the farmers have liabilities to Money lenders, 12.66 per cent of the farmers have liabilities to Land Lords and 9.28 per cent of the farmers have liabilities to others.

In Moderately Developed Mandal 13.53 per cent of the farmers have liabilities to Co-operative Banks, 20.36 per cent of the farmers have liabilities to Rural Banks, 25.38 per cent of the farmers have liabilities to Commercial Banks, 17.85 per cent of the farmers have liabilities to Money
Lenders, 12.70 per cent of the farmers have liabilities to Land Lords, and 10.18 per cent of the farmers have liabilities to others.

In Less Developed Mandal 15.49 per cent of the farmers have liabilities to Co-operative Banks, 18.31 per cent of the farmers have liabilities to Rural Banks, 23.38 per cent of the farmers have liabilities to the Commercial Banks, 16.90 per cent of the farmers have Liabilities with Money Lenders, 14.09 per cent of the farmers have liabilities to Land Lords and 11.83 per cent of the farmers have liabilities to others.

At the District Level 14.26 per cent of the farmers have liabilities to Co-operative Banks, 19.46 per cent of the farmers have liabilities to Rural Banks, 25.45 per cent of the farmers have liabilities to the Commercial Banks, 17.33 per cent of the farmers have Liabilities with Money Lenders, 13.12 per cent of the farmers have liabilities to Land Lords and 10.38 per cent of the farmers have Liabilities to others.

**LAND HOLDING OF THE SELECTED FARMERS UNDER WATERSHED PROGRAMME AT THE DISTRICT LEVEL**

Land holding particulars of the selected farmers under Watershed Programme is presented in Table 8.5.
Table 8.5
COMPARATIVE ANALYSIS OF LAND HOLDING P OF THE SELECTED
FARMERS UNDER WATERSHED PROGRAMME AT THE DISTRICT LEVEL

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Type of Land</th>
<th>Acres</th>
<th>No. of Farmers in Developed Mandal</th>
<th>No. of Farmers in Moderately Developed Mandal</th>
<th>No. of Farmers in Less Developed Mandal</th>
<th>No. of the Farmers at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Irrigated Land</td>
<td>0 to 2 Acres</td>
<td>19 (12.67)</td>
<td>31 (20.67)</td>
<td>26 (17.33)</td>
<td>76 (16.89)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Acres and Above</td>
<td>93 (62.00)</td>
<td>68 (45.33)</td>
<td>89 (59.33)</td>
<td>250 (55.55)</td>
</tr>
<tr>
<td>2.</td>
<td>Un-irrigated Land</td>
<td>0 to 2 Acres</td>
<td>26 (17.33)</td>
<td>36 (24.00)</td>
<td>22 (14.67)</td>
<td>84 (18.67)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Acres and Above</td>
<td>12 (8.00)</td>
<td>15 (10.00)</td>
<td>13 (8.67)</td>
<td>40 (8.89)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>450 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey
(Figures in Brackets are Percentage to totals)

As per the Table 8.5, in Developed Mandal 12.67 per cent of the farmers have irrigated land of 2 acres and 62 per cent of the farmers have irrigated land of 2 acres and above, 17.33 per cent of the farmers have 2 acres of un-irrigated land and 8 per cent of the farmers have 2 acres and above of un-irrigated land.

In Moderately Developed Mandal, 20.67 per cent of the farmers have irrigated land of 2 acres and 45.33 per cent of the farmers have irrigated land of 2 acres and above, 24 per cent of the farmers have 2 Acres of un-irrigated land and 10 per cent of the farmers have 2 Acres and above of un-irrigated land.

In Less Developed Mandal 17.33 per cent of the farmers have irrigated land of 2 acres and 59.33 per cent of the farmers have irrigated land of 2 acres and above, 14.67 per cent of the farmers have 2 Acres of
un-irrigated land and 8.67 per cent of the farmers have 2 Acres and above of un-irrigated land.

At the District Level 16.89 per cent of the farmers have irrigated land of 2 acres and 55.55 per cent of the farmers have irrigated land of 2 acres and above, 18.67 per cent of the farmers have 2 Acres of un-irrigated land and 8.89 per cent of the farmers have 2 Acres and above of un-irrigated land.

**CROPPING PATTERN OF THE SELECTED FARMERS OF BEFORE WATERSHED PROGRAMME IN KADAPA DISTRICT**

Particulars of Cropping Pattern of the selected farmers before Watershed Programme is presented in the table 8.6.

**Table 8.6**  
**CROPPING PATTERN COMPARATIVE ANALYSIS OF THE FARMERS BEFORE WATERSHED PROGRAMME AT THE DISTRICT LEVEL**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Crop</th>
<th>No. of Farmers in Developed Mandal</th>
<th>No. of Farmers in Moderately Developed Mandal</th>
<th>No. of Farmers in Less Developed Mandal</th>
<th>All Mandals/ at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Groundnut</td>
<td>46 (30.67)</td>
<td>34 (22.67)</td>
<td>48 (32.00)</td>
<td>128 (28.44)</td>
</tr>
<tr>
<td>2.</td>
<td>Redgram</td>
<td>13 (8.67)</td>
<td>0 (0.00)</td>
<td>28 (18.67)</td>
<td>41 (9.11)</td>
</tr>
<tr>
<td>3.</td>
<td>Paddy</td>
<td>0 (0.00)</td>
<td>6 (4.00)</td>
<td>0 (0.00)</td>
<td>6 (1.33)</td>
</tr>
<tr>
<td>4.</td>
<td>Jowar</td>
<td>9 (6.00)</td>
<td>33 (22.00)</td>
<td>11 (7.33)</td>
<td>53 (11.78)</td>
</tr>
<tr>
<td>5.</td>
<td>Maize</td>
<td>0 (0.00)</td>
<td>11 (7.33)</td>
<td>0 (0.00)</td>
<td>11 (2.44)</td>
</tr>
<tr>
<td>6.</td>
<td>Sunflower</td>
<td>31 (20.67)</td>
<td>25 (16.67)</td>
<td>31 (20.67)</td>
<td>87 (19.33)</td>
</tr>
<tr>
<td>7.</td>
<td>Sugarcane</td>
<td>0 (0.00)</td>
<td>41 (27.33)</td>
<td>0 (0.00)</td>
<td>41 (9.11)</td>
</tr>
<tr>
<td>8.</td>
<td>Banana</td>
<td>26 (17.33)</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
<td>26 (5.78)</td>
</tr>
<tr>
<td>9.</td>
<td>Bengalgram</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
<td>22 (14.67)</td>
<td>22 (4.89)</td>
</tr>
<tr>
<td>10.</td>
<td>Onion</td>
<td>25 (16.66)</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
<td>25 (5.56)</td>
</tr>
<tr>
<td>11.</td>
<td>Bajra</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
<td>10 (6.66)</td>
<td>10 (2.22)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>450 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey  
(Figures in Brackets are Percentage to totals)
As per the table 8.6 out of the total farmers in Developed Mandal
30.67 per cent of the farmers have cultivated groundnut, 8.67 per cent of
the farmers have cultivated Redgram, 6 per cent of the farmers have
cultivated jowar, 20.67 per cent of the farmers have cultivated sunflower,
17.33 per cent of the farmers have cultivated banana and 16.66 per cent of
the farmers have cultivated onion crop.

Out of the total farmers in Moderately Developed Mandal 22.67 per
cent of the farmers have cultivated groundnut, 22 per cent of the farmers
have cultivated jowar, 16.67 per cent of the farmers have cultivated
sunflower, 4 per cent of the farmers have cultivated paddy, 7.33 per cent of
the farmers have cultivated Maize and 27.33 per cent of the farmers have
cultivated sugarcane.

Out of the total farmers in Less Developed Mandal 32 per cent of the
farmers have cultivated groundnut, 18.67 per cent of the farmers have
cultivated Redgram, 7.33 per cent of the farmers have cultivated jowar,
20.67 per cent of the farmers have cultivated sunflower, 14.67 per cent of
the farmers have cultivated bengalgram and 6.66 per cent of the farmers
have cultivated bajra.

Out of the total farmers at the District Level 28.44 per cent of the
farmers have cultivated groundnut, 9.11 per cent of the farmers have
cultivated Redgram, 1.33 per cent of the farmers have cultivated paddy,
11.78 per cent of the farmers have cultivated jowar, 2.44 per cent of the
farmers have cultivated maize, 19.33 per cent of the farmers have
cultivated sunflower, 9.11 per cent of the farmers have cultivated
sugarcane, 5.78 per cent of the farmers have cultivated banana, 4.89 per cent of the farmers have cultivated bengalgram, 5.56 per cent of the farmers have cultivated onion and 2.22 per cent of the farmers have cultivated bajra.

**CROPPING PATTERN (Double Crop) OF THE SELECTED FARMERS AFTER WATERSHED PROGRAMME IN KADAPA DISTRICT**

Particulars of Cropping Pattern of the selected farmers of after Watershed Programme is presented in the table 8.7.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Crop</th>
<th>No. of Farmers in Developed Mandal</th>
<th>No. of Farmers in Moderately Developed Mandal</th>
<th>No. of Farmers in Less Developed Mandal</th>
<th>All Mandals/ at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mangoes and Groundnut</td>
<td>26 (17.33)</td>
<td>61 (40.67)</td>
<td>31 (20.67)</td>
<td>118 (26.22)</td>
</tr>
<tr>
<td>2</td>
<td>Groundnut and Redgram</td>
<td>31 (20.67)</td>
<td>0 (0.00)</td>
<td>41 (27.33)</td>
<td>72 (16.00)</td>
</tr>
<tr>
<td>3</td>
<td>Orange and Groundnut</td>
<td>28 (18.67)</td>
<td>23 (15.33)</td>
<td>0 (0.00)</td>
<td>51 (11.33)</td>
</tr>
<tr>
<td>4</td>
<td>Sunflower and Vegetables</td>
<td>33 (22.00)</td>
<td>18 (12.00)</td>
<td>22 (14.67)</td>
<td>73 (16.22)</td>
</tr>
<tr>
<td>5</td>
<td>Lime and Groundnut</td>
<td>0 (0.00)</td>
<td>23 (15.33)</td>
<td>18 (12.00)</td>
<td>41 (9.11)</td>
</tr>
<tr>
<td>6</td>
<td>Lime and Orange</td>
<td>32 (21.33)</td>
<td>25 (16.67)</td>
<td>38 (25.33)</td>
<td>95 (21.11)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>450 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey
(Figures in Brackets are Percentage to totals)

As per the table 8.7 out of the total farmers in Developed Mandal 17.33 per cent of the farmers have cultivated mangoes and groundnut, 20.67 per cent of the farmers have cultivated groundnut and Redgram, 18.67 per cent of the farmers have cultivated orange and groundnut, 22
per cent of the farmers have cultivated sunflower and vegetables and 21.33 per cent of the farmers have cultivated lime and orange.

Out of the total farmers in Moderately Developed Mandal 40.67 per cent of the farmers have cultivated mangoes and groundnut, 15.33 per cent of the farmers have cultivated orange and groundnut, 12 per cent of the farmers have cultivated sunflower and vegetables, 15.33 per cent of the farmers have cultivated lime and groundnut and 16.67 per cent of the farmers have cultivated lime and orange.

Out of the total farmers in Less Developed Mandal 20.67 per cent of the farmers have cultivated mangoes and groundnut, 27.33 per cent of the farmers have cultivated groundnut and Redgram, 14.67 per cent of the farmers have cultivated sunflower and vegetables, 12 per cent of the farmers have cultivated lime and groundnut and 25.33 per cent of the farmers have cultivated lime and orange.

Out of the total farmers at the District Level 26.22 per cent of the farmers have cultivated mangoes and groundnut, 16 per cent of the farmers have cultivated groundnut and Redgram, 11.33 per cent of the farmers have cultivated orange and groundnut, 16.22 per cent of the farmers have cultivated sunflower and vegetables, 9.11 per cent of the farmers have cultivated lime and groundnut and 21.11 per cent of the farmers have cultivated lime and orange.
Comparative analysis of savings of the selected farmers before watershed programme is presented in Table 8.8.

Table 8.8
**COMPARATIVE SAVINGS OF THE SELECTED FARMERS BEFORE WATERSHED PROGRAMME AT THE DISTRICT LEVEL**

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of the Category</th>
<th>Savings in Developed Mandal Rs.</th>
<th>Savings in Moderately Developed Mandal Rs.</th>
<th>Savings in Less Developed Mandal Rs.</th>
<th>All Mandals/ at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Small Farmers</td>
<td>88,150 (26.16)</td>
<td>65,700 (29.16)</td>
<td>25,029 (11.09)</td>
<td>1,78,879 (22.70)</td>
</tr>
<tr>
<td>2.</td>
<td>Marginal Farmers</td>
<td>75,310 (22.35)</td>
<td>41,310 (18.33)</td>
<td>60,280 (26.70)</td>
<td>1,76,900 (22.45)</td>
</tr>
<tr>
<td>3.</td>
<td>Medium Farmers</td>
<td>1,05,115 (31.19)</td>
<td>79,216 (35.15)</td>
<td>93,636 (41.47)</td>
<td>2,77,967 (35.27)</td>
</tr>
<tr>
<td>4.</td>
<td>Large Farmers</td>
<td>68,400 (20.30)</td>
<td>39,120 (17.36)</td>
<td>46,825 (20.74)</td>
<td>1,54,345 (19.58)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>3,36,975 (100.00)</td>
<td>2,25,346 (100.00)</td>
<td>2,25,770 (100.00)</td>
<td>7,88,091 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey
(Figures in Brackets are Percentage to totals)

As per the table 8.8 out of the total savings in Developed Mandal 26.16 per cent of the savings are by small farmers, 22.35 per cent of the savings are by marginal farmers, 31.19 per cent of the savings are by medium farmers and 20.30 per cent of the savings are by large farmers.

Out of the total savings in Moderately Developed Mandal 29.16 per cent of the savings are by small farmers, 18.33 per cent of the savings are by marginal farmers, 35.15 per cent of the savings are by medium farmers and 17.36 per cent of the savings are by large farmers.

Out of the total savings in Less Developed Mandal 11.09 per cent of the savings are by small farmers, 26.70 per cent of the savings are by
marginal farmers, 41.47 per cent of the savings are by medium farmers and 20.74 per cent of the savings are by large farmers.

Out of the total savings at the District Level 22.70 per cent of the savings are by small farmers, 22.45 per cent of the savings are by marginal farmers, 35.27 per cent of the savings are by medium farmers and 19.58 per cent of savings are by large farmers. So medium farmers could save more than that of the others before watershed programme at the district level.

**COMPARATIVE SAVINGS OF THE SELECTED FARMERS AFTER WATERSHED PROGRAMME AT THE DISTRICT LEVEL**

Comparative analysis of savings of the selected farmers after watershed programme is presented in Table 8.9.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Category</th>
<th>Savings in Developed Mandal Rs.</th>
<th>Savings in Moderately Developed Mandal Rs.</th>
<th>Savings in Less Developed Mandal Rs.</th>
<th>All Mandals/ at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Small Farmers</td>
<td>4,20,300 (26.17)</td>
<td>3,10,200 (24.72)</td>
<td>1,77,363 (15.23)</td>
<td>9,07,863 (22.55)</td>
</tr>
<tr>
<td>2.</td>
<td>Marginal Farmers</td>
<td>3,89,200 (24.23)</td>
<td>2,96,601 (23.64)</td>
<td>3,33,872 (28.67)</td>
<td>10,19,673 (25.33)</td>
</tr>
<tr>
<td>3.</td>
<td>Medium Farmers</td>
<td>4,75,200 (29.59)</td>
<td>4,01,115 (31.97)</td>
<td>4,30,704 (36.99)</td>
<td>13,07,019 (32.47)</td>
</tr>
<tr>
<td>3.</td>
<td>Large Farmers</td>
<td>3,21,300 (20.01)</td>
<td>2,46,825 (19.67)</td>
<td>2,22,550 (19.11)</td>
<td>7,90,675 (19.64)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>16,06,000 (100.00)</td>
<td>12,54,741 (100.00)</td>
<td>11,64,489 (100.00)</td>
<td>40,25,230 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey
(Figures in Brackets are Percentage to totals)

As per the table 8.9 out of the total savings in Developed Mandal 26.17 per cent of the savings are by small farmers, 24.23 per cent of the
savings are by marginal farmers, 29.59 per cent of the savings are by medium farmers and 20.01 per cent of the savings are by large farmers.

Out of the total savings in Moderately Developed Mandal 24.72 per cent of the savings are by small farmers, 23.64 per cent of the savings are by marginal farmers, 31.97 per cent of the savings are by medium farmers and 19.67 per cent of the savings are by large farmers.

Out of the total savings in Less Developed Mandal 15.23 per cent of the savings are by small farmers, 28.67 per cent of the savings are by marginal farmers, 36.99 per cent of the savings are by medium farmers and 19.11 per cent of the savings are by large farmers.

Out of the total savings at the District Level 22.55 per cent of the savings are by small farmers, 25.33 per cent of the savings are by marginal farmers, 32.47 per cent of the savings are by medium farmers and 19.64 per cent of savings are by large farmers. So medium farmers could save more than that of the others in after watershed programme at the district level.

**COMPARATIVE ANALYSIS OF LAND DEVELOPMENT ACTIVITIES FOR SELECTED FARMERS AT THE DISTRICT LEVEL**

Comparative analysis of the land development activities for selected farmers is presented in table 8.10.
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Land development activities under taken</th>
<th>Developed Mandal</th>
<th>Moderately Developed Mandal</th>
<th>Less Developed Mandal</th>
<th>All Mandals / At the District Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coverage of land (Acres)</td>
<td>No. of Farmers</td>
<td>Coverage of land (Acres)</td>
<td>No. of Farmers</td>
<td>Coverage of land (Acres)</td>
</tr>
<tr>
<td>1.</td>
<td>Stone Bunding</td>
<td>39 (12.66)</td>
<td>30 (20.83)</td>
<td>21 (8.54)</td>
<td>28 (21.70)</td>
</tr>
<tr>
<td>2.</td>
<td>Rock Fill Dams</td>
<td>57 (18.51)</td>
<td>32 (22.22)</td>
<td>42 (17.07)</td>
<td>26 (20.16)</td>
</tr>
<tr>
<td>3.</td>
<td>Waste Weirs</td>
<td>96 (31.17)</td>
<td>33 (22.92)</td>
<td>85 (34.55)</td>
<td>24 (18.60)</td>
</tr>
<tr>
<td>4.</td>
<td>Tank Silt</td>
<td>75 (24.35)</td>
<td>29 (20.14)</td>
<td>68 (27.64)</td>
<td>26 (20.16)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>308 (100.00)</td>
<td>144 (100.00)</td>
<td>246 (100.00)</td>
<td>129 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary data from the field survey. (Figures in brackets are percentage to total)
Table 8.10 reveals that out of total land in Developed Mandal under activity of Stone Bunding, 30 farmers were helped to level 39 acres of land which account 12.66 per cent of area, Rock Fill Dams was carried out in 57 acres with 32 farmers, which account 18.51 per cent of area covered by the selected farmers, Waste Weirs carried out in 96 acres with 33 farmers, with about 31.17 per cent of area by the selected farmers, Tank Silt carried out in 75 acres with 29 farmers which account 24.35 per cent of area by the selected farmers and Earth Bunding carries out 41 acres of land with 20 farmers, which account 13.31 per cent of area by the selected farmers.

Out of the total land in Moderately Developed mandal, under Stone Bunding 28 farmers were helped to level 21 acres of land which account 8.54 per cent of area, Rock Fill Dams was carried out in 42 acres with 26 farmers, which account 17.07 per cent of area covered by the selected farmers, Waste Weirs carried out in 85 acres with 24 farmers, with about 34.55 per cent of area by the selected farmers, Tank Silt carried out in 68 acres with 26 farmers which account 27.64 per cent of area by the selected farmers and Earth Bunding carries out 30 acres of land with 28 farmers, which account 12.20 per cent of area by the selected farmers.

Out of the total land in Less Developed mandal, under Stone Bunding, 19 farmers were helped to level 25 acres of land which account 10.73 per cent of area, Rock Fill Dams was carried out in 38 acres with 25 farmers, which account 16.31 per cent of area covered by the selected farmers, Waste Weirs carried out in 71 acres with 35 farmers, with about 30.47 per cent of area by the selected farmers, Tank Silt carried out in 54 acres with 21 farmers which account 23.17 per cent of area by the selected
farmers and Earth Bunding carries out 45 acres of land with 21 farmers, which account 19.32 per cent of area by the selected farmers.

Out of the total land at the district level under Stone Bunding 77 farmers were helped to level 85 acres of land which account 10.85 per cent of area, Rock Fill Dams was carried out in 137 acres with 83 farmers, which account 17.41 per cent of area covered by the selected farmers, Waste Weirs carried out in 252 acres with 92 farmers, with about 32.02 per cent of area by the selected farmers, Tank Silt carried out in 197 acres with 76 farmers which account 25.03 per cent of area by the selected farmers and Earth Bunding carries out 116 acres of land with 66 farmers, which account 14.74 per cent of area by the selected farmers at the district level.

COMPARATIVE ANALYSIS OF WATER MANAGEMENT ACTIVITIES FOR SELECTED FARMERS AT THE DISTRICT LEVEL

Comparative analysis of the water management activities for selected farmers is presented in table 8.11.
### Table 8.11
COMPARATIVE ANALYSIS OF WATER MANAGEMENT ACTIVITIES OF SELECTED FARMERS AT THE DISTRICT LEVEL

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Water management activities under taken</th>
<th>Developed Mandal</th>
<th>Moderately Developed Mandal</th>
<th>Less Developed Mandal</th>
<th>All Mandals / At the District Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coverage of land (Acres)</td>
<td>No. of Farmers</td>
<td>Coverage of land (Acres)</td>
<td>No. of Farmers</td>
<td>Coverage of land (Acres)</td>
</tr>
<tr>
<td>1.</td>
<td>Gully Plugs</td>
<td>42 (24.71)</td>
<td>18 (19.56)</td>
<td>35 (26.52)</td>
<td>16 (17.98)</td>
</tr>
<tr>
<td>2.</td>
<td>Check Dams</td>
<td>55 (32.35)</td>
<td>38 (41.30)</td>
<td>48 (36.36)</td>
<td>39 (43.82)</td>
</tr>
<tr>
<td>3.</td>
<td>Farm Ponds</td>
<td>32 (18.82)</td>
<td>21 (22.83)</td>
<td>21 (15.91)</td>
<td>15 (16.85)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>170 (100.00)</td>
<td>92 (100.00)</td>
<td>132 (100.00)</td>
<td>89 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary data from the field survey. (Figures in brackets are percentage to total)
The table 8.11 reveals that out of the total water management activities in Developed Mandal, the Gully Plug covers 42 acres with 18 farmers, which account 24.71 per cent of the area, Check Dams cover 55 acres with 38 farmers, which accounts 32.56 per cent, Farms Ponds cover 32 acres with 21 farmers which accounts 18.82 per cent and Key Wells cover 41 acres of land with 15 farmers which account 24.12 per cent.

Out of the total water management activities in Moderately Developed Mandal, the Gully Plug covers 35 acres with 16 farmers, which account 26.52 per cent of the area, Check Dams cover 48 acres with 39 farmers, which accounts 36.36 per cent, Farms Ponds cover 21 acres with 19 farmers which accounts 15.91 per cent and Key Wells cover 28 acres of land with 19 farmers which account 21.21 per cent.

Out of the total water management activities in Less Developed Mandal, the Gully Plug covers 33 acres with 15 farmers, which account 25.98 per cent of the area, Check Dams cover 41 acres with 19 farmers, which accounts 32.28 per cent, Farms Ponds cover 32 acres with 11 farmers which accounts 25.20 per cent and Key Wells cover 21 acres of land with 17 farmers which account 16.54 per cent.

Out of the total water management activities at the District level in Gully Plug covers 110 acres with 49 farmers, which account 25.64 per cent of the area, Check Dams cover 144 acres with 96 farmers, which accounts 33.57 per cent, Farms Ponds cover 85 acres with 47 farmers which accounts 19.81 per cent and Key Wells cover 90 acres of land with 51 farmers which account 20.98 per cent at the district level.
COMPARATIVE ANALYSIS OF INCOME OF THE SELECTED FARMERS BEFORE WATERSHED PROGRAMME

Comparative Analysis of income of the selected farmers before watershed programme is presented in Table 8.12.

Table 8.12
COMPARATIVE ANALYSIS OF INCOME OF THE FARMERS BEFORE WATERSHED PROGRAMME AT THE DISTRICT LEVEL

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Level of Income</th>
<th>No. of Farmers in Developed Mandal</th>
<th>No. of Farmers in Moderately Developed Mandal</th>
<th>No. of Farmers in Less Developed Mandal</th>
<th>No. of the Farmers at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Below 6,000</td>
<td>27 (18.00)</td>
<td>34 (22.67)</td>
<td>25 (16.67)</td>
<td>86 (19.11)</td>
</tr>
<tr>
<td>2.</td>
<td>6,001 TO 10,000</td>
<td>59 (39.33)</td>
<td>36 (24.00)</td>
<td>55 (36.67)</td>
<td>150 (33.33)</td>
</tr>
<tr>
<td>3.</td>
<td>10,001 to 15,000</td>
<td>38 (25.33)</td>
<td>58 (38.67)</td>
<td>36 (24.00)</td>
<td>132 (29.33)</td>
</tr>
<tr>
<td>4.</td>
<td>15,000 and above</td>
<td>26 (17.34)</td>
<td>22 (14.66)</td>
<td>34 (22.66)</td>
<td>82 (18.22)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>450 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey
(Figures in Brackets are Percentage to totals)

As per the Table 8.12, in Developed Mandal 18 per cent of the farmers have income of Rs.6,000, 39.33 per cent of the farmers have income in between Rs.6,001 to 10,000, 25.33 per cent of the farmers have income in between Rs.10,001 to Rs.15,000, 17.34 per cent of the farmers have income in between Rs.15,000 and above.

In Moderately Developed Mandal 22.67 per cent of the farmers have income of Rs.6,000, 24 per cent of the farmers have income in between Rs.6,001 to 10,000, 38.67 per cent of the farmers have income in between Rs.10,001 to Rs.15,000, 14.66 per cent of the farmers have income of Rs.15,000 and above.
In Less Developed Mandal 16.67 per cent of the farmers have income of Rs.6,000, 36.67 per cent of the farmers have income in between Rs.6,001 to 10,000, 24 per cent of the farmers have income in between Rs.10,001 to Rs.15,000, 22.66 per cent of the farmers have income of Rs.15,000 and above.

At the District Level, 19.11 per cent of the farmers have income of Rs.6,000, 33.33 per cent of the farmers have income in between Rs.6,001 to 10,000, 29.33 per cent of the farmers have income in between Rs.10,001 to Rs.15,000, 18.22 per cent of the farmers have income of Rs.15,000 and above at the district level.

**COMPARATIVE ANALYSIS OF INCOME OF THE FARMERS AFTER WATERSHED PROGRAMME AT THE DISTRICT LEVEL**

Comparative analyses of income of the farmers after watershed programme is presented in Table 8.13.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Level of Income</th>
<th>No. of Farmers in Developed Mandal</th>
<th>No. of Farmers in Moderately Developed Mandal</th>
<th>No. of Farmers in Less Developed Mandal</th>
<th>No. of the Farmers at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Below 6,000</td>
<td>5 (3.33)</td>
<td>7 (4.67)</td>
<td>3 (2.00)</td>
<td>14 (3.11)</td>
</tr>
<tr>
<td>2.</td>
<td>6,001 to 10,000</td>
<td>16 (10.67)</td>
<td>15 (10.00)</td>
<td>23 (15.33)</td>
<td>54 (12.00)</td>
</tr>
<tr>
<td>3.</td>
<td>10,001 to 15,000</td>
<td>44 (29.33)</td>
<td>47 (31.33)</td>
<td>50 (33.33)</td>
<td>141 (31.33)</td>
</tr>
<tr>
<td>4.</td>
<td>15,000 and above</td>
<td>85 (56.67)</td>
<td>81 (54.00)</td>
<td>74 (49.34)</td>
<td>240 (53.33)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>450 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey (Figures in Brackets are Percentage to totals)

As per the Table 8.13, in Developed Mandal 3.33 per cent of the farmers have income of Rs.6,000, 10.67 per cent of the farmers have
income in between Rs.6,001 to 10,000, 29.33 per cent of the farmers have income in between Rs.10,001 to Rs.15,000, 56.67 per cent of the farmers have income in between Rs.15,000 and above. In order to know whether the generated income from watershed programme is significant or not, the Paired ‘t’ test was applied.

It is inferred that there is significant growth in Income Generation of Sample Farmers in Developed Mandal after the implementation of Watershed Programme.

In Moderately Developed Mandal, 4.67 per cent of the farmers have income of Rs.6,000, 10 per cent of the farmers have income in between Rs.6,001 to 10,000, 31.33 per cent of the farmers have income in between Rs.10,001 to Rs.15,000, 54 per cent of the farmers have income of Rs.15,000 and above. In order to know whether the generated income from watershed programme is significant or not, the Paired ‘t’ test was applied.

It is inferred that there is significant growth in Income Generation of Sample Farmers in Moderately Developed Mandal after the implementation of Watershed Programme.

In Less Developed Mandal 2 per cent of the farmers have income of Rs.6,000, 15.33 per cent of the farmers have income in between Rs.6,001 to 10,000, 33.33 per cent of the farmers have income in between Rs.10,001 to Rs.15,000, 49.34 per cent of the farmers have income of Rs.15,000 and above. In order to know whether the generated income from watershed programme is significant or not, the Paired ‘t’ test was applied.
It is inferred that there is significant growth in Income Generation of Sample Farmers in Less Developed Mandal after the implementation of Watershed Programme.

At the District Level 3.11 per cent of the farmers have income of Rs.6,000, 12 per cent of the farmers have income in between Rs.6,001 to 10,000, 31.33 per cent of the farmers have income in between Rs.10,001 to Rs.15,000, 53.33 per cent of the farmers have income of Rs.15,000 and above at the district level.

**COMPARATIVE ANALYSIS OF EMPLOYMENT BEFORE WATERSHED PROGRAMME AT THE DISTRICT LEVEL**

Comparative analysis of employment before watershed programme is presented in Table 8.14.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>No. of Man days</th>
<th>No. of Farmers in Developed Mandal</th>
<th>No. of Farmers in Moderately Developed Mandal</th>
<th>No. of Farmers in Less Developed Mandal</th>
<th>No. of the Farmers at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0 to 100 days</td>
<td>35 (23.33)</td>
<td>36 (24.00)</td>
<td>23 (15.33)</td>
<td>94 (20.89)</td>
</tr>
<tr>
<td>2.</td>
<td>101 to 180 days</td>
<td>54 (36.00)</td>
<td>59 (39.33)</td>
<td>64 (42.67)</td>
<td>177 (39.33)</td>
</tr>
<tr>
<td>3.</td>
<td>181 to 240 days</td>
<td>37 (24.67)</td>
<td>34 (22.67)</td>
<td>44 (29.33)</td>
<td>115 (25.56)</td>
</tr>
<tr>
<td>4.</td>
<td>241 and Above</td>
<td>24 (16.00)</td>
<td>21 (14.00)</td>
<td>19 (12.67)</td>
<td>64 (14.22)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>450 (100.00)</td>
</tr>
</tbody>
</table>

*Source: Primary Data from the field Survey  
(Figures in Brackets are Percentage to totals)*

As per the Table 8.14, in Developed Mandal 23.33 per cent of the farmers have employment of 0 to 100 days, 36 per cent of the farmers have employment of 101 and 180 days, 24.67 per cent of the farmers have
employment of 181 to 240 days and 16 per cent of the farmers have employment of 240 days and above.

In Moderately Developed Mandal 24 per cent of the farmers have employment of 0 to 100 days, 39.33 per cent of the farmers have employment of 101 and 180 days, 22.67 per cent of the farmers have employment of 181 to 240 days and 14 per cent of the farmers have employment of 240 days and above.

In Less Developed Mandal 15.33 per cent of the farmers have employment of 0 to 100 days, 42.67 per cent of the farmers have employment of 101 and 180 days, 24.33 per cent of the farmers have employment of 181 to 240 days and 12.67 per cent of the farmers have employment of 240 days and above.

At the District Level 20.89 per cent of the farmers have employment of 0 to 100 days, 39.33 per cent of the farmers have employment of 101 to 180 days, 25.26 per cent of the farmers have employment of 181 to 240 days and 14.22 per cent of the farmers have employment of 240 days and above.

COMPARATIVE ANALYSIS OF EMPLOYMENT OF THE SELECTED FARMERS AFTER WATERSHED PROGRAMME AT THE DISTRICT LEVEL

Comparative analysis of employment of the selected farmers as per Table 8.15.
Table 8.15

COMPARATIVE ANALYSIS OF EMPLOYMENT AFTER WATERSHED PROGRAMME AT THE DISTRICT LEVEL

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>No. of Man days</th>
<th>No. of Farmers in Developed Mandal</th>
<th>No. of Farmers in Moderately Developed Mandal</th>
<th>No. of Farmers in Less Developed Mandal</th>
<th>No. of the Farmers at the Dist., Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0 to 100 days</td>
<td>4 (2.67)</td>
<td>7 (4.67)</td>
<td>6 (4.00)</td>
<td>17 (3.78)</td>
</tr>
<tr>
<td>2.</td>
<td>101 to 180 days</td>
<td>13 (8.67)</td>
<td>16 (10.62)</td>
<td>22 (14.67)</td>
<td>51 (11.33)</td>
</tr>
<tr>
<td>3.</td>
<td>181 to 240 days</td>
<td>46 (30.33)</td>
<td>39 (26.00)</td>
<td>34 (22.67)</td>
<td>119 (26.44)</td>
</tr>
<tr>
<td>4.</td>
<td>241 and Above</td>
<td>87 (58.00)</td>
<td>88 (58.66)</td>
<td>88 (58.66)</td>
<td>263 (58.44)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>150 (100.00)</td>
<td>450 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey
(Figures in Brackets are Percentage to totals)

As per the Table 8.15 in Developed Mandal 2.67 per cent of the farmers have employment of 0 to 100 days, 8.670 per cent of the farmers have employment of 101 to 180 days, 30.33 per cent of the farmers have employment of 181 to 240 days and 58 per cent of the farmers have employment of 241 days and above. To know whether the generated employment is significant or not, Paired 't' test was applied.

It is inferred that there is significant growth in Employment Generated by the Sample Farmers in Developed Mandal after the implementation of Watershed Programme.

In Moderately Developed Mandal 4.67 per cent of the farmers have employment of 0 to 100 days, 10.67 per cent of the farmers have employment of 101 to 180 days, 26 per cent of the farmers have employment of 181 to 240 days and 58.66 per cent of the farmers have employment of 241 days and above. In order to know whether the
generated employment from watershed programme is significant or not, the Paired ‘t’ test was applied.

It is inferred that there is significant growth in Employment Generation of Sample Farmers in Moderately Developed Mandal after the implementation of Watershed Programme.

In Less Developed Mandal 4 per cent of the farmers have employment of 0 to 100 days, 14.67 per cent of the farmers have employment of 101 to 180 days, 22.67 per cent of the farmers have employment of 181 to 240 days and 58.66 per cent of the farmers have employment of 241 days and above. In order to know whether the generated employment from watershed programme is significant or not, the Paired ‘t’ test was applied.

It is inferred that there is significant growth in Employment Generation of Sample Farmers in Less Developed Mandal after the implementation of Watershed Programme.

At the District Level 3.78 per cent of the farmers have employment of 0 to 100 days, 11.33 per cent of the farmers have employment of 101 to 180 days, 26.44 per cent of the farmers have employment of 181 to 240 days and 58.44 per cent of the farmers have employment of 241 days and above.

**COMPARATIVE ANALYSIS OF THE INCREASE IN INCOME OF THE SELECTED FARMERS OF WATERSHED PROGRAMME AT THE DISTRICT LEVEL**

Comparative analysis of the increase in income of the selected farmers is presented in Table 8.16.
It is clear from the table 8.16, that out of the 450 farmers, 335 farmers could increase their income after the implementation of watershed programme in the district, and it is significant to note that the farmers who had the income in the range of Rs. 15,000 an above are more in number when compared to others.

**COMPARATIVE ANALYSIS OF THE INCREASE IN EMPLOYMENT OF THE SELECTED FARMERS OF WATERSHED PROGRAMME AT THE DISTRICT LEVEL**

Comparative analysis of the increase in employment of the selected farmers is presented in Table 8.17.
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Income Level</th>
<th>Before Watershed</th>
<th>After Watershed</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No. of farmer at the district level</td>
<td>No. of farmer at the district level</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>0 to 100 days</td>
<td>94 (20.89)</td>
<td>17 (3.78)</td>
<td>77 (18.97)</td>
</tr>
<tr>
<td>2.</td>
<td>101 to 180 days</td>
<td>177 (39.33)</td>
<td>51 (11.33)</td>
<td>126 (31.03)</td>
</tr>
<tr>
<td>3.</td>
<td>181 to 240 days</td>
<td>115 (25.56)</td>
<td>119 (26.44)</td>
<td>4 (0.99)</td>
</tr>
<tr>
<td>4.</td>
<td>241 and Above</td>
<td>64 (14.22)</td>
<td>263 (58.44)</td>
<td>199 (49.01)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>450 (100.00)</td>
<td>450 (100.00)</td>
<td>406 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data from the field Survey
(Figures in Brackets are Percentage to totals)

The table 8.17 clearly shows that, out of the 450 selected farmers, 406 farmers could better their employment opportunities after the implementation of watershed programme and it is significant to note that the farmers who had the employment in the range of 241 days and above are more in number when compared to others.

**SUMMARY AND CONCLUSIONS**

Watershed development activity was taken up in the country prior to independence in the state of Maharashtra as a scarcity relief work during drought years in which contour bunding programme for conservation of moisture and control of soil erosion was mostly undertaken. After independence, during the second five-year plan, soil conservation research, demonstration and training centres were established in different agro-ecological zones. Soil conservation activities on farmers’ fields were started in different states for which almost all the states formulated State Soil
Conservation Acts based on the model act circulated by Government of India, Ministry of Agriculture. In fact, soil conservation activities taken up earlier were on watershed basis, which have now been renamed as "watershed development programmes".

Dry land areas in the country, account for about 70 per cent of the cropped area and contribute more than half of the country's foodgrains production. These areas share 60 to 80 per cent of the output of coarse cereals, major oilseeds and fibre crops. Even after realizing the entire irrigation potential in the country, about half of the area will still remain un-irrigated. The sheer weight of this in crop economy alone can suppress or enhance the growth performance at the country. Stagnation of production and productivity has been observed in all the major food crops of dry land agriculture.

The Watershed Development Programme is the basic need for integrated development and management of the land and water resources which provide life support for rural communities. Thus the prospects for agriculture in the dry land areas are severely constrained by the specific feature of their natural resource endowments and the changed context. In a situation of low pressure on resources, viability was possible through traditional land cultivation practices. Watershed Development Programme ensures supply of water to every field, removes hunger and poverty from poor areas, provide green cover over denuded areas, bring in more rains and improve the environment. Watershed Development Programme is also described as a programme that holds the key to solve problems of employment, economy, ecology, export and equity.
The watershed programmes are being implemented in 337 districts of India under Drought Prone Area Programme (DPAP), Desert Development Programme (DDP) and Integrated Watershed Development Programme (IWDP) under 1994 guidelines. These districts were categorised by Government of India by environmental, social and developmental indicators. High priority is accorded to low-rainfall regions with concentration of Scheduled Castes (SC) and Scheduled Tribes (ST) and low literacy rates.

The Zilla Parishad (ZP) and District Rural Development Agency (DRDA) (depending on the State) is responsible for administration and implementation of watershed development projects. They receive the funding directly from the Government of India. They select the Project Implementation Agencies (PIAs) and approve the watershed plans. They hold the ultimate power of administrative and financial control over Project Implementing Agents (PIAs), releasing the funds to Project Implementation Agencies and laying down the guidelines for managing the accounts, for instance. They also establish the watershed development advisory committee at the district level. The committee consists of three to four departmental heads from different disciplines of the government in Zilla Parishad (ZP) and District Rural Development Agency (DRDA), five to six members of voluntary agencies and one to two members from the research and training institutions at the district level. The committee advises on the selection of Project Implementation Agencies (PIAs) and members of the Watershed Development Team (WDT) and various other aspects.
In India, during the study period, totally 18885 watersheds were sanctioned. The maximum percentage (25.43 percent) of watersheds was sanctioned in 2001-2002 and the least (6.51 percent) percentage of watersheds sanction was noticed in the year 2000-2001.

The role of Non-Governmental Organizations in watershed development has been recognized by both government and external agencies. The guidelines of the Ministry of Rural Areas and employment clearly specify that non-government organizations/voluntary organizations should be made the Project Implementing Agencies for watershed development, wherever possible.

Andhra Pradesh is at the forefront in the implementation of the watershed development programme. The main thrust of Watershed Development in Andhra Pradesh has been through the Drought Prone Areas Programme (DPAP) under the Ministry of Rural Development (MRD). This programme has been implementing in over 5000 watersheds.

In recent years Andhra Pradesh has been among the States achieving the highest level of central funding for the watershed development programme (although this situation is now changing). At one stage Andhra Pradesh was drawing about 50 percent of the central funds allocated to watershed development for the country as a whole. This, in turn, has helped in the scaling up of the programme at the state level. In the process, Andhra Pradesh has gained the advantage of an early starter. In view of the substantial funding, the main constraint for watershed development, both in Andhra Pradesh and throughout India, is the organisation capacity at district and local level to actually implement the programmes.
Efficient and sustainable use of natural resources has become the sine qua non for economic development, especially in resource-poor countries, and all the more so in agriculturally dominated economies like India, where two-thirds of the cropped area is dependent on rainfall without any protective irrigation facilities. The promotion of appropriate technologies and development strategies in rainfed regions could potentially result in multiple benefits such as by ensuring food security, enhancing the viability of farming and improving the ecological balance.

A massive programme for development of all the degraded lands in Andhra Pradesh in ten year-period was launched during 1997. The Ten Year Action Plan for development includes wastelands, degraded lands (i.e. dry lands which are being cultivated under rain-fed conditions) and degraded reserve forests. It is envisaged to develop 100.00 lakh hectares of degraded and wastelands (17.25 lakh ha. by Forest department, 4.55 lakh ha. by Agriculture Department and 78.20 lakh ha. by Rural Development Department), with an outlay of about Rs.4000.00 crores from 1997 to 2007 at the rate of 10.00 lakh hectares every year by the Department of Rural Development, Forest and Agriculture. About 42.28 lakh hectares have been covered through 9626 watersheds, which is the largest number in the whole country.

In Andhra Pradesh, during the study period, totally 3540 watersheds were sanctioned. The maximum percentage (19.77 pre cent) of watersheds was sanctioned in 1998-1999 followed by the year 1999-2000 (16.58 per cent). The least (1.69 per cent) percentage of watersheds sanctioned was noticed in the year 1996-1997.
It may be concluded that the sanction of watersheds reached peak stage in three years i.e., 1995-96, 1998-99 and 1999-2000. Where as in the remaining years the sanction of watersheds are low i.e., this period is called creeping period.

From the data, the total available funds in 11 districts of Andhra Pradesh is Rs.60.62 crores, whereas the total expenditure was Rs.35.18 crores under Drought Prone Area Programme (DPAP). During this year the percentage of expenditure over the available funds was 58.03 per cent. The least percentage of funds was utilized in Medak district only. In Prakasam district 76.52 per cent of available funds are spent on watersheds in 2004-2005. In Adilabad district, the expenditure on watersheds construction is more than the available funds. Almost 46.56 per cent of excess of funds are spent over the sanctioned amounts. This excess expenditure must have been diverted from other developmental programmes.

From the data, the total available funds in 18 districts of Andhra Pradesh was Rs.40.86 crores, whereas the total expenditure was Rs.18.79 crores under Integrated Wastelands Development Programme (IWDP) during 2004-2005. During this year the percentage of expenditure over the available funds was 45.99 per cent. The least percentage (2.94 per cent) of funds was utilized in Srikakulam district only. In Vizianagaram district 90.16 per cent of available funds were spent on watersheds in 2004-2005. There are no funds available in Kurnool district during the same period.

Rural Infrastructure Development Fund (RIDF) is a scheme supported by National Agriculture Bank for Rural Development (NABARD). The bank has created a corpus at National level for the purpose of rural
infrastructure development. Various departments of state governments can approach the bank through guarantee of the State Government for the development of rural infrastructure in their jurisdiction. In Andhra Pradesh the Department of Rural Development, Forest, Panchayat Raj, Minor Irrigation have availed this fund.

From the data during the years 2001-02 to 2004-2005 the total released amount was Rs.109.90 crores and the actual expenditure during the same period was Rs.105.79 crores under Rural Infrastructure Development Fund – VI batch (RIDF-VI). In the year 2002-2003 the expenditure exceeds the released amounts. The percentage of expenditure to released amount was 135.41 per cent which is almost 35.41 per cent excessively spent on watersheds with the motive, to complete the watersheds in stipulated time. National Agriculture Bank for Rural Development (NABARD) has sanctioned 1214 under Rural Infrastructure Development Fund–VI batch (RIDF-VI) Projects covering treatment of an area of 2.60 lakh hectares.

National Agriculture Bank for Rural Development (NABARD) has sanctioned 277 Soil and Moisture Conservation (SMC) projects under Rural Infrastructure Development Fund eighth batch Phase-I (RIDF VIII-I), Soil and Moisture Conservation (SMC) projects during 2002-03 for Rs.34.98 Crores to Rural Development and other sectors to 17 districts i.e., Adilabad, Anantapur, East Godavari, Guntur, Kadapa, Karimnagar, Khammam, Krishna, Kurnool, Mahaboobnagar, Nellore, Nizamabad, Prakasam, Ranga Reddy, Srikakulam, Visakhapatnam and
Vizianagaram. The entire allocation of Rs. 34.98 crores have been utilized including cost of rice.

National Agriculture Bank for Rural Development (NABARD) has sanctioned 258 Soil and Moisture Conservation (SMC) Projects under RIDF VIII Phase-II (Rural Development and other sectors) for Rs.53.65 crores to 19 districts (Adilabad, Anantapur, Chittoor, East Godavari, Guntur, Kadapa, Karimnagar, Khammam, Krishna, Kurnool, Mahaboobnagar, Medak, Nellore, Prakasam, Ranga Reddy, Srikakulam, Visakhapatnam, Vizianagaram and West Godavari) with during 2002-03. The Government of Andhra Pradesh have released an amount of Rs.42.58 lakhs for implementation. So far an amount of Rs.44.07 crores has been utilised upto January 2004.

The National Agriculture Bank for Rural Development (NABARD) has created Watershed Development Fund (WDF) during 1999-2000 with Rs.100.00 crores contribution from National Agriculture Bank for Rural Development (NABARD) and matching contribution of Rs.100.00 Crores from Government of India, in the country.

Kadapa district is one of the four districts of Rayalaseema Region of Andhra Pradesh State. It lies in between East longitudes 77° 59' : 79° 29' and North latitudes 13° 43' : 15° 15'. The district is bordered by Nellore at eastern side Anantapur at western side, Chittoor at southern side, Prakasham and Kurnool at northern side. The total geographical area of the district is 15,359 sq. km., with a population of 26,01,797 persons (2001 Census) accounting for 3.42 per cent of the total population and 5.58 per cent of the total geographical area of Andhra Pradesh.
To alleviate the above soils and Drought Prone Area the government has formulated a comprehensive scheme i.e., Drought Prone Area Programme. The Drought Prone Area Programme was initially started in this district in the year 1974-75. The implementation of Drought Prone Area Programme was carried out on watershed approach for the first time in the district in the year 1984-85. For further perfection the integrated approach of watershed treatment, Drought Prone blocks of the district were subjected to satellite imageries study and prioritization of watershed was carried out with the help of Andhra Pradesh State Remote Sensing Application Centre, Hyderabad (Vide Priority Maps).

The data reveals that during 1995-98, 211 watersheds have sanctioned and all of them completed in Kadapa district. During 1999-2001, 81 watersheds have sanctioned and all of them are under construction. During 2001-2002 to 2003-2004, 147 watersheds have sanctioned but only 40.8 per cent were completed. On the whole it is found that out of 528 sanctioned watersheds only 51.51 per cent are completed and remaining are ongoing process.

The data reveals that various activities in watershed programme includes contour bunding, stone bunding, rock fill dams, continuous contour trenches, mini percolation tanks, check dams, gabian, kuntas, dugout ponds, diversion drains and plantation works.

During the 10 years period, under various works 6,926.27 hectares are covered under contour bunding works. Most of contour bunding works were covered in the year 1995-96 with 47.29 per cent, in the year 1997-98 with 10.26 per cent and 2002-03 with 10.06 per cent. The stone bunding
works have been taken up in 12721.45 hectares in 10 years in the Kadapa district. Most of the stone bunding works were covered in the year 1995-96 with 41.71 per cent, 1998-99 with 16.75 per cent and 1997-98 with 19.22 per cent. The rock fill dams work was mainly covered in the year 1995-96 with 37.16 per cent of the total rock fill dams work. The continuous contour trenches works was mainly covered in the year 2000-2001 with 21.91 per cent (90,865 Running Meters). The number of checkdams in each year varied from 458 in the year 1995-96 with 37.18 per cent and only13 in 1996-97 with 1.06 per cent. The Gabian work has also been covered in 9 years and it varied 7961 in the year 2002-2003 with 93.35 per cent and only 4 in the year 2003-2004 with 0.05 per cent. The construction of kuntas have been done in 9 years and dugout ponds have been constructed in 10 years with variation of 804 in the year 1995-96 with 22.42 per cent and 4 in the year 2004-20005 with 0.11 per cent. The diversion drains work was mainly covered in the year 1999-2000 with 20.06 per cent. The plantation work have been taken up in 7001.45 hectares in 10 years in the Kadapa district. Most of the plantation works were covered in the year 1998-99 with 44.52 per cent and 1995-96 with 20.10 per cent.

With the implementation of various works under watershed programme in Kadapa district 58,66,296 mandays of employment was generated during 1995-96 to 2004-2005. The mandays of employment generated was high in the year 1995-96 with 16,37,237 mandays (27.91 per cent) and lowest in the year 2004-2005 with 9,213 mandays of employment (0.16 per cent).
It is clear from data that during the period 1995-96 to 2005-2006, overall 528 watersheds were sanctioned under six schemes viz., Drought Prone Area Programme (DPAP), Hariyali, Integrated Wasteland Development Programme (IWDP), Rural Infrastructure Development Fund (RIDF), Employment Assurance Scheme (EAS) and Watershed Development Fund (WDF).

Out of these sanctioned watersheds, 272 (51.51 per cent) watersheds have been completed and remaining 256 (48.49 per cent) watersheds are under process. The number of ongoing watersheds in Kadapa district under Drought Prone Area Programme (DPAP) during 1995-96 to 2005-2006 are 94 out of 225 total sanctioned watersheds. The number of watersheds under Hariyali scheme during the same period are only 70. Whereas under Integrated Wasteland Development Programme (IWDP) 85 are ongoing watersheds against 110 sanctioned. There are only seven watersheds under Watershed Development Fund (WDF) in the district. Under Rural Infrastructure Development Fund (RIDF) and Employment Assurance Scheme (EAS) 61 and 55 watersheds were sanctioned and all those were completed. The government have been sanctioning different amounts under various schemes viz., Drought Prone Area Programme (DPAP), Hariyali, Integrated Wasteland Development Programme (IWDP), Rural Infrastructure Development Fund (RIDF), Employment Assurance Scheme (EAS) and Watershed Development Fund (WDF) scheme for watershed activities.

From the data it is found that out of 80.50 lakhs released 66.45 per cent was incurred towards the completion of watershed activities under
Hariyali scheme during 2003-04 to 2004-2005. In Chekrayapet mandal cent percent released amount spent and in Lingala and L.R.Palli mandals 90 per cent of releases were spent for the implementation of watershed activities under Hariyali scheme during the same period. It is clear that in 8 mandals (Chinnamandem, Galiveedu, Jammalamadugu, Mylavaram, Penagalur, V.N.Palli, Vemula and Yerraguntla) more than 50 per cent of the amount released was incurred in 3 mandals (Kamalapuram, Muddanur and Ramapuram) 25 per cent of the amount released was spent. In Sambepalli mandal 7.50 per cent of the amount released was spent.

Comprehensive Land Development Project (CLDP) under Rural Infrastructure Development Fund IX batch and X batch (RIDF-IX and RIDF-X) is being implemented in the Kadapa district with a project period of 3 years i.e., from 2004-05 to 2007-08 and 2005-06 to 2008-09. Comprehensive Land Development Project (CLDP) has been taken up by Andhra Pradesh Government to bring the assigned lands of downtrodden fit for cultivation by land reclamation, ploughing, fortification, Soil Moisture Conservation (SMC) and Water Harvesting Structure (WHS) works, Micro Irrigation methods with last priority to Ground Water exploitation.

Pulivendala Mandal is one of the Developed mandal of Kadapa District in Rayalaseema region. The total geographical area of the mandal is 16,286 hectares consisting of 20 Revenue Villages. As per 2001 census, the total population of Pulivendala mandal is 62,708 of which, 31,584 are men (50.37 per cent) and 31,124 are women (49.63 per cent). Among the total population, the Scheduled Castes population account for about 10.5
per cent and the Scheduled Tribes population accounts for 3.7 per cent. The total literacy rate in the mandal is 63.10 per cent (39,567). The literate men in the mandal are 58.54 per cent (23,163) and the women literates are 41.46 per cent (16,404).

The geographical area of the Pulivendala mandal is covered about 16,286 hectares along with 820 hectares of forest area which is about 5.03 per cent of total geographical area. There is Barren and Uncultivated Land, consisting of 3,312 hectares and its percentage in the total geographical area of the mandal is about 20.34 per cent. The Land put to non-agriculture is 1,245 hectares which is 7.64 per cent of the total geographical area. The Cultivable Waste land covers an area of 409 hectares and with a share of 2.51 per cent. The Net Area Sown for the year 2003-2004 covers an extent of 6,612 hectares which is 40.60 per cent of total geographical area. The Gross Cropped Area is about 10,112 hectares and its percentage is 62.09. The Current Fallow land is 2,046 hectares, which is 12.56 per cent of the total geographical area of the Pulivendala Mandal.

The area irrigated through various sources is as follows. Area irrigated more than once is 497 hectares. The total Gross Area irrigated in Kharif and Rabi season is 1,995 hectares. Through Tube-wells and Filter Points 1,315 hectares are irrigating and in Rabi season 680 hectares is under irrigation crops.

Pulivendala mandal is one in which the watershed programme was launched in the year 1995-96 to improve the quality of life the farmers in the mandal. The watershed programme was started in the year 1995-1996
in Pulivendala mandal of Kadapa district. The data reveals that the total number of watershed sanctioned in Pulivendala mandal during 1995-96 to 2004-2005 are 13 and out of these 13 watersheds 10 watersheds were completed and three are ongoing.

The watershed programmes under Drought Prone Area Programme (DPAP) in Pulivendala mandal was executed during 1995-96 to 2004-2005. K.V.Palli village occupied first place with regard to releases and expenditure under DPAP watershed programmes with a release of Rs.48 lakhs. In Kothapalli, Nalagondupalli and Yerraballi villages cent percent released amount was spent for the implementation of watershed activities during 1995-2005.

The data reveals that in Stone Bunding 30 farmers were helped to level 39 acres of land which account 12.66 per cent of area, Rock Fill Dams was carried out in 57 acres with 32 farmers, which account 18.51 per cent of area covered by the selected farmers, Waste Weirs carried out in 96 acres with 33 farmers, with about 31.17 per cent of area by the selected farmers, Tank Silt carried out in 75 acres with 29 farmers which account 24.35 per cent of area by the selected farmers and Earth Bunding carries out 41 acres of land with 20 farmers, which account 13.31 per cent of area by the selected farmers.

The data reveals that the Gully Plug covers 42 acres with 18 farmers, which account 24.71 per cent of the area, Check Dams cover 55 acres with 38 farmers, which accounts 32.56 per cent, Farms Ponds cover 32 acres with 21 farmers which accounts 18.82 per cent and Key Wells cover 41 acres of land with 15 farmers which account 24.12 per cent.
It is evident from data that the ground water table has increased significantly, 59 Bore Wells were recharged, 77 Surface Wells were recharged and 241 acres of land was brought under irrigation.

The data reveals that out of 150 sample farmers 46 farmers (30.67 per cent) have cultivated groundnut crop. The banana and onion crops were cultivated by 26 farmers (17.33 per cent) and 25 farmers (16.66 per cent). Sunflower cultivation is the second major crop among the farmers. Jowar is cultivated by only nine farmers (6 per cent).

An analysis of data the savings of the selected farmers in Pulivendala mandal. Four categories of the farmers are selected viz., (i) Small Farmers (ii) Marginal Farmers (iii) Medium Farmers and (iv) Large Farmers. The table 5.32 reveals that the savings of the small farmers increased at the rate of 376.80 per cent, marginal farmers at the rate of 416.80 per cent, medium farmers at the rate of 352.08 per cent and large farmers at the rate of 369.74 per cent. So marginal farmers.

As per the data it is found that 18 per cent of the farmers have less than Rs.6,000 annual income, 39.33 per cent of the farmers have income between Rs.6,001 to Rs.10,000 and 25.33 per cent of the farmers have income between Rs. 10,001 to Rs. 15,000, whereas 17.34 per cent of the farmers annual income is above Rs. 15000/-. It is found that there is no Large farmers with income level of below Rs.6,000/-.

As per the data it is found that there are 3.33 per cent of the farmers who have an annual income of below Rs.6,000, 10.67 per cent of the farmers have income between Rs.6,001 to Rs.10,000, 29.33 per cent of the farmers have income between Rs.10,001 to Rs.15,000 and 29.33 per cent
of the farmers have income of Rs. 15000 and above. It is found that after watershed programme all the farmers have been receiving income through the agriculture. After watershed programme, nearly 57 per cent of the farmers annual income is above Rs. 15,000 whereas the same income group percentage was only 17.34 per cent before the watershed programme.

It is inferred that there is significant growth in Income Generation of Sample Farmers in Pulivendala Mandal after the implementation of Watershed Programme.

The data reveals that after watershed programme 11 Scheduled Tribe farmers belonging to Small Farmers have an income of Rs.2,09,006 with an average income of Rs.19,000. 12 Scheduled Caste farmers belonging to Small Farmers have the income of Rs.2,22,391 and with an average income of Rs.18,532, 7 Backward Caste farmers belonging to Small Farmers have the income of Rs.1,41,980 with an average income of Rs.20,283, 9 Other Caste farmers belonging to Small Farmers have the income of Rs.2,19,316 and with an average income of Rs.24,368. At the mandal level there were 39 Small Farmers with an income of Rs.7,92,693.

After watershed programme 9 Scheduled Tribe farmers belonging to Marginal Farmers have the income of Rs.1,79,408 with an average income of Rs.19,934, 14 Scheduled Caste farmers belonging to Marginal Farmers have the income of Rs.3,04,517 with an average income of Rs.21,751, 12 Backward Caste farmers belonging to Marginal Farmers have the income of Rs.2,63,811 with an average income of Rs.21,984, 8 Other Caste farmers belonging to Marginal Farmers have the income of Rs.1,70,887 with an
average income of Rs.24,368. At the mandal level 43 Marginal Farmers have income of Rs.9,18,623.

After watershed programme 10 Scheduled Tribe farmers belonging to Medium Farmers have the income of Rs.2,09,590 with an average income of Rs.20,959, 7 Scheduled Caste farmers belonging to Medium Farmers have the income of Rs.1,55,090 with an average income of Rs.22,156, 11 Backward Caste farmers belonging to Medium Farmers have the income of Rs.2,45,208 with an average income of Rs.22,910. At the mandal level there were 37 Medium Farmers with an income of Rs.8,25,082.

After watershed programme 4 Scheduled Tribe farmers belonging to Large Farmers have the income of Rs.93,392 with an average income of Rs.23,348, 4 Scheduled Caste farmers belonging to Large Farmers have the income of Rs.92,247 with an average income of Rs.23,062, 9 Backward Caste farmers belonging to Large Farmers have the income of Rs.2,05,995 with an average income of Rs.22,888, 14 Other Caste farmers belonging to Large Farmers have the income of Rs.3,79,058 with an average income of Rs.27,075. At the mandal level there were 31 Large Farmers with an income of Rs.7,70,692.

It is inferred that there is no significant difference in mean income between the Castes.

From the data it is found that 23.33 per cent of the farmers comprising of all categories have below 100 mandays of employment. 36 per cent of the total farmers have employment between 101 and 180 days
and 24.67 per cent of them have employment between 181 and 240 days as against 16 per cent of the farmers comprising all groups have employment of 241 mandays and above.

It is found that after watershed programme 2.67 per cent of the farmers comprising of all groups have employment of less than 100 days as against 23.33 per cent of the farmers before watershed programme. It shows that there has been a shift in the availability of mandays of employment through the watershed programme. After watershed programme 8.67 per cent of 101 to 180 days. It clearly shows that after the joining in watershed programme 88 per cent of the sample farmers have an employment of 181 days and above as against 40 per cent have got the same number of days of employment before the watershed programme.

It is inferred that there is significant growth in Employment Generated by the Sample Farmers in Pulivendala Mandal after the implementation of Watershed Programme.

The data reveals that after the implementation of watershed programme 11 Scheduled Tribe farmers belonging to Small Farmers have man days of 2,661 with an average man days of 242, after watershed programme 12 Scheduled Caste farmers belonging to Small Farmers have man days of 2,884 with an average man days of 240, after watershed programme 7 Backward Caste farmers belonging to Small Farmers have man days of 1,800 with an average man days of 257, 9 Other Caste farmers belonging to Small Farmers have man days of 2,450 with an average man days of 272, at the mandal level there were 39 Small Farmers with man days of 9,795.
After the implementation of watershed programme 9 Scheduled Tribe farmers belonging to Marginal Farmers have man days of 2,102 with an average man days of 234, 14 Scheduled Caste farmers belonging to Marginal Farmers have 3,726 man days with an average man days of 266, 11 Backward Caste farmers belonging to Marginal Farmers have 3,180 man days with an average man days of 265, 8 Other Caste farmers belonging to Marginal Farmers have 2,032 man days with an average man days of 254, at the mandal level there were 43 Marginal Farmers with 11,040 man days.

After the implementation of watershed programme 10 Scheduled Tribe farmers belonging to Medium Farmers have 2,735 man days with an average man days of 274, 7 Scheduled Caste farmers belonging to Medium Farmers have 1,964 man days with an average man days of 280, 11 Backward Caste farmers belonging to Medium Farmers have 2,972 man days with an average man days of 270, 9 Other Caste farmers belonging to Medium Farmers have 2,514 man days with an average man days of 279, at the mandal level there were 37 Medium Farmers with 10,185 man days.

After watershed programme 4 Scheduled Tribe farmers belonging to Large Farmers have 1,192 man days with an average man days of 298, 4 Scheduled Caste farmers belonging to Large Farmers have 1,208 man days with an average man days of 302, 9 Backward Caste farmers belonging to Large Farmers have 2,653 man days with an average man days of 295, 14 Other Caste farmers belonging to Large Farmers have 4,308 man days with an average man days of 308, at the mandal level there were 31 Large Farmers with 9,361 man days.
It is inferred that there is no significant difference in Employment between the castes.

As per the data it is found that 16.92 per cent of the farmers have income below Rs.6,000, 33.08 per cent of the farmers have income between Rs.6,001 to 10,000, 4.62 per cent of the farmers have income between Rs.10,001 to 15,000, 45.38 per cent of the farmers have income between above Rs.15,000.

As per the data it is found that 20.40 per cent of the farmers have employment between 0 to 100 days, 26.97 per cent of the farmers have employment between 101 to 180 days, 11.18 per cent of the farmers have employment between 181 to 240 days and 41.45 per cent of the farmers have employment between 241 days and above.

Penagalur Mandal is one of the Medium Developed Mandals of Kadapa District in Rayalaseema region. The total geographical area of the mandal is 26,418 hectares consisting of 29 Revenue Villages. As per 2001 census, the total population of Penagalur mandal is 43,013 of which, 21,791 are men (50.66 per cent) and 21,222 are women (49.34 per cent). Among the total population, the population of Scheduled Castes account for about 23.3 per cent (10,030) and the Scheduled Tribes population accounts for 3.9 per cent (1,674). The total literacy rate in the mandal is 50.26 per cent (21,388). The literate men in the mandal are 13,210 (61.76 per cent) and the women literates are 8,178 (38.24 per cent). Density of population of the mandal is 163 Per S.Q.Kms and Sex ratio of the mandal is 974 (female per thousand males).
The geographical area of the Penagalur mandal is covered about 26,418 hectares. There is Barren and Uncultivated Land, consisting of 15,890 hectares and its percentage in the total geographical area of the mandal is about 60.15 per cent. The Land put to non-agriculture is 1,124 hectares which is 4.25 per cent of the total geographical area. The Cultivatable Waste land covers an area of 2,323 hectares with a share of 8.79 per cent. The Net Area Sown for the year 2003-2004 covers an extent of 2,957 hectares which is 11.19 per cent of total geographical area. The Gross Cropped Area is about 3,567 hectares and its percentage is 13.50 and Current Fallow land is 2,311 hectares, which is 8.75 per cent of the total geographical area of the Penagalur Mandal.

The area irrigated through various sources is as follows. Area irrigated more than once is 610 hectares. The total Gross Area irrigated in Kharif and Rabi season is 1592 hectares. Through Tube-wells and Filter Points 1592 hectares under irrigation crops.

Penagalur mandal is one in which the watershed programme was launched in the year 1995-96 to improve the quality of life the farmers in the mandal. The watershed programme was started in the year 1995-1996 in Penagalur mandal of Kadapa district. As per the data the total number of watersheds sanctioned in Penagalur mandal during 1995-96 to 2004-2005 are 14 and out of these 14 watersheds seven watersheds were completed and seven are ongoing.

The watershed programmes under various schemes (EAS, DPAP and Hariyali) in Penagalur mandal was executed during 1995-96 to 2004-2005 (table 6.4). Nallapureddy Palli village occupied first place with regard to
releases and expenditure under Employment Assurance Scheme (EAS) with a release of Rs.64.55 lakhs. In Nallapureddy Palli, Velagacherla, Dhamanacherla and Kondur villages, cent percent released amount was spent for the implementation of watershed activities during 1995-2005.

The data reveals that in Stone Bunding, 28 farmers were helped to level 21 acres of land which account 8.54 per cent of area, Rock Fill Dams was carried out in 42 acres with 26 farmers, which account 17.07 per cent of area covered by the selected farmers, Waste Weirs carried out in 85 acres with 24 farmers, Tank Silt carried out in 68 acres with 26 farmers which account 27.64 per cent of area by the selected farmers and Earth Bunding carries out 30 acres of land with 28 farmers, which account 12.20 per cent of area by the selected farmers.

The date reveals that the Gully Plug covers 35 acres with 16 farmers, which account 26.52 per cent of the area, Check Dams cover 48 acres with 39 farmers, which accounts 36.36 per cent, Farms Ponds cover 21 acres with 19 farmers which accounts 15.91 per cent and Key Wells cover 28 acres of land with 19 farmers which account 21.21 per cent.

It is evident from data that the ground water table has increased significantly, 54 Bore Wells were recharged, 71 Surface Wells were recharged and 230 acres of land was brought under irrigation.

The data reveals that out of 150 sample farmers 34 farmers (22.67 per cent) have cultivated groundnut crop. The Sunflower and Jowar crops were cultivated by 25 farmers (16.67 per cent) and 33 farmers (22 per cent). Sugarcane cultivation is the first major crop among the farmers. Paddy is cultivated by only six farmers (4 per cent).
The data reveals that there is an increase in food and clothing i.e., 55.30 per cent and 126.73 per cent, Fuel and Lighting 124.84 per cent, Recreation 122.618 per cent, Medicine 89.23 per cent, Family ceremonies festivals and others 83.37 per cent, Education of Children 82.32 per cent. Which clearly shows that the standard of living has improved after the implementation of watershed programme in the villages.

The data reveals that savings of the selected farmers in Penagalur mandal. Four categories of the farmers are selected viz., (i) Small Farmers (ii) Marginal Farmers (iii) Medium Farmers and (iv) Large Farmers. The table 6.34 reveals that the savings of the small farmers increased at the rate of 372.15 per cent, marginal farmers at the rate of 617.99 per cent, medium farmers at the rate of 406.36 per cent and large farmers at the rate of 530.94 per cent. So marginal farmers could save more than that of the others in Penagalur mandal.

As per the data it is found that 22.67 per cent of the farmers have less than Rs.6,000 annual income, 24 per cent of the farmers have income between Rs.6,001 to Rs.10,000 and 38.67 per cent of the farmers have income between Rs. 10,001 to Rs. 15,000, whereas 14.66 per cent of the farmers annual income is above Rs. 15000/-. As per the data it is found that there are 4.67 per cent of the farmers who have an annual income of below Rs.6,000, 10 per cent of the farmers have income between Rs.6,001 to Rs.10,000, 31.33 per cent of the farmers have income between Rs.10,001 to Rs.15,000 and 54.00 per cent of the farmers have income of Rs. 15000 and above. It is found that after watershed programme all the farmers have been receiving income through
the agriculture. After watershed programme, nearly 81 per cent of the farmers annual income is above Rs. 15,000 whereas the same income group percentage was only 14.66 per cent before the watershed programme.

It is inferred that there is significant growth in Income Generation of Sample Farmers in Penagalur Mandal after the implementation of Watershed Programme.

The data reveals that after watershed programme 12 Scheduled Tribe farmers belonging to Small Farmers have an income of Rs.1,74,523 with an average income of Rs.14,544, 15 Scheduled Caste farmers belonging to Small Farmers have the income of Rs.2,49,653 and with an average income of Rs.16,644, 10 Backward Caste farmers belonging to Small Farmers have the income of Rs.2,29,682 with an average income of Rs.22,968, 5 Other Caste farmers belonging to Small Farmers have the income of Rs.81,333 and with an average income of Rs.16,267. At the mandal level there were 42 Small Farmers with an income of Rs.7,35,191.

After watershed programme 10 Scheduled Tribe farmers belonging to Marginal Farmers have the income of Rs.1,84,881 with an average income of Rs.18,488, 11 Scheduled Caste farmers belonging to Marginal Farmers have the income of Rs.1,99,198 with an average income of Rs.18,109, 13 Backward Caste farmers belonging to Marginal Farmers have the income of Rs.2,51,111 with an average income of Rs.19,316, 9 Other Caste farmers belonging to Marginal Farmers have the income of Rs.1,72,246 with an average income of Rs.19,138. At the mandal level 43 Marginal Farmers have income of Rs.8,07,436.
After watershed programme 5 Scheduled Tribe farmers belonging to Medium Farmers have the income of Rs.1,04,900 with an average income of Rs.20,980, 3 Scheduled Caste farmers belonging to Medium Farmers have the income of Rs.77,355 with an average income of Rs.25,785, 15 Backward Caste farmers belonging to Medium Farmers have the income of Rs.3,54,165 with an average income of Rs.23,611, 12 Other Caste farmers belonging to Medium Farmers have the income of Rs.2,66,172 with an average income of Rs.22,181. At the mandal level there were 35 Medium Farmers with an income of Rs.8,02,592.

After watershed programme 2 Scheduled Tribe farmers belonging to Large Farmers have the income of Rs.58,300 with an average income of Rs.29,150, 2 Scheduled Caste farmers belonging to Large Farmers have the income of Rs.59,300 with an average income of Rs.29,650, 11 Backward Caste farmers belonging to Large Farmers have the income of Rs.3,16,644 with an average income of Rs.28,786, 15 Other Caste farmers belonging to Large Farmers have the income of Rs.4,37,515 with an average income of Rs.29,168. At the mandal level there were 30 Large Farmers with an income of Rs.8,71,759.

From the data it is found that 24 per cent of the farmers comprising of all categories have below 100 mandays of employment. 39.33 per cent of the total farmers have employment between 101 and 180 days and 22.67 per cent of them have employment between 181 and 240 days as against 14 per cent of the farmers comprising all groups have employment of 241 mandays and above.
It is found that after watershed programme 4.67 per cent of the farmers comprising of all groups have employment of less than 100 days as against 24 per cent of the farmers before watershed programme. It shows that there has been a shift in the availability of mandays of employment through the watershed programme. After watershed programme 10.67 per cent of the farmers have employment of 101 to 180 days. It clearly shows that after the joining in watershed programme nearly 85 per cent of the sample farmers have an employment of 181 days and above as against 36.67 per cent have got the same number of days of employment before the watershed programme. It is inferred that there is significant growth in Employment Generation of Sample Farmers in Penagalur Mandal after the implementation of Watershed Programme.

The data reveals that after the implementation of watershed programme 12 Scheduled Tribe farmers belonging to Small Farmers have man days of 2,786 with an average man days of 232, after watershed programme 15 Scheduled Caste farmers belonging to Small Farmers have man days of 3,612 with an average man days of 241, after watershed programme 10 Backward Caste farmers belonging to Small Farmers have man days of 2,561 with an average man days of 256, 5 Other Caste farmers belonging to Small Farmers have man days of 1,229 with an average man days of 246, at the mandal level there were 42 Small Farmers with man days of 10,188.

After the implementation of watershed programme 10 Scheduled Tribe farmers belonging to Marginal Farmers have man days of 2,471 with an average man days of 247, 11 Scheduled Caste farmers belonging to
Marginal Farmers have 2,668 man days with an average man days of 243, 13 Backward Caste farmers belonging to Marginal Farmers have 3,588 man days with an average man days of 276, 9 Other Caste farmers belonging to Marginal Farmers have 2,379 man days with an average man days of 264, at the mandal level there were 43 Marginal Farmers with 11,106 man days.

After the implementation of watershed programme 5 Scheduled Tribe farmers belonging to Medium Farmers have 1,445 man days with an average man days of 289, 3 Scheduled Caste farmers belonging to Medium Farmers have 836 man days with an average man days of 279, 15 Backward Caste farmers belonging to Medium Farmers have 4,003 man days with an average man days of 267, 12 Other Caste farmers belonging to Medium Farmers have 3,251 man days with an average man days of 271, at the mandal level there were 35 Medium Farmers with 9,535 man days.

After the implementation of watershed programme 2 Scheduled Tribe farmers belonging to Large Farmers have 560 man days with an average man days of 280, 2 Scheduled Caste farmers belonging to Large Farmers have 630 man days with an average man days of 315, 11 Backward Caste farmers belonging to Large Farmers have 2,943 man days with an average man days of 268, 15 Other Caste farmers belonging to Large Farmers have 4,210 man days with an average man days of 281, at the mandal level there were 30 Large Farmers with 8,343 man days. It is inferred that there is no significant difference in mean employment between the Castes.
As per the data it is found that 19.85 per cent of the farmers have income below Rs.6,000, 15.44 per cent of the farmers have income between Rs.6,001 to 10,000, 21.33 per cent of the farmers have income between Rs.10,001 to 15,000, 43.38 per cent of the farmers have income between above Rs.15,000.

As per the data it is found that 18.83 per cent of the farmers have employment between 0 to 100 days, 27.92 per cent of the farmers have employment between 101 to 180 days, 9.74 per cent of the farmers have employment between 181 to 240 days and 43.51 per cent of the farmers have employment between 241 days and above.

Sambepalli Mandal is one of the less developed mandals of Kadapa District in Rayalaseema region. The total geographical area of the mandal is 35,884 hectares. There are 11 Revenue Villages in the mandal. As per 2001 census, the total population of Sambepalli mandal is 35,131 of which, 17,835 are men (50.77 per cent) and 17,296 are women (49.23 per cent). Among the total population, the Scheduled Castes population account for 14.4 per cent and the Scheduled Tribes population accounts for 5.1 per cent. The total literacy rate in the mandal is 45.43 per cent (15,937). The literate men in the mandal are 66.11 per cent (10,536) and the women literates are 33.89 per cent (5,401).

Sambepalli Mandal lies between the Northern latitudes of 13° 55' and 78° 41' and the eastern longitude. Annual rainfall in the mandal shows a normal rainfall during the last three years. There is no unanimity in the rainfall. In the year 2001-2002, the annual rainfall was 902.3 mm. There was low rainfall in the year 2002-2003 with 238.4 mm of annual rainfall.
It increased to 838.4 mm of annual rainfall in 2003-2004. There have been continuous fluctuations in the annual rainfall in Sambepalli mandal of Kadapa district.

The geographical area of the Sambepalli mandal is covered about 35,884 hectares along with 14,384 hectares of forest area which is about 40.08 per cent of total geographical area. There is Barren and Uncultivated Land consisting of 5,072 hectares and its percentage in the total geographical area of the mandal is about 14.13 per cent. The Land put to non-agriculture is 2,049 hectares which is 5.71 per cent of the total geographical area. The Cultivatable Waste land covers an area of 505 hectares and with a share of 1.40 per cent. The Net Area Sown for the year 2003-2004 covers an extent of 11,834 hectares which is 32.98 per cent of total geographical area. The Gross Cropped Area is about 12,432 hectares and its percentage is 34.64. The Current Fallow land is 715 hectares, which is 1.99 per cent of the total geographical area of the Sambepalli Mandal.

The watershed programme was started in the year 1995-96 in Sambepalli mandal of Kadapa district. The data reveals that the total number of watersheds sanctioned in Sambepalli mandal during 1995-96 to 2005-2006 are 14 and out of these 14 watersheds 7 watersheds were completed and 7 are ongoing.

The data reveals that the contour bunding works have been taken up in 237 hectares in six watershed villages in the mandal. Most of the contour bunding works were covered in Devapatla (39.66 per cent) and Pavakalabanda Bidiki (28.69 per cent). The stone bunding works have been
taken up in 233 hectares in three watershed villages in the mandal. Most of the stone bunding works were covered in Routhkunta (76.23 per cent) and Guniguntlla (17.94 per cent). The rock fill dams work was mainly covered in Narayanareddy Palli village with 61.50 per cent of the total rock fill dams work and continuous contour trenches work mainly covered in Routhkunta village with 2250 Running Meters (36.17 per cent). The number of check dams in each watershed village varied from 6 in Narayanareddy Palli village (60 per cent). The Gabian work has also been covered in 3 watershed villages and it varied 8 in Narayanareddy Palli (53.33 per cent) and 6 in Guniguntlla (40 per cent). The construction of Kuntas have been done in two villages with variation of 8 (66.67 per cent) and dugout ponds have been constructed in three villages with variation of 107 (56.91 per cent) in Narayanareddy Palli. The Diversion Drians work was mainly covered in Pavakalabanda Bidiki village with 69.66 per cent (2618 Running Meters) of the total Diversion Drians work. The plantation work has been concentrated mainly in six villages under watershed programme. With the implementation of various works under watershed programmes in Sambepalli mandal 1,03,860 mandays of employment was generated during 1997-98 to 2002-2003.

As per the data it is found that 17.33 per cent of the farmers have less than 2 acres of irrigated land as against this 59.33 per cent of the farmers have 2 acres and above irrigated land. With regard of un-irrigated land 14.67 per cent of the farmers have 2 acres of Un-irrigated land as against 8.67 per cent of the farmers have 2 acres and above in the selected villages of Sambepalli Mandal.
The data reveals that in Stone Bunding 19 farmers were helped to level 25 acres of land which account 10.73 per cent of area, Rock Fill Dams was carried out in 38 acres with 25 farmers, which account 16.31 per cent of area covered by the selected farmers, Waste Weirs carried out in 71 acres with 35 farmers, with about 30.47 per cent of area by the selected farmers, Tank Silt carried out in 54 acres with 21 farmers which account 23.17 per cent of area by the selected farmers and Earth Bunding carries out 45 acres of land with 21 farmers, which account 19.32 per cent of area by the selected farmers.

The data reveals that the Gully Plug covers 33 acres with 15 farmers, which account 25.98 per cent of the area, Check Dams cover 41 acres with 19 farmers, which accounts 32.28 per cent, Farms Ponds cover 32 acres with 11 farmers which accounts 25.20 per cent and Key Wells cover 21 acres of land with 17 farmers which account 16.54 per cent.

The data reveals that the ground water table has increased significantly, 48 Bore Wells were recharged, 64 Surface Wells were recharged and 221 acres of land was brought under irrigation.

The data reveals that there is an increase in the expenditure for Recreation i.e., 119.78 per cent, Family Ceremonies/Festivals and others 66.33 per cent, Medicine 60.71 per cent, Education of Children 58.95 per cent, Clothing 56.23 per cent, Fuel and Lighting 54.05 per cent and Food 47.79 per cent.

As per the data it is found that 16.67 per cent of the farmers have less than Rs.6,000 annual income, 36.67 per cent of the farmers have income between Rs.6,001 to Rs.10,000 and 24.00 per cent of the farmers...
have income between Rs. 10,001 to Rs. 15,000, whereas 22.66 per cent of
the farmers annual income is above Rs. 15000/-. It is found that there is
no Large farmers with income level of below Rs.6,000/- and no Small
farmers with income level of above Rs.15,000/-.

As per the data it is found that 2.00 per cent of the farmers have an
annual income of below Rs.6,000, 15.33 per cent of the farmers have
income between Rs.6,001 to Rs.10,000, 33.33 per cent of the farmers have
income between Rs.10,001 to Rs.15,000 and 49.34 per cent of the farmers
have income of Rs. 15000 and above. It is found that after watershed
programme all the farmers have been receiving income through the
agriculture. After watershed programme, nearly 50 per cent of the farmers
annual income is above Rs. 15,000 whereas the same income group
percentage was only 22.26 per cent before the watershed programme. It is
inferred that there is significant growth in Income Generation of Sample
Farmers in Sambepalli Mandal after the implementation of Watershed
Programme.

It is inferred that there is significant growth in Income Generation of
Sample Farmers in Sambepalli Mandal after the implementation of
Watershed Programme.

The data reveals that after watershed programme 11 Scheduled Tribe
farmers belonging to Small Farmers have an income of Rs.1,47,541 with an
average income of Rs.13,413. 8 Scheduled Caste farmers belonging to
Small Farmers have the income of Rs.1,16,390 and with an average income
of Rs.14,549, 5 Backward Caste farmers belonging to Small Farmers have
the income of Rs.86,005 with an average income of Rs.17,201, 3 Other
Caste farmers belonging to Small Farmers have the income of Rs.55,340 and with an average income of Rs.18,447. At the mandal level there were 27 Small Farmers with an income of Rs.4,05,276.

After watershed programme 14 Scheduled Tribe farmers belonging to Marginal Farmers have the income of Rs.2,23,154 with an average income of Rs.15,939, 13 Scheduled Caste farmers belonging to Marginal Farmers have the income of Rs.2,28,643 with an average income of Rs.17,588, 10 Backward Caste farmers belonging to Marginal Farmers have the income of Rs.1,92,067 with an average income of Rs.19,207, 7 Other Caste farmers belonging to Marginal Farmers have the income of Rs.1,45,100 with an average income of Rs.20,728. At the mandal level 44 Marginal Farmers have income of Rs.7,88,964.

After watershed programme 9 Scheduled Tribe farmers belonging to Medium Developed Farmers have the income of Rs.1,43,513 with an average income of Rs.20,784, 12 Scheduled Caste farmers belonging to Medium Developed Farmers have the income of Rs.2,15,687 with an average income of Rs.17,974, 15 Backward Caste farmers belonging to Medium Developed Farmers have the income of Rs.3,24,845 with an average income of Rs.21,656, 18 Other Caste farmers belonging to Medium Developed Farmers have the income of Rs.3,83,455 with an average income of Rs.21,303. At the mandal level there were 54 Medium Developed Farmers with an income of Rs.10,67,500.

After watershed programme 3 Scheduled Tribe farmers belonging to Large Farmers have the income of Rs.62,351 with an average income of Rs.20,784, 2 Scheduled Caste farmers belonging to Large Farmers have the
income of Rs.54,850 with an average income of Rs.27,425, 8 Backward Caste farmers belonging to Large Farmers have the income of Rs.1,77,555 with an average income of Rs.22,194, 12 Other Caste farmers belonging to Large Farmers have the income of Rs.2,99,315 with an average income of Rs.24,943. At the mandal level there were 25 Large Farmers with an income of Rs.5,94,071. It is inferred that there is no significant difference in mean income between the Castes.

From the data it is found that 15.33 per cent of the farmers comprising of all categories have below 100 mandays of employment. Nearly 43 per cent of the total farmers have employment between 101 and 180 days and 29.33 per cent of them have employment between 181 and 240 days as against 12.67 per cent of the farmers comprising all groups have employment of 241 mandays and above.

It is found that after watershed programme 4.00 per cent of the farmers comprising of all groups have employment of less than 100 days as against 15.33 per cent of the farmers before watershed programme. It shows that there has been a shift in the availability of mandays of employment through the watershed programme. After watershed programme 14.67 per cent of 101 to 180 days. It clearly shows that after the joining in watershed programme 81 per cent of the sample farmers have an employment of 181 days and above as against 42 per cent have got the same number of days of employment before the watershed programme. It is inferred that there is significant growth in Employment Generation of Sample Farmers in Sambepalli Mandal after the implementation of Watershed Programme.
The data reveals that after the implementation of watershed programme 11 Scheduled Tribe farmers belonging to Small Farmers have man days of 2,531 with an average man days of 230, after watershed programme 8 Scheduled Caste farmers belonging to Small Farmers have man days of 2,104 with an average man days of 263, after watershed programme 5 Backward Caste farmers belonging to Small Farmers have man days of 1,446 with an average man days of 289, 3 Other Caste farmers belonging to Small Farmers have man days of 890 with an average man days of 297, at the mandal level there were 27 Small Farmers with man days of 6,971.

After the implementation of watershed programme 14 Scheduled Tribe farmers belonging to Marginal Farmers have man days of 3,472 with an average man days of 248, 13 Scheduled Caste farmers belonging to Marginal Farmers have 3,684 man days with an average man days of 283, 10 Backward Caste farmers belonging to Marginal Farmers have 2,962 man days with an average man days of 296, 7 Other Caste farmers belonging to Marginal Farmers have 1885 man days with an average man days of 269, at the mandal level there were 44 Marginal Farmers with 12,003 man days.

After the implementation of watershed programme 9 Scheduled Tribe farmers belonging to Medium Developed Farmers have 2,363 man days with an average man days of 262, 12 Scheduled Caste farmers belonging to Medium Developed Farmers have 3,305 man days with an average man days of 275, 15 Backward Caste farmers belonging to Medium Developed Farmers have 4,208 man days with an average man days of 281, 18 Other
Caste farmers belonging to Medium Developed Farmers have 4,978 man days with an average man days of 276, at the mandal level there were 54 Medium Developed Farmers with 14,854 man days.

After the implementation of watershed programme 3 Scheduled Tribe farmers belonging to Large Farmers have 8,601 man days with an average man days of 287, 2 Scheduled Caste farmers belonging to Large Farmers have 580 man days with an average man days of 290, 8 Backward Caste farmers belonging to Large Farmers have 2,410 man days with an average man days of 301, 12 Other Caste farmers belonging to Large Farmers have 3,560 man days with an average man days of 296, at the mandal level there were 25 Large Farmers with 7,410 man days. It is inferred that there is no significant difference in mean employment between the Castes.

As per the data it is found that 18.64 per cent of the farmers have income below Rs.6,000, 27.12 per cent of the farmers have income between Rs.6,001 to 10,000, 20.34 per cent of the farmers have income between Rs.10,001 to 15,000, 33.90 per cent of the farmers have income between above Rs.15,000.

As per the data it is found that 12.32 per cent of the farmers have employment between 0 to 100 days, 30.43 per cent of the farmers have employment between 101 to 180 days, 7.25 per cent of the farmers have employment between 181 to 240 days and 50.00 per cent of the farmers have employment between 241 days and above.
IMPACT OF WATERSHED PROGRAMME ON FARMERS INTERMS OF CROPPING PATTERN, SAVINGS, LAND DEVELOPMENT ACTIVITIES, WATER MANAGEMENT ACTIVITIES, INCOME AND EMPLOYMENT

The study reveals that at the district level, out of the total farmers 28.44 per cent of the farmers have cultivated groundnut, 9.11 per cent of the farmers have cultivated Redgram, 1.33 per cent of the farmers have cultivated paddy, 11.78 per cent of the farmers have cultivated jowar, 2.44 per cent of the farmers have cultivated maize, 19.33 per cent of the farmers have cultivated sunflower, 9.11 per cent of the farmers have cultivated sugarcane, 5.78 per cent of the farmers have cultivated banana, 4.89 per cent of the farmers have cultivated bengalgram, 5.56 per cent of the farmers have cultivated onion and 2.22 per cent of the farmers have cultivated bajra.

After the implementation of watershed programme in the district, the study reveals that out of the total farmers 26.22 per cent of the farmers have cultivated mangoes and groundnut, 16 per cent of the farmers have cultivated groundnut and Redgram, 11.33 per cent of the farmers have cultivated orange and groundnut, 16.22 per cent of the farmers have cultivated sunflower and vegetables, 9.11 per cent of the farmers have cultivated lime and groundnut and 21.11 per cent of the farmers have cultivated lime and orange.

Before implementation of watershed programme in the district, the study reveals that out of the total farmers 22.70 per cent of the savings are by small farmers, 22.45 per cent of the savings are by marginal farmers, 35.27 per cent of the savings are by medium farmers and 19.58 per cent of
savings are by large farmers. So medium farmers could save more than that of the others before watershed programme at the district level.

After the implementation of watershed programme in the district, the study reveals that out of the total farmers 22.55 per cent of the savings are by small farmers, 25.33 per cent of the savings are by marginal farmers, 32.47 per cent of the savings are by medium farmers and 19.64 per cent of savings are by large farmers. So medium farmers could save more than that of the others in after watershed programme at the district level.

The land development activities after the implementation of watershed programme in the district, the study reveals that out of the total farmers under Stone Bunding, 77 farmers were helped to level 85 acres of land which account 10.85 per cent of area, Rock Fill Dams was carried out in 137 acres with 83 farmers, which account 17.41 per cent of area covered by the selected farmers, Waste Weirs carried out in 252 acres with 92 farmers, with about 32.02 per cent of area by the selected farmers, Tank Silt carried out in 197 acres with 76 farmers which account 25.03 per cent of area by the selected farmers and Earth Bunding carries out 116 acres of land with 66 farmers, which account 14.74 per cent of area by the selected farmers at the district level.

Water management activities after the implementation of watershed programme in the district, the study reveals that out of the total farmers in Gully Plug covers 110 acres with 49 farmers, which account 25.64 per cent of the area, Check Dams cover 144 acres with 96 farmers, which accounts 33.57 per cent, Farms Ponds cover 85 acres with 47 farmers which
accounts 19.81 per cent and Key Wells cover 90 acres of land with 51 farmers which account 20.98 per cent at the district level.

The income level of the farmers before implementation of watershed programme in the district, the study reveals that out of the total farmers, 19.11 per cent of the farmers have income of Rs.6,000, 33.33 per cent of the farmers have income in between Rs.6,001 to 10,000, 29.33 per cent of the farmers have income in between Rs.10,001 to Rs.15,000, 18.22 per cent of the farmers have income of Rs.15,000 and above at the district level.

After implementation of watershed programme in the district, the study reveals that out of the total farmers 3.11 per cent of the farmers have income of Rs.6,000, 12 per cent of the farmers have income in between Rs.6,001 to 10,000, 31.33 per cent of the farmers have income in between Rs.10,001 to Rs.15,000, 53.33 per cent of the farmers have income of Rs.15,000 and above at the district level.

The employment position of the farmers before implementation of the watershed programme in the district, the study reveals that out of the total farmers 20.89 per cent of the farmers have employment of 0 to 100 days, 39.33 per cent of the farmers have employment of 101 to 180 days, 25.26 per cent of the farmers have employment of 181 to 240 days and 14.22 per cent of the farmers have employment of 240 days and above.

After implementation of watershed programme in the district, the study reveals that out of the total farmers 3.78 per cent of the farmers have employment of 0 to 100 days, 11.33 per cent of the farmers have employment of 101 to 180 days, 26.44 per cent of the farmers have
employment of 181 to 240 days and 58.44 per cent of the farmers have employment of 241 days and above.

At the district level the study reveals that out of the 450 farmers, 335 farmers could increase their income after the implementation of watershed programme in the district, and it is significant to note that the farmers who had the income in the range of Rs. 15,000 an above are more in number when compared to others.

The study also reveals that out of the 450 farmers, 406 farmers could better their employment opportunities after the implementation of watershed programme and it is significant to note that the farmers who had the employment in the range of 241 days and above are more in number when compared to others.