CHAPTER VI

AGRICULTURAL PROBLEMS AND THEIR REMEDIAL MEASURES IN SELECTED VILLAGES OF KARNATAKA

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CHAPTER-VI
AGRICULTURAL PROBLEMS AND THEIR REMEDIAL MEASURES IN SELECTED VILLAGES OF KARNATAKA

In order to know the problems of agriculture as well as aspects of agricultural development, at the village level of Karnataka, an attempt has been made to survey 11 villages. These 11 villages have been so selected, so as to represent different problems of agriculture in different geographical settings of Karnataka. As a consequence of this, two villages are selected to represent highly irrigated two taluks, one being in north Karnataka (Marikatti village of Mudhol taluk) and another one in south Karnataka (Budaguppe village of Maddur taluk). Karnataka state is highly stretched from north to south to the extent of more than 700 kms and therefore in the matter of irrigation and dryness it is necessary to view Karnataka in to northern half and southern half. Similarly another two villages are selected to represent dry land agriculture from two taluks, one being in north Karnataka (Itaga village of Chittapur taluk) and another one in south Karnataka (Iddrajalli of Gudibande taluk)

A high rainfall zone in Karnataka is covered by western ghats, spread into the districts of Uttar Kannada, Shimoga, Chikkamangalore, Udupi, Dakshina Kannada, Kodagu and Western parts of Hassan and Mysore districts. In these districts, due to heavy rainfall, the nature of agriculture in its practice and contents is distinctly different than dry agricultural districts of Karnataka. Therefore, at least one village is considered for the study of agricultural aspects to represent the conditions of farmers and the region of high rainfall zone. In this regard Kavadi village of Sringeri taluk of Chikkamangalore district, located almost in the central part of western ghats of Karnataka is chosen for the case study.

The coastal region of Karnataka is another distinct geographical region and therefore one village is considered for case study. In this regard Haladipur village of Honnavar taluk is surveyed by this researcher.

Urbanization has several impact on the surrounding rural area, where agriculture is also being influenced by it. Similarly taluk/region if is very well developed in its infrastructure then such infrastructure can have positive impact on the development of agriculture. Therefore considering the Bangalore urban impact on Bangalore rural district, Kunigal village in Bangalore rural district belonging to Ramnagar taluk is surveyed by this researcher.
Assuming the infrastructure development as pre-requisite for agricultural development in all the 176 taluks of Karnataka, the classification of taluks made (as per the survey report of Dr. D. M. Nanjundappa) reveals that Kanakapur taluk as very high developed. Therefore one village i.e. Aralalusandra village of Kanakapur taluk is selected for survey. Here it is hypothesized that the infrastructure development can have positively influence on the growth and development of agriculture in Aralalusandra village.

An area/taluk which is highly known for the cultivation of commercial crops like sugarcane, tobacco, cotton, etc. has significant nature and practice of agriculture. Consequently it is interesting to study the aspects of agriculture in a village where such influence of commercial crops is made on the farmers. In this connection the Krishna river basin in Athani taluk has got extensive area under pumpset irrigation, where sugarcane is widely adopted as single commercial crop by large number of village farmers. Therefore Tangadi village of Athani taluk is selected for the case study where commercial crop (Sugarcane) is significant.

The role of social development is a significant aspect in the socio-economic development of a human society. In this regard the region of Hyderabad Karnataka is very backward in socio-economic development and as such, in this region, most highly literate (29.50%) taluk being Hospet is identified for the village survey. The social development can enhance the human resources and as a result of it the agricultural development at village level can also show an upward trend of growth, both in quality and quantity. Considering this as a hypothesis, a village in Hospet taluk namely Papinayakanahalli is selected for agricultural study.

Another village i.e. Hiremalligawad of Dharwad taluk is studied by the researcher, as a special case, in order to know the role and impact of Agriculture University Dharwad on the farmers and their agricultural operations, as the said village is located just 3 kms away from the Agricultural University Campus Dharwad.

MARIKATTI VILLAGE to represent highly irrigated taluk of Mudhol, in North Karnataka

The Marikatti village belongs to Mudhol taluk of Bagalkot district. This village is located at a distance of 10 kms to the east of Mudhol town. As per 1991 census this village has population of 599. The total geographical area of Marikatti
village is 1165.84 acres (472 hectares). The village has also got 2 primary and 1 middle school and health center at a distance of 5 kms. The village has facilities like drinking water from wells, tank and hand pumps and post office at a distance of 5 kms. The village people have to travel a distance of 10 kms for market facilities available at Mudhol. For bus facility the people of Marikatti village have to travel upto 10 kms i.e. upto Mudhol, which being a class III town. The total area available for agriculture in the Marikatti village is 1002.75 acres (314.59 hectares) of which 77.54% is irrigated (777 acres) and remaining 225.75 acres are un-irrigated. About 41.66 acres of land is not available for cultivation.

As per 1991 census the total number of residential houses in Marikatti village were 79. Out of the total population of 599, the males were 321 while females were 278. Out of the total population of 599, 118 (19.69%) were in the age group of 0-6 years, out of them 75 were males and 43 were females. The total S.C. population in the village is 110, out of which 63 are males and 47 are females. In this village S.T. people are not noticed as per 1991 census. Out of the total population of the village 276 are identified as literates (46.07%) of which 159 are males and 117 are females. Out of total population, 170 are main workers (28.38%) out of them 165 are males and 5 are females. Out of main workers (170) cultivators are 139 (81.76%), agricultural labourers are 27 (15.86%), people engaged in trade and commerce 1 and other services 3. Out of the total population of 599 of Marikatti village 429 people (71.61%) are non-workers.

The total agricultural land available in Marikatti village is 1002.79 acres. Out of this area, 182 acres of land belonging to 21 families (households) is surveyed by the researcher through door to door survey. In all, there are 36 persons spread in 21 families as land owners, who won 182 acres of land. This 182 acres of land supports 181 population, of which 91 are males and 90 are females. Out of 181 population 49 are married couples (which shows 49 husbands + 49 wives). The age wise break up of 181 population is as follows; below the age of 14, 29 males and 23 females, in the age group of 14 to 59 males are 52 and females are 56, above the age of 60 the males are 10 and females are 11.

The caste wise composition of 21 surveyed families in Marikatti village shows 15 families as Lingayats, 1 family as Kumbar and 4 families as S.C.

Out of 182 acres of crop landuse, the crop wise landuse in Marikatti village is as following: maize 49 acres, sunflower 30 acres, sugarcane 52 acres, wheat 17 acres,
KARNATAKA STATE
LOCATIONS OF SAMPLE SURVEY VILLAGES

Location Code & Place
8 - Ambalavady Village (Koppal Taluk)
11 - Korapet Village (Rtnagar Taluk)
19 - Mithahalli Village (Shimoga Taluk)
57 - Mundhatt Village (Mudhol Taluk)
58 - Tangan Village (Chitradurga Taluk)
73 - Hirenghemad Village (Chikkamagal Taluk)
93 - Haldipura Village (Hassan Taluk)
110 - Kallu Village (Chikkam Taluk)
120 - Siddapura Village (Mysore Taluk)
140 - Papinenkanahalli Village (Hassan Taluk)
160 - Kall Village (Chikmagal Taluk)

Fig. No. 57

Legend:

35
15
25 Kms

N

75° 76° 77° 78°
jowar 27 acres, bengalgram 1 acre, greengram 1 acre, groundnut 3 acres, bajra 1 acre
and safflower 1 acre.

The average yield of maize in Marikatti village is 20 quintals per acre. However the range of maize yield varied from 20 quintals per acre to 10 quintals. The total production of maize from 49 acres of land is 980 quintals, whose money value is Rs. 4,90,000 (at the rate of Rs. 500 per quintal). The total amount spent in Marikatti village by 12 farmers for the cultivation and management of maize in 49 acres of land is Rs. 1,13,000. This works out Rs. 2306 per acre as expenditure. The net profit after the sale of 980 quintals of maize is 3,77,000 which works out to Rs. 7693 per acre of maize cultivation.

The average yield of sugarcane in Marikatti village is 25 tons per acre. However the range of sugarcane yield varies from 40 tons per acre to 20 tons. The total production of sugarcane from 52 acres of land is 1300 tons, whose money value is Rs. 13,00,000 (at the rate of Rs. 1000 per ton). The total amount spent in Marikatti village by ten farmers for the cultivation and management of sugarcane is 52 acres of land shows Rs. 2,75,000. This works out Rs, 5288 per acre. The net profit after the sale of 1300 tons of sugarcane is Rs. 10,25,000 which works out to Rs. 19,711 per acre of sugarcane cultivation.

The average yield of jowar in Marikatti village is 185 kg per acre. However the range of jowar yield varied from 3 quintals per acre to 1 quintal. The total production of jowar from 27 acres of land is 50 quintals. Whose money value is Rs. 45,000 (at the rate of Rs. 900 per quintal). The total amount spent in Marikatti village by ten farmers for the cultivation and management of jowar in 27 acres of land shows Rs. 15,000. This works out to Rs. 555 per acre. The net profit after the sale of 50 quintals of jowar (at the rate of Rs. 900 per quintal) is Rs. 30,000 which works out to Rs. 1,111 per acre of jowar cultivation.

The average yield of sunflower in Marikatti village is 8.24 quintals per acre. However the range of sunflower yield varies from 15 quintals per acre to 10 quintals. The total production of sunflower from 29 acres of land is 239 quintals whose money value is Rs. 2,15,100 (at the rate of Rs. 900 per quintal). The total amount spent in Marikatti village by 12 farmers for the cultivation and management of sunflower in 29 acres of land shows Rs. 59,000. This works out Rs. 2034 per acre. The net profit after the sale of 239 quintals of sunflower at the rate of Rs. 900 per quintal. The sunflower
is cultivated in 6 acres of land as a irrigated under irrigation (After deducting Rs. 59,000 as expenditure). This works out to Rs. 5382 per acre of sunflower cultivation.

The average yield of **groundnut** in Marikatti village is 10 quintals per acre. However the range of groundnut yield varies from 20 quintals per acre to 10 quintals. The total production of groundnut from 3 acres of land is 30 quintals, whose money value is Rs. 60,000 (at the rate of Rs. 2000 per quintal). The total amount spent in Marikatti village by one farmer (who only grows the groundnut) for the cultivation and management of groundnut in 3 acres is Rs. 20,000. This works out Rs. 6666 per acre as expenditure. The net amount after the sale of 30 quintals of groundnut at the rate of Rs. 2000 per quintal is Rs. 60,000 for which an amount of Rs. 20,000 is to be deducted towards expenditure. As a result of which the net profit works to Rs. 40,000 while per acre profit for groundnut is Rs. 13,333.

The average yield of **wheat** in Marikatti village is 8.82 quintals per acre. However the range of wheat yield varies from 20 quintals per acre to 8 quintals. The total quantity of production of wheat from 17 acres of land is 150 quintals, whose money value is Rs. 1,80,000 (at the rate of Rs. 1200 per quintal). Out of 21 surveyed families ten farmers have attempted to cultivate wheat. These ten farmers have spent Rs. 51,000 for the cultivation and management of wheat in 17 acres of land. Three acres of wheat land cultivated in irrigation area. This works out Rs. 3000 per acre. The net profit after the deduction of Rs. 51,000 as expenditure of wheat is Rs. 1,29,000 which works out to Rs. 7588 per acre of wheat cultivation.

Out of 21 surveyed families only one family cultivates the **bengalgram** in Marikatti village. The total production of bengalgram from one acre of land is 2 quintals, for which Rs. 1500 are spent towards its cultivation and management (at the rate of Rs. 1700 per quintal). The sale value of 2 quintals of bengalgram is Rs. 3400. After making deduction of Rs. 1500 towards cost of bengalgram cultivation and management, the net profit received from bengalgram crop is Rs. 1900, which also shows as profit for one acre of cultivation of bengalgram.

Out of 21 surveyed families only one family cultivated the **greengram** in Marikatti village. The total production is two quintals from one acre (at the rate of Rs. 1500 per quintal) the total value is for two quintals of greengram in Rs. 3000. The total expenditure towards crop management is Rs. 2000. After making deduction Rs. 2000 the net profit from greengram cultivation is Rs. 1000. This shows an income of Rs. 500 per acre of greengram cultivation.
Bajra is cultivated in one acre of land by out of 21 surveyed families the total production is 8 quintals (at the rate of Rs. 500 per quintal). The total quantity for 8 quintals of bajra is 4000. The total expenditure and crop management is Rs. 2000. After deducting Rs. 2000, the farmer get net profit from bajra cultivation is Rs. 2000. This shows an income of Rs. 2000 from bajra cultivation.

The safflower is cultivated in one acre and its production is 15 quintals. At the rate of Rs. 1200 per quintal the total value after the sale of 15 quintals of safflower is Rs. 18,000. The total expenditure towards the safflower crop management is Rs. 10,000, which works out as Rs. 10,000 for one acre expenditure as the cultivated area is only one acre. The net profit from safflower cultivation after deduction of Rs. 10,000 towards expenditure is Rs. 8,000.

In Marikatti village the agricultural land of 21 surveyed families is of black and red soils. Out of 182 acres of land of 21 surveyed families, the irrigated land is 75 acres, where sugarcane cultivation shares 42 acres, sunflower cultivation shares 14 acres, wheat cultivation shares 12 acres and maize cultivation shares 7 acres. Out of 75 acres of irrigated land 50 acres are irrigated from canals while pumpset irrigation shares 25 acres. Out of 21 surveyed families, 14 families have expressed that they are not interested to expand the land under any type of irrigation as they do not have adequate supply of additional water. About 3 farmers said that due to saline land they cannot practice irrigation in their land.

The farmers of Marikatti village use of chemical fertilizers such as urea, D.A.P., apart from animal dung. Out of 21 surveyed farmers in this village use bullock carts and iron furrows to carry out agricultural activities. Further they also use animal strength and human power in the form of labourers to carry out agricultural activities. Out of 21 surveyed farmers 3 farmers are using tractors for agricultural works and another 2 farmers use diesel pumpsets for irrigation purpose, while 16 farmers are not using any type of machines in their agricultural operations. The farmers are not facing any problems related to the use of fertilizers and pesticides and its supply, shortage, etc. Out of 21 surveyed farmers 10 farmers have expressed their problems related to shortage of bullock carts and other implements for carrying out agricultural works. Such shortage is met with great difficulty by hiring. About 13 farmers have expressed regarding shortage of water for irrigation in summer season. About 9 farmers have said that due to salty soil in their land the irrigation intensity is very much restricted.
Out of 21 surveyed families 19 families said that they don’t have any idea regarding soil testing while 2 families reported that they have got tested their soils. About 17 farmers have reported that they are using counter bunding system in their agricultural land while 4 farmers use long and big stone bunding to prevent soil loss and water loss during rainy season. In this Marikatti village farmers are not aware of rain harvesting methods. About 18 farmers have reported that they make use of radio to practice modern innovations of agriculture while 3 farmers do not have any knowledge of agricultural operations through radio and TV. About 5 families expressed the shortage of electricity to irrigate while another 16 families have not faced such problems. The shortage of electricity has impacted on 5 families for low productivity of crops in their fields.

Generally the farmers families spend Rs. 50 for male labour and Rs. 40 for female labour such labourer ask more wages during peak period of agricultural activities. In such periods the members of the farming family themselves participate as labourer to work in their lands. Some farmers who solely depend on labourer have to wait till they get the labours. The surveyed farmers use oxen, buffalo and cows for agricultural works. All the 21 surveyed families are getting milk products from she buffaloes and cows.

There are 48 married couples, out of which 24 women have undergone family planning operations. All the 21 surveyed families, expressed that the population growth in their family is not a burden. Out of 181 population belonging to 21 surveyed families of Marikatti village 39 males and 31 females participate in agricultural works. Out of 21 families 1 persons of a family is working as a pigmy collector (collecting small amount of money daily as a savings). Out of 181 population belonging to 21 surveyed families of Marikatti village, 124 (68%) are identified as literates. Out of 124 literates 90 are males and 34 are females. Out of 90 males 65 males have studies upto primary level education, 20 males have studied upto secondary level and remaining 5 have studied upto college level. Out of 34 female literates, 16 females have studied upto primary level, 15 have studied upto secondary level and remaining 3 females have studied upto college level.

All the members of surveyed families are satisfied with occupation and no one feels as unemployed. Further these people expressed about they being in good health. The 21 surveyed families have additional income from 7 sheep, 9 hens, 9 goats, 12 cows and 28 she buffaloes. The agricultural products and other products of Marikatti
village are sold in Mudhol, to which the farmers have to travel 7 kms by tractors. Depending upon the quality of agricultural goods the farmers have received suitable market price from Mudhol market. The Karnataka State passenger transport buses are available to general public from Mudhol to Marikatti village. In addition to this tempo trax are also run by private people.

The farmers of 21 surveyed families do not have any knowledge regarding watershed management, conservation status of soil, agricultural subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.

### Table 96

**Marikatti Village (Taluk Mudhol, Dist. Bagalkot)**

Data on Crop Landuse and its related aspects as per field survey carried out by the researcher during 2004

<table>
<thead>
<tr>
<th>Crop</th>
<th>Net area under sown (in acres)</th>
<th>Number of farmers by whom sown</th>
<th>Total production (in quintals)</th>
<th>Per acre yield (quintals)</th>
<th>Per acre amount spent by farmers in Rupees</th>
<th>Total money value received after sale in Rupees</th>
<th>Total net profit after deduction of total expenditure in Rupees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugarcane</td>
<td>52</td>
<td>10</td>
<td>1300 (tons)</td>
<td>25</td>
<td>Rs. 275,000</td>
<td>Rs. 13,00,000</td>
<td>Rs. 20,25,000</td>
</tr>
<tr>
<td>Maize</td>
<td>49</td>
<td>12</td>
<td>980</td>
<td>20</td>
<td>Rs. 113,000</td>
<td>Rs. 4,90,000</td>
<td>Rs. 5,77,000</td>
</tr>
<tr>
<td>Jowar</td>
<td>27</td>
<td>10</td>
<td>50</td>
<td>1.82</td>
<td>Rs. 15,000</td>
<td>Rs. 555</td>
<td>Rs. 45,000</td>
</tr>
<tr>
<td>Sunflower</td>
<td>30</td>
<td>12</td>
<td>239</td>
<td>8.34</td>
<td>Rs. 39,000</td>
<td>Rs. 2,634</td>
<td>Rs. 2,15,100</td>
</tr>
<tr>
<td>Wheat</td>
<td>17</td>
<td>10</td>
<td>150</td>
<td>8.82</td>
<td>Rs. 51,000</td>
<td>Rs. 3,000</td>
<td>Rs. 1,20,000</td>
</tr>
<tr>
<td>Bengal gram</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>Rs. 1,500</td>
<td>Rs. 1,500</td>
<td>Rs. 1,100</td>
</tr>
<tr>
<td>Green gram</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>8</td>
<td>Rs. 2,000</td>
<td>Rs. 2,000</td>
<td>Rs. 1,000</td>
</tr>
<tr>
<td>Bajra</td>
<td>1</td>
<td>1</td>
<td>15</td>
<td>15</td>
<td>Rs. 10,000</td>
<td>Rs. 1,000</td>
<td>Rs. 9,000</td>
</tr>
<tr>
<td>Safflower</td>
<td>3</td>
<td>1</td>
<td>30</td>
<td>10</td>
<td>Rs. 20,000</td>
<td>Rs. 6,666</td>
<td>Rs. 6,000</td>
</tr>
<tr>
<td>Groundnut</td>
<td>1</td>
<td>1</td>
<td>15</td>
<td>15</td>
<td>Rs. 10,000</td>
<td>Rs. 1,000</td>
<td>Rs. 9,000</td>
</tr>
</tbody>
</table>

### Thrust of the Research

Marikatti village belongs to highly irrigated taluk of Mudhol, which has 77.54% of irrigated land. Out of 1002.75 acres of arable land of Marikatti village 182 acres of land belonging to 21 families is surveyed by the researcher. Under irrigation farming, the sugarcane shares 28.57% area, maize shares 26.92% area and sunflower shares 16.48% area. Under dry farming crops like jowar, wheat, groundnut, bajra and gram are cultivated with little support of irrigation, that too whenever rains are inadequate. In this Marikatti village the agricultural practice is in profit. The highest profitable crop is sugarcane with Rs. 19711 profit per acre, under irrigated farming. The second most profitable crop is maize with Rs. 7693 under irrigated farming, while third rank goes to sunflower with Rs. 5382 profit per acre. Under dry farming safflower appears with a profit of Rs. 8000 per acre while its expenditure is Rs. 10000 per acre being highest amongst all the crops in
Marikatti village. In case of groundnut the per acre profit is Rs. 2266 while per acre investment is Rs. 666. As a result of this the farmers are not interested to cultivate groundnut in Marikatti village. The bajra cultivation although is occupied under only one acre of land shows Rs. 7600 as profit per acre where its per acre expenditure is only Rs. 2000, while its money value is Rs. 9600 for 8 quintals of bajra. However the market value of one quintal bajra is Rs. 1200 which makes farmers to decline the cultivation.

**Buddaguppe Village** to represent highly irrigated taluk of Maddur, in South Karnataka

The Buddaguppe village belongs to Maddur taluk of Mandya district. This village is located at a distance of 3 kms to the east of Maddur town (taluka head quarter). As per 1991 census Buddaguppe village has a total population of 889, out of which 452 are males and 437 are females. The total geographical area of the village is 544.93 acres (220.62 hectares). The village has got primary school, middle school, drinking water facility through wells and hand pumps, post and telegraph office at a distance of 5 kms, weekly market at a distance of 5 kms, urban center at a distance of 3 kms (Maddur class III town) and electricity supply. Out of the total area of 544.93 acres 228.30 acres (92.43 hectares) are irrigated, while 184.87 acres (74.85 hectares) are un-irrigated, 33.44 acres (13.54 hectares) are cultivable waste and 98.30 acres (39.80) hectares are not available for cultivation.

As per 1991 census the total number of residential houses in Buddaguppe village were 132 while number of households were 151. Out of the total population of 889, 127 were in the age group of 0-6 years of which 58 were males and 69 were females. In this village 81 people belong to schedule caste people, 22 people are schedule tribe. Out of total population 422 are literates (47.46%) of which 264 are males and 158 are females literates. Out of total population 395 are main workers, 169 are cultivators (154 males and 15 females), 138 are agricultural labours (90 males and 48 females), 54 persons (17 males and 37 females) are engaged in livestock, plantation, orchards and fishing. 2 males are engaged in manufacturing and servicing, 5 males are engaged in trade and commerce, 2 males engaged in transport, storage and communication work and 25 persons (19 males and 6 females) are engaged in other...
services, and about 20 females are identified as marginal workers. There are 474 (163 males and 311 females) non-workers showing 53.31% of the total population (889).

In the Buddaguppe village out of the total geographical area (544.93 acres) nearly 48% of area (261.74 acres) is under agriculture. This is nearly 71% to the total arable land of the village (261.74 acres). Out of the total agriculture land of the village (261.74 acres) 34 acres belonging to 14 households surveyed by this researcher. The total population belonging to 14 surveyed families is 85, out of which 39 are males and 46 are females. Out of the 14 households 5 households belong to Vakkaliga community and 9 households belong to Lingayat community.

Out of 85 population 18 are married couples (which shows 18 husbands and 18 wives). The age wise break up of 85 population is as follows; below the age of 0-14 males 9 and females 11, in the age group of 14 to 59 males are 28 and females are 29, above the age of 60 the males are 4 and females are 5.

The caste wise composition of 14 surveyed families in Buddaguppe village shows 5 families as Vakkaliga and 9 families of Lingayat. Out of 34 acres of total cropped area the crop wise landuse in Buddaguppe village is as following: rice 10 acres, sugarcane 14 acres, silk 6 acres and ragi 4 acres. The average yield of rice in Buddaguppe village is 29.80 quintals per acre. However the range of yield of rice varies from 30 quintals per acre to 10 quintals per acre. The total production of rice from 10 acres of land is 290 quintals, whose money value is Rs. 4,06,000 (at the rate of Rs. 1,400 per quintal).

The total amount spent in Buddaguppe village by 13 farmers for the cultivation and management of rice in 10 acres of land shows Rs. 57,000. This works out Rs. 5,700 per acre. The net amount received after the sale of 290 quintals of rice is Rs. 4,06,000. After deducting Rs. 57,000 as an amount spent towards expenditure of rice cultivation the remaining Rs. 3,49,000 shows as a net profit. Therefore the per acre profit from rice cultivation is Rs. 34,900.

The cultivation of sugarcane in 14 acres shows 360 tones of total production in Buddaguppe village, which shows 25.71 tones of yield per acre. At the rate of Rs. 1,000 per ton of sugarcane the total value for 360 tones of sugarcane is Rs. 3,60,000. The total expenditure towards crop management is Rs. 1,05,000. Therefore, the net profit from sugarcane cultivation is Rs. 2,55,000. This shows an income of Rs. 18,214 per acre of sugarcane cultivation.
The silk is cultivated in 6 acres of land by 7 farmer families. The total production of silk from 6 acres of land is 550 kg, for which Rs. 31,000 are spent towards its cultivation and management. Thus it shows Rs. 5,166 for management of silk cultivation per acre. The sale value of 550 kg of silk is 63,250 at the rate of Rs. 115 per kg. After making deduction of Rs. 31,000 towards cost of silk cultivation and management, the net profit received from silk crop is 32,250. This shows an income of Rs. 5,375 per acre of silk cultivation.

The ragi crops is cultivated in 4 acres of land where its total production is 26 quintals. The total expenditure on ragi cultivation is 7,000 which shows Rs. 1,750 per acre of ragi cultivation. The total market value for the sale of 26 quintals of ragi is Rs. 28,600 at the rate of Rs. 1,100 per quintal. After the deduction of Rs. 7,000 towards ragi cultivation and management, the net profit is Rs. 21,600. It shows a profit of Rs. 5,400 per acre of ragi cultivation.

In Buddaguppe village the agricultural land is consisting of red soil. Out of 14 surveyed families 6 acres of land is reported as fallow land. The total irrigated area is 24 acres out of 34 acres of arable land, belonging to 14 families, where rice cultivation shares 10 acres which sugarcane cultivation shares 14 acres and silk shares 6 acres. Out of 24 acres of irrigated land 10 acres are irrigated from tank canals while pumpset irrigation shares 14 acres. All the 14 surveyed farmers, have expressed that they are not interested to expand the land under any type of irrigation as they do not have adequate supply of additional water.

The farmers of Buddaguppe village use chemical fertilizers such as urea, potash and sulphate, apart from animal dung. Farmers in this village use bullock carts, iron furrows and tractors to carry out agricultural activities. Further they also use animal strength and human power in the form of labourers to carry out agricultural activities. Out of 14 surveyed farmers 4 farmers are using tractors for agricultural works and another 10 farmers use bullocks for agricultural works. Out of 14 surveyed farmers 7 farmers have expressed their problems related to shortage of bullock carts and other implements for carrying out agricultural works. Such shortage is met with great difficulty by hiring. About 9 farmers have expressed regarding shortage of water for irrigation. About 3 farmers have said that due to salty water in their bore wells, the irrigation intensity is very much restricted. Out of 14 surveyed families 11 farmers reported that they have got tested their soil.
About 13 farmers have reported that they are using contour bunding system in their agricultural land while 1 farmer said that he had no idea regarding soil bunding. In this village farmers are not aware of rain harvesting methods. About 5 farmers have reported that they make use of radio and T.V. for modern innovations of agriculture, while 9 farmers do not have any knowledge of agricultural operations through radio and T.V. About 12 farmers have expressed the shortage of electricity to irrigate while another 2 farmers have not faced such of the problems.

The shortage of electricity has impacted on 12 farmers for low productivity of crops in their fields.

Generally the farmers spend Rs. 60 for male labour and Rs. 30 for female labour such labourer ask more wages during peak period of agricultural activities. In such periods the members of the farming family themselves participate as labourer to work in their lands. Some farmers who solely depend on labourer have to wait till they get the labours.

The surveyed farmers use oxen, buffalo and cows for agricultural works. All the 14 farmers are getting milk products from she buffalos and cows. There are 18 married couples, out of which 18 women have undergone family planning operations. All the 14 families surveyed, expressed that the population growth in their family is not burden. Out of 85 population belonging to 14 surveyed families of Buddaguppe village 21 males and 8 females participate in agricultural works. Out of 14 families 10 persons of 5 families have gone out of the village to do Government job. Out of 85 people belonging to 14 surveyed families, 64 (75.29%) are literates, 33 are males and 31 are females. Five males have studied upto primary education and 22 males have studied upto secondary level. The 5 males have studied upto college level and one person has studied upto B.E. Out of 31 females 10 have studied upto primary level, 20 have studied upto secondary level and one female has studied upto college level. All the surveyed family members are satisfied with agricultural occupation and no one feels as unemployed. Further these people expressed about they being in good health. All the 14 families have additional income from 6 cows, 3 she buffalos, 6 sheep and 8 hens. The agricultural products and other products of Buddaguppe village are sold in Ramnagar town, to which the farmers have to travel a distance of 30 kms by Tempo and Goods motor. Depending upon the quality of agricultural goods the farmers have received suitable market price from Ramnagar market. The Karnataka State passenger
transport buses are available to general public from Ramnagar to Buddaguppe village. In addition to this private buses are run by private people.

Out of 14 farmer’s families 10 farmer’s families do not have any knowledge regarding watershed management, soil conservation, fertilizer status, agriculture subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.

Table 97

<table>
<thead>
<tr>
<th>Crop</th>
<th>Net area under sown (in acres)</th>
<th>Number of farmers by whom sown</th>
<th>Total production (in quintals)</th>
<th>Per acre yield (quintals)</th>
<th>Net amount spent by farmers in Rupees</th>
<th>Per Acre Amount Spent in Rupees</th>
<th>Total Money Value Received after Sale</th>
<th>Net profit per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>10</td>
<td>13</td>
<td>260 quintals</td>
<td>29 quintals</td>
<td>Rs. 57,000</td>
<td>Rs. 5,700</td>
<td>Rs. 4,06,000</td>
<td>Rs. 34,900</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>14</td>
<td>10</td>
<td>360 quintals</td>
<td>25.71 quintals</td>
<td>Rs. 1,05,000</td>
<td>Rs. 7,500</td>
<td>Rs. 3,43,000</td>
<td>Rs. 18,214</td>
</tr>
<tr>
<td>Silk</td>
<td>6</td>
<td>7</td>
<td>550 kgs.</td>
<td>91 kgs.</td>
<td>Rs. 31,000</td>
<td>Rs. 5,166</td>
<td>Rs. 63,250</td>
<td>Rs. 5,375</td>
</tr>
<tr>
<td>Ragi</td>
<td>4</td>
<td>4</td>
<td>26 quintals</td>
<td>6.5 quintals</td>
<td>Rs. 7,000</td>
<td>Rs. 1,750</td>
<td>Rs. 28,600</td>
<td>Rs. 5,400</td>
</tr>
</tbody>
</table>

Thrust of the Research

The Buddaguppe village has nearly 41.19% of irrigated land. Out of 261.74 acres of land belonging to Buddaguppe village only 34 acres belonging to 14 households is surveyed by this researcher, as a sample. Out of 34 acres of land 14 acres i.e. 41.17% is shared by sugarcane crop, 10 acres are shared (29.41%) by rice cultivation, 6 acres are shared by mulberry crop (17.64%) and 4 acres are shared by ragi cultivation (11.77%). All these crops in Buddaguppe village are cultivated under irrigation and farmers have obtained profit in the practice of agriculture. The highest per acre profit in Buddaguppe village is Rs. 34900 for rice cultivation while sugarcane cultivation provides a profit of Rs. 18214 per acre. Therefore the Buddaguppe village distinctly appears as rice profit village. The farmers can increase the land under cultivation of rice instead of sugarcane cultivation. The yields of rice cultivation can be still increased if farmers adopt full way of scientific cultivation.
ITGA VILLAGE to represent dryland agricultural taluk of Chittapur in Northern Karnataka

Itga village belongs to Chittapur taluk of Gulbarga district. This village is located at a distance of 10 kms to the east of Chittapur town. As per 1991 census this village has population of 868. The total geographical area of Itga village is 1732.11 acres (701.26 hectares). The village also has a primary school. The village has facilities like drinking water from wells and hand pumps, post office and electricity. The village people have to travel a distance of 10 kms for market facility, located at Chittapur town. For bus facility the people have to travel at least 10 kms (by three wheelers like tum-tum). The Chittapur is the nearest class IV town located at a distance of 10 kms from Itga village.

The total area available for agriculture in the village is 1588.92 acres (643.29 hectares) of which 0.12% is irrigated (2.02 acres) and remaining 1586.9 acres are unirrigated. About 45 acres of land is not available for cultivation.

As per 1991 census the total number of residential houses in Itga village were 868, whereas the number of households were 166. Out of the total population of 868, the males were 462 while females were 406. Out of the total population, 206 (23.73) were in the age group of 0-6, out of them 121 were males and 85 were females. The total S.C. population in the village is 204, out of which 112 are male and 92 are females. In this village S.T. people are not noticed as per 1991 census. Out of total population of the village 89 are identified as literates (10.25%) of which 60 are males and 29 are females. Out of total population, 413 people are main workers (47.58%), of which 271 are males and 142 are females. Out of main workers (413), cultivators are 113 (27.36%), agricultural labourers are 276 (66.82%), people engaged in household industry are 14, trade and commerce are 3 and other services 2. Out of total population of Itga village 454 people (52.30%) are non-workers.

The total agricultural land available in Itga village is 1588.92 acres, out of this, 129 acres of land belonging to 14 families (households) is surveyed by this researcher through door to door survey. In all, there are 15 persons as land owners spread in 14 households who own 129 acres of land. This 129 acres of land supports 100 population belonging to 14 families. Out of 100 population 49 are males and 51 are females. Out of 100 population 15 are married couples (which shows 15 husbands + 15 wives). The age wise break up of 100 population shows 12 as males and 19 as
females in the age group of 0 to 14. In the age group of 14 to 59 there are 22 males and 32 females, in the age of above 60 males are 10 and females are 5.

The caste wise composition of 14 surveyed families in Itga village shows 7 families as Kabbaliguru, 5 family as Koli caste, 2 families as S.C.

Out of 129 acres of crop landuse, the crop wise landuse in Itga village is as following: jowar 40 acres, tur 74 acres and greengram 15 acres.

The tur cultivation in Itga village is found in 74 acres with a production of 419 quintals, which shows 5.66 quintals per acre yield. At the rate of Rs. 1500 per quintal, the total sale value for 419 quintals of tur is Rs. 6,28,500. The total expenditure towards crop management is Rs. 68,000 which works out Rs. 163 per acre. The net profit from tur cultivation is Rs. 5,60,500. This shows an income of Rs. 7,554 per acre of tur cultivation.

The average yield of jowar in Itga village is 2.45 quintals per acre. However the range of jowar yield varies from 30 quintals per acre to 4 quintals. The total production of jowar from 40 acres of land is 98 quintals, whose money value is Rs. 1,17,600 (at the rate of Rs. 1200 per quintal). The total amount spent in Itga village by nine farmers for the cultivation and management of jowar in 40 acres of land shows Rs. 60,000. This works out to be Rs. 1500 per acre. The net profit after the sale of 98 quintals of jowar is Rs. 57,600, which works out to Rs. 1440 per acre of jowar cultivation and thus it shows a loss on the part of farmers to the extent of Rs. 60 per acre of jowar cultivation.

The greengram is cultivated in 15 acres of land by 12 surveyed families. The total production of greengram from 15 acres of land is 40 quintals, which shows 2.66 quintals per acre. Nearly Rs. 23,000 are spent towards cultivation and management of greengram crop. Thus it shows Rs. 1533 per acre for management of greengram cultivation. The sale value of 40 quintals of greengram is Rs. 62,000, at the rate of Rs. 1550 per quintal. After making deduction of Rs. 23,000 towards cost of cultivation and management, the net profit received per acre from greengram crop is Rs. 2600.

In Itga village the agricultural land of 14 surveyed families is consisting of black soil. The farmers of Itga village use chemical fertilizers such as urea and D.A.P., apart from animal dung. Farmers in this village use bullock carts, iron furrows and tractors to carryout agricultural activities. Out of 14 surveyed families, 2 families are using tractors for agricultural works and another 3 farmers use sprinkling machines to protect diseases, while 8 farmers are not using any type of machines in
their agricultural operations. The farmers are not facing any problems related to the use of fertilizers and pesticides and its supply, shortage etc. Out of 14 surveyed families 7 families have expressed their problems related to shortage of bullock carts and other implements for carrying out agricultural works. Such shortage is met with great difficulty by hiring.

Out of 14 surveyed families 6 families said that they don't have any idea regarding soil testing while 8 families have reported that they are using contour bunding system in their agricultural land. In this village farmers are not aware of rain harvesting methods. About 8 farmers have reported that they make use of radio to practice modern innovations of agriculture, while 6 farmers do not have any knowledge of agricultural operations through radio and T.V.

The disease problems has impacted on low productivity of crops in the lands of 5 families. Generally the farmers spend Rs. 60 for male labour and Rs. 30 for female labour and such labourer ask more wages during peak period of agricultural activities.

In such periods the members of the farming family themselves participate as labourer to work in their lands. Some farmers who solely depend on labourer have to wait till they get the labours. The surveyed farmers use oxen, buffalo and cows for agricultural works. All the 14 farmers are getting milk products from she buffalos and cows.

There are 15 married couples, out of which 12 women have undergone family planning operations. Out of 14 surveyed families 12 expressed that the population growth in their family is not a burden, while 2 farmers have expressed as a burden. Out of 100 population belonging to 14 surveyed families of Itga village 12 males and 10 females participate in agricultural works. Out of 14 families 3 persons of 3 families have gone out of the village to do business. Out of 100 people belonging to 14 surveyed families, 30 (30%) are literates. Out of 30 literates 15 are males and 15 are females. Out of 10 males 5 males have studied upto primary education, 3 males have studied upto secondary level, 1 male has studied upto college level and 1 person has studied upto technical course. Out of 15 females 8 have studied upto primary level, 6 have studied upto secondary level and 1 female has studied upto college level. Out of 14 surveyed families 10 farmers expressed as satisfied with their occupation while 4 farmers expressed as not satisfied with their occupation.
Further these people have expressed about they being in good health. The 14 families have additional income from 30 hens, 2 she buffalos and 11 cows. The agricultural products and other products of Itga village are sold in Gulbarga town to which the farmers have to travel 30 kms. Depending upon the quality of agricultural goods the farmers have received suitable market price for their agricultural products from Gulbarga market. The Karnataka State passenger transport buses are available to general public from Gulbarga to Itga village. In addition to this private tempo tracks are also run by private people.

The farmers of 14 surveyed families do not have any knowledge regarding watershed management, soil conservation, fertility status of soil, agriculture subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.

Table 98
Itga Village (Taluk Chittapur, Dist. Gulbarga)
Data on Crop Landuse and its related aspects as per field survey carried out by the researcher during 2004

<table>
<thead>
<tr>
<th>Crop</th>
<th>Net area under sown (in acres)</th>
<th>Number of farmers by whom sown</th>
<th>Total production (in quintals)</th>
<th>Per acre yield (quintals)</th>
<th>Net amount spent by farmers in Rupees</th>
<th>Per acre amount spent in Rupees</th>
<th>Total money value received after sale</th>
<th>Total net profit after deduction of total expenditure</th>
<th>Net profit per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tur</td>
<td>74</td>
<td>10</td>
<td>419</td>
<td>5.66</td>
<td>Rs. 68,000</td>
<td>Rs. 918.91</td>
<td>Rs. 6,28,500</td>
<td>Rs. 5,60,500</td>
<td>Rs. 7574</td>
</tr>
<tr>
<td>Jowar</td>
<td>40</td>
<td>9</td>
<td>98</td>
<td>2.45</td>
<td>Rs. 60,000</td>
<td>Rs. 1500*</td>
<td>Rs. 1,17,600</td>
<td>Rs. 57,600</td>
<td>Rs. 1440*</td>
</tr>
<tr>
<td>Green gram</td>
<td>15</td>
<td>12</td>
<td>40</td>
<td>2.66</td>
<td>Rs. 23,000</td>
<td>Rs. 1533.33</td>
<td>Rs. 62,000</td>
<td>Rs. 39,000</td>
<td>Rs. 2600</td>
</tr>
</tbody>
</table>

* Jowar cultivation has amounted to a loss of Rs. 60 per acre as there is Rs. 1500 investment per acre expenditure.

Thrust of the Research

The agricultural practice in this Itga village is almost under dry farming i.e. rainfed. Tur cultivation is dominant crop with 57.36% area (74 acres), jowar is second crop with 31% area (40 acres) and greengram with 11.62% of land (15 acres). The per acre profit of crops shows Rs. 7574 for Tur cultivation, Rs. 2600 for greengram cultivation and Rs. 1440 for jowar cultivation. However in Itga village the cultivation of jowar shows under loss as net per acre expenditure being Rs. 1500, while per acre profit is Rs. 1440, thus a loss of Rs. 60 per acre is evident. This situation is mainly attributed to ill distribution of south west monsoon, as a result of which the yield and total production of jowar has come down, thereby amount invested by farmers towards seeds, fertilizers, management cost, have added to loss.
IDDRAHALLI VILLAGE to represent dryland agricultural taluk of Gudibanda, in South Karnataka

Iddrahalli village belongs to Gudibanda taluk of Kolar district. This village is located at a distance of 7 kms to the south of Gudibanda town. As per 1991 census this village has population of 853. The total geographical area of Iddrahalli village is 1761.52 acres (713.17 hectares). The village also has got 2 primary schools. The village has facilities like drinking water from well and hand pumps. The village people have to travel a distance of 7 kms for market facility to Gudibanda town. The bus facility is available at Iddrahalli. Gudibanda is the nearest class V town located at a distance of 7 kms from Iddrahalli village.

The total area available for agriculture in the village is 575.95 acres (233.18 hectares) of which 112.33 acres (45.48 hectares) are irrigated (19.50%) and remaining 463.61 acres are un-irrigated. About 363.75 acres (147.27 hectares) of land is not available for cultivation.

As per 1991 census the total number of residential houses as well as total number of households were 156 in Iddrahalli village. Out of the total population of 853, the males were 423 (49%) while females were 430 (50%). Out of the total population, 158 (18.52%) were in the age group of 0-6, out of them 88 were males and 70 were females. The total S.C. population in the village is 283, out of which 141 are males and 142 are females. In this village S.T. people are 155 out of which 73 are males and 82 are females. Out of total population (853) of the village 209 are identified as literates (24%) of which 162 are males and 47 are females. Out of total population 420 people are main workers (49.23%), out of main workers (420) 242 are males and 178 are females. Out of main workers (420) cultivators are 222 (52.85%), agricultural labourers are 150 (35.71%), people engaged in plantation orchards are 5, mining and quarrying are 36 and other services are 6. There are 39 marginal workers of whom males are 11 and females are 28. Out of total population of 853 of Iddrahalli village 394 people (46.18%) are non-workers.

The total agricultural land available in Iddrahalli village is 575.95 acres (32.69%), out of this area, 38 acres of land belonging to 11 families (households) is surveyed by this researcher through door to door survey. In all, there are 11 families as land owners, who own 38 acres of land. This 42 acres of land supports 66 population belonging to 11 families. Out of 66 population 29 are males and 37 are females. Out of 66 population 14 are married couples (which shows 14 husbands + 14
The age wise break up of 66 population is as follows; below the age group of 0 to 14, males are 5 and females are 7. In the age group of 14 to 59 there are 25 males and 23 females, above the age of 60, male is 1 and females are 5.

The caste wise composition of 11 surveyed families in Iddrahalli village shows 7 families as Reddy, 4 families as Vakkaliga.

Out of 38 surveyed acres of crop land use the crop wise land use in Iddrahalli village is as following: ragi 16 acres, groundnut 10 acres, onion 3 acres, coconut 2 acres, silk 2 acres, jowar 3 acres, potato 2 acres. In addition to 38 acres of crop land 4 acres of land was found as fallow in Iddrahalli.

The average yield of ragi in Iddrahalli village is 5.75 quintals per acre. However the range of ragi yield varies from 30 quintals to 10 quintals. The total production of ragi from 16 acres of land is 92 quintals, whose money value is Rs. 73,600 (at the rate of Rs. 800 per quintal). The total amount spent in Iddrahalli village by eight farmers for the cultivation and management of ragi in 16 acres of land shows Rs. 32,000. Thus it shows Rs. 2000 expenditure per acre. The money received after the sale of 92 quintals of ragi is Rs. 73,600 (at the rate of Rs. 800 per quintal). The total profit after deduction of total expenditure is Rs. 41,600, which works out to Rs. 2600 per acre of ragi cultivation.

The groundnut is cultivated in 10 acres and its production is 67 quintals, which shows 6.7 quintals per acre. At the rate of Rs. 2000 per quintal, the total value after the sale of 67 quintals of groundnut is Rs. 1,34,000. The total expenditure towards the groundnut crop management is Rs. 27,000 which works out as Rs. 2700 per acre expenditure. The net profit from groundnut cultivation is Rs. 1,07,000. This shows an income of Rs. 10,700 per acre of groundnut cultivation. The maximum yield of groundnut in Iddrahalli is 20 quintals while minimum yield is 10 quintals.

The coconut is cultivated in 2 acres by one farmer and its production is 875 kg which shows 437 kg yield per acre. At the rate of Rs. 10 per kg, the total money value after the sale of 875 kg of coconut is Rs. 8750. The total expenditure towards crop management is Rs. 4,000. The net profit from coconut cultivation is Rs. 4,750. This shows an income of Rs. 2,375 per acre of coconut cultivation.

The silk is cultivated in 2 acres by one farmer and its production is 350 kg which shows 175 kg per acre. At the rate of Rs. 115 per kg, the total value for 350 kg of silk is Rs. 40,250. The total expenditure towards crop management is Rs. 4,000.
which shows Rs. 2,000 per acre. The net profit from silk cultivation is Rs. 36,250. This shows an income of Rs. 18,125 per acre of silk cultivation in Iddrahalli village.

The jowar is cultivated in 3 acres of land by 11 surveyed families. The total production of jowar from 3 acres of land is 40 quintals, for which Rs. 8,000 are spent towards its cultivation and management. Thus it shows Rs. 2,666 as expenditure towards management of jowar cultivation per acre. The sale value of 40 quintals at the rate of Rs. 900 per quintal of jowar is Rs. 36,000. After making deduction of total expenditure of Rs. 8,000 towards cost of jowar cultivation and management, the net profit received from jowar crop is Rs. 28,000. This shows an income of Rs. 9,333 per acre of jowar cultivation in Iddrahalli. The maximum yield of jowar in this village is 30 quintals while minimum is 15 quintals.

The potato is cultivated in 2 acres of land by two farmers out of 11 surveyed families. The total production of potato from 2 acres of land is 60 quintals (30 quintals per acre) for which Rs. 10,000 are spent towards its cultivation and management. Thus it shows Rs. 5,000 for management of potato cultivation per acre. The sale value of 60 quintals of potato is Rs. 42,000 at the rate of Rs. 700 per quintal. After making deduction of total expenditure of Rs. 10,000 towards cost of potato cultivation and management, the net profit received is Rs. 32,000. This shows an income of Rs. 16,000 per acre of potato cultivation. Out of two farmers, one farmer grows 35 quintals of potato per acre while another farmer grows 25 quintals per acre.

The onion is cultivated in 3 acres of land by two farmers out of 11 surveyed families. The total production of onion from 3 acres of land is 60 quintals for which Rs. 10,000 are spent towards its cultivation and management. Thus it shows Rs. 3,333 for management of onion cultivation per acre. The sale value of 60 quintals of onion is Rs. 60,000 at the rate of Rs. 1000 per quintal. After making deduction of total expenditure of Rs. 10,000 towards cost of onion cultivation and management, the net profit received is Rs. 50,000. This shows an income of Rs. 16,666 per acre of onion cultivation. Out of two farmers, who have cultivated onion, one farmer gets 30 quintals of onion per acre while another farmer gets 40 quintals per acre.

In Iddrahalli village the agricultural land is consisting of red soil. Out of total agricultural land of 575.95 acres of 11 surveyed families 4 acres are reported as fallow land. Out of 38 acres of surveyed land 9 acres are irrigated, out of which potato cultivation shares 2 acres, coconut shares 2 acres, silk shares 2 acres and onion shares 3 acres. Out of 11 surveyed families, 5 families practice irrigation. Out of 5 families 2
families have expressed that they are not interested to expand the land under irrigation as they do not have adequate supply of additional water, while 3 families said that due to shortage of money they cannot practice irrigation in their land.

The farmers of Iddrahalli village use chemical fertilizers such as urea and D.A.P. apart from animal dung. Farmers in this village use bullock carts, iron furrows and tractors to carry out agricultural activities. Further they also use animal strength and human power in the form of labours to carry out agricultural activities. Out of 11 surveyed families one family is using tractor for agricultural works and another 2 farmers use diesel pumpsets for irrigation purpose, while 8 farmers are not using any type of machines in their agricultural operations. The farmers are not facing any problems related to the use of fertilizers and pesticides and its supply, shortage, etc. Out of 11 surveyed farmers 5 farmers have expressed their problems related to shortage of bullock carts and furrowing implements for carrying out agricultural works. Such shortage is met with great difficulty by hiring. About 4 families have expressed regarding shortage of water for irrigation in their bore wells, while 3 families have said that due to shortage of electricity their irrigation is interrupted. Out of 11 surveyed families 6 families said that they don’t have any idea regarding soil testing while 5 families reported that they have got tested their soil. Out of 11 surveyed families 10 farmers have reported that they are using contour bunding system in their agricultural land. In Iddrahalli except one family the remaining 10 families practice rain harvesting in their agricultural land. About 5 families have reported that they make use of radio to practice modern innovations of agriculture, while 6 families do not have any knowledge of innovations of agriculture through radio and T.V.

The shortage of electricity has impacted on 3 families for low productivity of crops in their fields. Generally the farmers spend Rs. 50 for male labour and Rs. 40 for female labour and such labourer ask more wages during peak period of agricultural activities. In such periods the members of the farming family themselves participate as labourer to work in their lands. Some farmers who solely depend on labourer have to wait till they get the labours. The surveyed farmers use oxen, buffalo and cows for agricultural works. All the 11 families are getting milk products from she buffaloes and cows.

There are 14 married couples, out of which 10 women have undergone family planning operations. All the 11 families surveyed expressed that the population
growth in their family is not a burden. Out of 66 population belonging to 11 surveyed families of Iddrahalli village 15 males and 15 males participated in agricultural works. Out of 11 families 2 persons of 2 families have gone out of the village to do government job. Out of 66 people belonging to 11 surveyed families, 39 (59%) are literates. Out of 39 literates 22 are males and 17 are females. Out of 22 literate 15 males have studied upto primary education, 5 males have studied upto secondary level, 1 male has studied upto college level and 1 person has studied upto technical course. Out of 17 literate females 13 females have studied upto primary level and 4 females have studied upto secondary level education.

All the members of surveyed families are satisfied with their occupation and no one feels like unemployed. Further, out of surveyed families, 7 families expressed about they being in good health while 4 families expressed about they being in not good health as their children are born handicapped.

Further 11 families have additional income from 40 sheep, 15 hens, 6 she buffalos and 12 cows. The agricultural products and other products of Iddrahalli village are sold in Gudibanda, to which the farmers have to travel by tractors. Depending upon the quality of agricultural goods the farmers have received suitable market price from Gudibanda market. The Karnataka State passenger transport buses are available to general public from Gudibanda to Iddrahalli village. In addition to this tempo tracks are run by private people.

The farmers of 11 surveyed families do not have any knowledge regarding watershed management, soil conservation, fertility status of soil, agriculture subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.

**Table 99**

**Iddrahalli Village (Taluk Badigunda, Dist. Kolar)**

Data on Crop Landuse and its related aspects as per field survey carried out by the researcher during 2004

<table>
<thead>
<tr>
<th>Crop</th>
<th>Net area under sown (in acres)</th>
<th>Number of farmers by whom sown</th>
<th>Total production</th>
<th>Per acre yield</th>
<th>Net amount spent by farmers inRupees</th>
<th>Total money value received after sale</th>
<th>Total net profit after deduction of total expenditure</th>
<th>Net profit per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ragi</td>
<td>16</td>
<td>8</td>
<td>92 quintals</td>
<td>5.75 quintals</td>
<td>Rs. 32000</td>
<td>Rs. 73400</td>
<td>Rs. 41400</td>
<td>Rs. 2400</td>
</tr>
<tr>
<td>Groundnut</td>
<td>10</td>
<td>5</td>
<td>67 quintals</td>
<td>6.7 quintals</td>
<td>Rs. 27000</td>
<td>Rs. 1,34000</td>
<td>Rs. 1,07000</td>
<td>Rs. 1,7000</td>
</tr>
<tr>
<td>Onion</td>
<td>3</td>
<td>2</td>
<td>60 quintals</td>
<td>20 quintals</td>
<td>Rs. 10000</td>
<td>Rs. 60000</td>
<td>Rs. 50000</td>
<td>Rs. 16000</td>
</tr>
<tr>
<td>Coconut</td>
<td>2</td>
<td>1</td>
<td>875 kg</td>
<td>437 kg</td>
<td>Rs. 4000</td>
<td>Rs. 8750</td>
<td>Rs. 4350</td>
<td>Rs. 2375*</td>
</tr>
<tr>
<td>Silk</td>
<td>2</td>
<td>1</td>
<td>350 kg</td>
<td>175 kg</td>
<td>Rs. 4000</td>
<td>Rs. 4025</td>
<td>Rs. 3625</td>
<td>Rs. 18125*</td>
</tr>
<tr>
<td>Jowar</td>
<td>3</td>
<td>11</td>
<td>40 quintals</td>
<td>35 quintals</td>
<td>Rs. 8000</td>
<td>Rs. 36000</td>
<td>Rs. 28000</td>
<td>Rs. 9333</td>
</tr>
<tr>
<td>Potatoes</td>
<td>2</td>
<td>2</td>
<td>60 quintals</td>
<td>50 quintals</td>
<td>Rs. 10000</td>
<td>Rs. 42000</td>
<td>Rs. 32000</td>
<td>Rs. 16000</td>
</tr>
</tbody>
</table>

* per acre expenditure for coconut cultivation is Rs. 2,000, while per acre profit of it is Rs. 2,375, which shows marginal profit of Rs. 375 for per acre cultivation of coconut.
Thrust of the Research

Iddrahalli village of Kolar district which is covered by red soil is known for dry farming. Out of the total net sown area 19.50% is irrigated by bore wells. When rains fail irrigation comes to the rescue of farmers. Ragi and groundnut are dominant crops. Amongst the cultivated crops the mulberry cultivation provides maximum profit of Rs. 18,125 per acre, while onion provides Rs. 1,666 per acre. The next order of profitable crops are potato, groundnut, jowar and ragi. The coconut cultivation in Iddrahalli village provides only a margin of Rs. 375 for per acre cultivation. The ragi, groundnut and jowar being much adoptable to normal physical conditions and hence the farmers have to continue to develop the per acre yields of these crops.

KAVADI VILLAGE to represent high rainfall agricultural taluk of Sringeri in Western Ghats of Karnataka

Kavadi village belongs to Sringeri taluk of Chikkamangalore district. This village is located at a distance of 5 kms to the north of Sringeri town. As per 1991 census this village has population of 681. The total geographical area of Kavadi village is 1191.13 acres (482.24 hectares). The village has got 2 primary schools and 1 middle school. The village has primary health center at a distance of 5 kms. The village has facilities like drinking water from wells and hand pumps, post office and electricity. The village people have to travel a distance of 5 kms for market facility located at Sringeri, being class VI town.

The total area available for agriculture in the village is 320.48 acres (129.75 hectares) of which 4.73% is irrigated (15.19 acres) and remaining 305.29 acres are un-irrigated. Out of total area about 119.25 acres of land (10.01%) is not available for cultivation.

As per 1991 census the total number of residential houses in Kavadi village were 136. Out of the total population of 681, the males were 348 while females were 333. Out of the total population, 72 (10.57%) were in the age group of 0-6, out of them 38 were males and 34 were females. The total S.C. population in the village was 102, out of which 45 are male and 57 are females. In this village S.T. people are not noticed as per 1991 census. Out of total population of the village 440 are identified as literates (64.61%) of which 256 are males and 184 are females. Out of total
population 282 people are main workers (41.40%), out of them 212 are males and 70 are females. Out of main workers (282) cultivators are 57 (20.21%), agricultural labourers are 96 (34.04%), people engaged in live stock, forestry, fishing and hunting are 99, trade and commerce 2, other services 9 and marginal workers 85 (male 4, female 81). Out of total population (681) of Kavadi village 314 people (46.10%) are non-workers.

The total agricultural land available in Kavadi village is 320.48 acres. Out of this area, 51 acres of land belonging to 20 surveyed families (households) is surveyed by this researcher through door to door survey. In all, there are 25 persons spread in 20 families as land owners, who won 51 acres of land. This 51 acres of land supports 109 population belonging to 20 families. Out of 109 population 56 are males and 53 are females. Out of 109 population 26 are married couples (which shows 26 husbands + 26 wives). The age wise break up of 109 population is as follows; below the age of 14, 9 are males and 16 are females, in the age group of 14 to 59 there are 38 are males and 31 are females, while above the age of 60, males are 9 and females are 6. The caste wise composition of 20 surveyed families in Kavadi village shows 9 families as Brahmins, 5 families as Vakkaliga, 3 families as Shetter and 3 families as S.C.

Out of 51 acres of crop landuse the crop wise landuse in Kavadi village is as following: Arecanut 22 acres, Rice 23 acres, Coffee 1 acre, Pepper 2 acres and Banana 3 acres.

The average yield of arecanut in Kavadi village is 5.22 quintals per acre. However the range of arecanut yield varies from 15 quintals per acre to 5 quintals. The total production of arecanut from 22 acres of land is 115 quintals, whose money value is Rs. 23,00,000 (at the rate of Rs. 20,000 per quintal). The total amount spent in Kavadi village by 17 farmers for the cultivation and management of arecanut in 22 acres of land shows Rs. 4,87,500. This works out Rs. 22,159 of arecanut cultivation per acre. After deductions Rs. 4,87,500 towards expenditure, the net profit out of Rs. 23,00,000 sale value is Rs. 18,12,500. There by it shows a profit of Rs. 82,386 per acre of arecanut cultivation.

The rice is cultivated in 23 acres of land by 9 farmers. The average yield of rice in Kavadi village is 13.34 quintals per acre. However the range of rice yield varies from 12 quintals per acre to 6 quintals. The total production of rice from 23 acres of land is 307 quintals, whose money value is Rs. 1,68,850 (at the rate of Rs. 550 per quintal). The total amount spent in Kavadi village by 9 farmers for the
cultivation and management of rice in 23 acres of land shows Rs. 1,40,000. This works out as Rs. 6,086 per acre. The net profit after deduction of Rs. 1,40,000 towards expenditure of rice cultivation is Rs. 28,850, which works out to Rs. 1254 per acre of rice cultivation.

The coffee is cultivated in 1 acre of land by 4 farmers. The total production of coffee from 1 acre of land is 15 quintals, whose money value is Rs. 18,000 (at the rate of Rs. 1,200 per quintal). The total amount spent in Kavadi village by 4 farmers for the cultivation and management of coffee in 1 acre of land shows Rs. 6,000. After deduction of Rs. 6,000 the net profit is Rs. 12,000, which is also a profit for 1 acre of coffee cultivation.

The pepper is cultivated in 2 acres of land by 4 farmers out of 20 surveyed families. The total production of pepper from 2 acres of land is 100 kg, for which Rs. 2,000 are spent towards its cultivation and management. Thus it shows Rs. 1,000 expenditure towards management of pepper cultivation per acre. The total sale value of 100 kg of pepper is Rs. 6,000 (at the rate of Rs. 60 per kg). After the deduction of Rs. 2,000 towards pepper cultivation and management, the net profit is Rs. 4,000. This shows a profit of Rs. 2,000 per acre of pepper cultivation.

The banana crop is cultivated in 3 acres of land by 3 farmers out of 20 surveyed families, where its total production is 160 bunches. The total expenditure on banana cultivation is Rs. 2,000 which shows Rs. 666 per acre of banana cultivation. The total market value for the sale of 160 bunches of banana is Rs. 4,000 (at the rate of Rs. 25 per bunch). After the deduction of Rs. 2,000 towards banana cultivation and management, the net profit is Rs. 2,000. It shows a profit of Rs. 666 per acre of banana cultivation.

In Kavadi village the agricultural land is consisting of laterite soil and very light red soil. The total irrigated area is 15.19 acres out of 51 acres of land of 20 families, where arecanut cultivation shares 22 acres while rice cultivation shares 23 acres, coffee shares 1 acre, pepper shares 2 acres and banana shares 3 acres. Out of 51 acres of land belonging to 20 surveyed families 23 acres are irrigated (45.09%) from canal, tank and river (through pipeline). Out of 20 surveyed families 14 families have expressed that they are not interested to expand the land under any type of irrigation as they do not have adequate supply of additional water. About 6 farmers who are not having irrigated land said that they are not interested to irrigate their lands as they are able to manage the crops by rainwater itself.
The farmers of Kavadi village use chemical fertilizers such as supala, D.A.P., apart from animal dung. Farmers in this village use bullock carts, iron furrows and tillers to carry out agricultural activities. Further they also use animal strength and human power in the form of labourers to carry out agricultural activities. Out of 20 surveyed families, 4 families are using tillers for agricultural works and another 5 families are using spray machines for sprinkling on crops, another 5 families take such equipments on hiring bases from other farmers. However 6 families are not using any type of machines in their agricultural operations.

The farmers are not facing any problems related to the use of fertilizers and pesticides and its supply, shortage etc. Out of 20 surveyed families 10 farmers have expressed their problems related to diseases for their crops and another 5 families expressed shortage of electricity for irrigation works and about 4 farmers have said that due to forest animals their crops are being destroyed.

Generally the farmers spend Rs. 60 for male labour and Rs. 45 for female labour and such labourer ask more wages during peak period of agricultural activities. In such periods the members of the farming family themselves participate as labourer to work in their lands. Some farmers who solely depend on labourer have to wait till they get the labours. All the surveyed farmers use tillers, oxen, he buffalo and cows for agricultural works. Out of 20 surveyed families 15 families are getting milk products from she buffalos and cows.

There are 26 married couples, out of which 22 women have undergone family planning operations. All the 20 surveyed families expressed that the population growth in their family is not a burden. Out of 109 population belonging to 20 surveyed families of Kavadi village 34 males and 12 females participate in agricultural works. Out of 20 surveyed families 3 persons of 3 families have gone out of the village to do business. Out of 112 people belonging to 21 surveyed families, 94 (83.92%) are literates. Out of 94 literates 54 are males and 40 are females. Out of 54 males, 12 males have studied upto primary education, 27 males have studied upto secondary level, 15 males has studied upto college level. Out of 40 females, 11 have studied upto primary level, 18 have studied upto secondary level and 9 females have studied upto college level and 2 females have studied upto technical course i.e. B.E.

All the members of 20 surveyed families are satisfied with their occupation and no one feels as unemployed. Further out of 20 families 18 families have expressed about they being in good health and 3 persons of 3 families are suffering
from diabetes. All the 20 families of Kavadi village have additional income from 46 cows, 9 she buffalos and 10 hens. The agricultural products and other products of Kavadi village are sold in Shivamogga city (at a distance of 95 kms) to which the farmers have to travel by lorry. Depending upon the quality of agricultural goods the farmers have received suitable market price from Shivamogga market. The private buses are available to general public from Shivamogga to Kavadi village.

Out of 20 surveyed families 10 families know about the watershed management and the methods of soil conservation. About 10 families do not have knowledge regarding watershed management, soil conservation, fertility status of soil, agriculture subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.

**Table 100**

Kavadi Village (Taluk Sringeri, Dist. Chikkamangalore)

Data on Crop Landuse and its related aspects as per field survey carried out by the researcher during 2004–

<table>
<thead>
<tr>
<th>Crop</th>
<th>Net area under sown (in acres)</th>
<th>Number of farmers by whom sown</th>
<th>Total production</th>
<th>Per acre yield</th>
<th>Net amount spent by farmers in Rupees</th>
<th>Total money value received after sale</th>
<th>Total set profit after deduction of total expenditure</th>
<th>Net profit per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arecanut</td>
<td>22</td>
<td>17</td>
<td>115 quintals</td>
<td>5.22 quintals</td>
<td>Rs. 4,87,500</td>
<td>Rs. 23,00,000</td>
<td>Rs. 18,12,500</td>
<td>Rs. 82,386</td>
</tr>
<tr>
<td>Rice</td>
<td>23</td>
<td>9</td>
<td>307 quintals</td>
<td>13.34 quintals</td>
<td>Rs. 1,40,000*</td>
<td>Rs. 1,68,850</td>
<td>Rs. 28,850</td>
<td>Rs. 1,254*</td>
</tr>
<tr>
<td>Coffee</td>
<td>1</td>
<td>4</td>
<td>15 quintals</td>
<td>15 quintals</td>
<td>Rs. 6,000</td>
<td>Rs. 18,000</td>
<td>Rs. 12,000</td>
<td>Rs. 12,000</td>
</tr>
<tr>
<td>Pepper</td>
<td>2</td>
<td>4</td>
<td>100 kg</td>
<td>25 kg</td>
<td>Rs. 2,000</td>
<td>Rs. 6,000</td>
<td>Rs. 4,000</td>
<td>Rs. 2,000</td>
</tr>
<tr>
<td>Banana</td>
<td>3</td>
<td>3</td>
<td>160 bunches</td>
<td>53 bunches</td>
<td>Rs. 2,000*</td>
<td>Rs. 4,000</td>
<td>Rs. 2,000</td>
<td>Rs. 666*</td>
</tr>
</tbody>
</table>

* On an average, the Rice cultivation shows profit of Rs. 1,254 per acre, while per acre expenditure is considered (Rs. 6,086 per acre) then rice cultivation shows loss of Rs. 4,832 per acre. In case of Banana cultivation per acre expenditure (Rs. 666) and per acre profit are the same and hence there is no profit by cultivating Banana.

**Thrust of the Research**

The Kavadi village of Sringeri taluk, located in the heavy rainfall zone of Karnataka is suitable for plantation agricultural crops like arecanut, coffee and pepper as these crops provide profit to the farmers. The cultivation of rice and banana in Kavadi village has shown loss to the farmers. Therefore plantation agriculture is to be practiced in this village with more scientific approach.
HALADIPUR VILLAGE to represent agriculture in coastal taluk of Honnavar

Haladipur village belongs to Honnavar taluk of Uttar Kannada district. This village is located at a distance of 10 kms to the north east of Honnavar town. As per 1991 census Haladipur village has a total population of 10132, out of which 5053 are males and 5079 are females. The total geographical area of the village is 3565.30 acres (1443.44 hectares). The village also has got primary school, middle school, drinking water facility through wells and hand pumps, post and telegraph office, weekly market at a distance of 10 kms, urban center at a distance of 10 kms (Honnavar class IV town) and electricity supply.

Out of 2233 acres of net sown area about 148 acres (59 hectares) are irrigated (6.62%), while 2083 acres (843.31 hectares) are un-irrigated, 145.35 acres (58 hectares) are cultivable waste and 145.35 acres (58 hectares) are not available for cultivation.

As per 2001 census the total number of residential houses in Haladipur village were 2044. Out of the total population of (10132), 869 (8.57%) were in the age group of 0-6 years, out of them 434 were males and 435 were females. In this village the total S.C. population is 1018 (10.04%), out of which the males were 555 and females were 463. In this village S.T. people are not noticed as per 2001 census. Out of total population of Haladipur village 71.2% are literates.

A sample of 41 acres of land belonging to 29 families (house holds) of Haladipur village is surveyed by the researcher through door to door survey. In all there are 40 persons spread in 40 families as land owners, who won 41 acres of land. This 41 acres of land supports 192 population of which 94 are males and 99 are females. Out of 192 population 41 are married couples (which shows 41 husbands + 41 wives). The age wise break up of 192 population is as following: below the age of 14, males are 12 and females are 16. In the age group of 14 to 59 males are 71 and females are 70, above the age group of 60, males are 11 and females are 12.

The caste wise composition of 29 surveyed families in Haladipur village shows 20 families as Halakkigouda, 2 families as Brahmins, 1 family as Gunaga, another 1 family as Bhandary and 4 families as S.C.

Out of 41 acres of crop landuse the crop wise landuse in Haladipur village is as following: Rice 28 acres and Coconut 2 acres. Out of 41 acres of land 10 acres of land was found as fallow. The groundnut is cultivated in 25 acres during kharif season.
The cultivation of rice in 28 acres shows 280 quintals of total production in Haladipur village which shows 10 quintals of yield per acre. At the rate of Rs. 700 per quintal, the total value for 280 quintals of rice is Rs. 1,96,000. The total expenditure towards crop management is Rs. 28,000. Therefore after deduction of amount (Rs. 28,000) towards expenditure the net profit from rice cultivation is Rs. 1,68,000. This shows an income of Rs. 3000 per acre of rice cultivation. The maximum yield of rice in Haladipur village is 10 quintals while minimum yield is 6 quintals per acre.

The coconut cultivation in 2 acres show 2000 kg of total production in Haladipur village which shows 1000 kg of yield per acre. At the rate of Rs. 7 per kg the total value for 2000 kg of coconut is Rs. 14000. The total expenditure towards coconut management in 2 acres of land is Rs. 4000. This shows Rs. 2000 as per acre expenditure. After deduction of Rs. 4000 towards expenditure the net profit from coconut cultivation is Rs. 10,000. This shows an income of Rs. 5000 per acre of coconut cultivation in Haladipur village. The maximum yield of coconut in Haladipur village is 1000 kgs while minimum yield is 500 kgs.

The groundnut cultivation in Rabi season in 25 acres shows 192 quintals of total production in Haladipur village which means 7.68 quintals of yield per acre. At the rate of Rs. 900 per quintal, the total value for 192 quintals of groundnut is Rs. 1,72,800. The total expenditure towards crop management is Rs. 50,000. This shows an expenditure of Rs. 2000 per acre of groundnut cultivation. Therefore after deduction of Rs. 50,000 towards expenditure the net profit from groundnut cultivation is Rs. 1,22,800. This shows an income of Rs. 4912 per acre of groundnut cultivation. The maximum yield of groundnut in Haladipur village is 10 quintals while minimum yield is 5 quintals.

In Haladipur village the agricultural land is consisting of laterite soil. Out of 41 acres arable land the total irrigated area is only 1 acre which belongs to 4 families and it is irrigated by borewell. Out of 41 acres, the rice cultivation shares 28 acres, coconut cultivation shares 2 acres and groundnut cultivation shares 25 acres in kharif season.

The farmers of Haladipur village use chemical fertilizers such as urea, potash and sulphate, apart from animal dung. Farmers in this village use bullock carts, iron furrows and tractors to carry out agricultural activities. Further they also use animal strength and human power in the form of labourers to carry out agricultural activities.
Out of 28 surveyed families, 4 farmers are using tractors for agricultural works and another 15 farmers use bullocks and he buffaloes for agricultural works. Out of 28 surveyed families 9 farmers have expressed their problems related to shortage of bullock carts and other implements for carrying out agricultural works. Such shortage is met with great difficulty by hiring. About 7 farmers have expressed regarding shortage of water for irrigation. About 2 farmers have said that due to salty water in their borewells, the irrigation intensity is very much restricted.

Out of 28 surveyed families 15 farmers reported that they have got tested their soil. About 12 farmers have reported that they are using contour bunding system in their agricultural land while 4 farmers said that they had no idea regarding soil bunding. In this village farmers are not aware of rain harvesting methods as they are not in need of the same due to heavy rainfall. About 20 farmers have reported that they make use of TV for adoption of modern innovations of agriculture, while 8 farmers do not have any knowledge of agricultural operations through radio and T.V. About 4 farmers have expressed the shortage of electricity to irrigate. The shortage of electricity has impacted on 4 farmers for low production of crops in their fields. Generally the farmers spend Rs. 80 for male labour and Rs. 60 for female labour. Such labour ask more wages during peak period of agricultural activities. In such periods the members of the family themselves participate as labour to work in their fields. Some farmers who solely depend on labour have to wait till they get the labours.

The surveyed farmers use oxen, buffalo and cows for agricultural works. Out of 28 surveyed families 20 farmers are getting milk products from she buffalos and cows.

There are 41 married couples (41 males and 41 females), out of which 25 women have undergone family planning operations. All the 28 families surveyed expressed that the population growth in their family is not a burden. Out of 193 population belonging to 28 surveyed families of Haladipur village 49 males and 43 females participate in agricultural works. Out of 28 families 8 persons of 6 families have gone out of the village to do Government job. Out of 193 people belonging to 28 surveyed families, 125 (64.76%) are literates of which 62 are males and 63 are females. Out of 62 male literates 25 males have studied upto primary education, 22 males have studied upto secondary level education, 15 males has studied upto college level education and 1 male have studied B.E. Out of 63 females 32 have studied upto
primary education, 22 have studied up to secondary level education and 9 females have studied up to college level education. All the surveyed family members are satisfied with agricultural occupation and no one feels as unemployed.

Further these people expressed about being in good health. All the 28 families have additional income from 43 cows, 15 she buffalos, 10 he buffaloes, 10 oxen and 46 hens. The agricultural products and other products of Haladipur village are sold in Honnavar town to which the farmers have to travel a distance of 10 kms by Tempotrax and goods motor. Depending upon the quality of agricultural goods the farmers have received suitable market price from Honnavar market. The Karnataka State passenger transport buses are available to general public from Honnavar to Haladipur village. In addition to this private buses are also available to the people of Haladipur.

Out of 28 surveyed families 10 farmers do not have any knowledge regarding watershed management, soil conservation, fertilizer status, agriculture subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.

<table>
<thead>
<tr>
<th>Crops</th>
<th>Number of farmers by whom sown</th>
<th>Total production</th>
<th>Per acre yield (quintals)</th>
<th>Net amount spent by farmers in Rupees</th>
<th>Total money value received after sale</th>
<th>Total net profit after deduction of total expenditure in Rupees</th>
<th>Net profit per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>28</td>
<td>280 quintals</td>
<td>10 quintals</td>
<td>Rs. 28,000</td>
<td>Rs. 1,96,000</td>
<td>Rs. 1,68,000</td>
<td>Rs. 6,000</td>
</tr>
<tr>
<td>Coconut</td>
<td>2</td>
<td>2000 kg</td>
<td>1000 kg</td>
<td>Rs. 4,000</td>
<td>Rs. 14,000</td>
<td>Rs. 10,000</td>
<td>Rs. 5,000</td>
</tr>
<tr>
<td>Groundnut</td>
<td>25 Rabi crop</td>
<td>192</td>
<td>7.68 quintals</td>
<td>Rs. 50,000</td>
<td>Rs. 1,72,800</td>
<td>Rs. 1,22,800</td>
<td>Rs. 4,912</td>
</tr>
</tbody>
</table>

**Thrust of the Research**

In the coastal village of Haladipur the vast land of agriculture is not available. Within the available undulating land, agriculture consist of rice cultivation during June/July to October while groundnut cultivation during October/November to February. The coconut cultivation is found along the coast, along the boundaries of rice fields and creeks. The cultivation of rice, groundnut and coconut are proved as profitable. However much of the modernization of agriculture is not well adopted in the coastal villages of Karnataka mainly due to fragmented land holdings, apart from lack of commercialization in agricultural crops.
KUNIGAL VILLAGE to represent agricultural aspects of Ramnagar taluk under Bangalore Urban impact

The Kunigal village belongs to Ramnagar taluk of Bangalore Rural district. This village is located at a distance of 10 kms to the south-east of Ramnagar town. As per 1991 census this village has population of 2748. The total geographical area of Kunigal village is 1601.20 acres (648.26 hectares). The village also has got 3 primary schools, 1 middle school and one high school. The village also got health center at a distance of 5 kms. The village has facilities like drinking water from wells and hand pumps, the village also got post office. The village people have to travel a distance of 10 kms for market facilities available at Ramnagar. For bus facility the people of Kunigal village have to travel up to 10 kms i.e. up to Ramnagar, which being a class II town. However, the private buses and three wheelers are available in the village. The total area available for agriculture in the Kunigal village is 981.72 acres (397.46 hectares) of which 11.75% i.e. 115.44 acres are irrigated (46.74 hectares) and remaining 866.27 acres (350.72 hectares) are un-irrigated. About 453.93 acres of land is not available for cultivation.

As per 1991 census the total number of residential houses in Kunigal village were 538. Out of the total population of 2748, the males were 1399 while females were 1349. Out of the total population 2748, 395 (14.37%) were in the age group of 0-6 years, out of them 199 were males and 196 were females. In this village the total S.C. population is 397, out of which 212 are males and 185 are females. In this village S.T. people are not noticed as per 1991 census. Out of total population of the village 1277 are identified as literates (46.47%) of which 788 are males and 489 are females. Out of total population 2748, 923 are main workers (33.58%), out of them 832 are males and 91 are females. Out of main workers (923) cultivators are 551 (59.69%), agricultural labourers are 115 (12.45%), people engaged in livestock, forestry, fishing, hunting and plantation orchards are 85 (9.20%), manufacturing, processing, servicing and repairs in other than household industry are 76, trade and commerce are 50 and other services are 33, marginal workers are 84 and non-workers are 1641 of which 565 are males and 1076 are females.

The total agricultural land available in Kunigal village is 981.72 acres. Out of this area, 30 acres of land belonging to 15 families (households) is surveyed by the researcher through door to door survey. In all, there are 15 persons spread in 15 families as land owners, who won 30 acres of land. This 30 acres of land supports 65
population of which 33 are males and 32 are females. Out of 65 population 10 are married couples (which shows 10 husbands + 10 wives). The age wise break up of 65 population is as following: below the age of 14, males are 2 and females are 4, in the age group of 14 to 59 males are 27 and females are 24, above the age group of 60, males are 4 and female is 4.

The caste wise composition of 15 surveyed families in Kunigal village shows 8 families as Gouda (Vakkaliga), 5 families as Shettar and 2 families as Brahmans.

Out of 30 acres of crop landuse the crop wise landuse in Kunigal village is as following: rice 5 acres, coconut 9 acres, ragi 9 acres, silk 4 acres and mango 3 acres.

The cultivation of rice in 5 acres shows 50 quintals of total production in Kunigal village, which shows 10 quintals of yield per acre (at the rate of Rs. 700 per quintal), the total value for 50 quintals of rice is Rs. 35,000. The total expenditure towards crop management is Rs. 20,000. Therefore, the net profit from rice cultivation is Rs. 15,000. This shows an income of Rs. 3,000 per acre of rice cultivation. The maximum yield of rice in Kunigal village is 10 quintals while minimum yield is 6 quintals per acre. The per acre expenditure for rice cultivation is Rs. 4,000 while per acre income is only Rs. 3,000. This shows a loss of Rs. 1,000 per acre.

The coconut cultivation in 9 acres show 9000 kg of total production in Kunigal village, which shows 1000 kg of yield per acre (at the rate of Rs. 7 per kg) the total value for 9000 kg of coconut is Rs. 63,000. The total expenditure towards coconut management in 9 acres of land is Rs. 18,000. This shows Rs. 2,000 as per acre expenditure. After deduction of Rs. 18,000 the net profit from coconut cultivation is Rs. 45,000. This shows an income of Rs. 5,000 per acre of coconut cultivation in Kunigal village. The maximum yield of coconut in Kunigal village is 500 kgs while minimum yield is 200 kgs.

The cultivation of ragi in 9 acres shows 90 quintals of total production in Kunigal village, which means 10 quintals of yield per acre (at the rate of Rs. 700 per quintal), the total value for 90 quintals of ragi is Rs. 63,000. The total expenditure towards ragi management is Rs. 9,000, this shows Rs. 1000 per acre of ragi cultivation. Therefore, after deduction of Rs. 9,000 net profit from ragi cultivation is Rs. 54,000. This shows an income of Rs. 6,000 per acre of rice cultivation. The maximum yield of ragi in Kunigal village is 10 quintals while minimum yield is 5 quintals per acre.
The silk cultivation in 4 acres shows 600 kgs of total production in Kunigal village, which means 150 kgs of yield per acre (at the rate of Rs. 110 per kg) the total value for 600 kgs of silk is Rs. 66,000. The total expenditure towards mulberry crop/tree management is Rs. 24,000. The net profit from silk cultivation is Rs. 42,000. This shows an income of Rs. 10,500 per acre of silk/mulberry cultivation. The maximum yield of silk in Kunigal village is 200 kgs while minimum yield is 50 kgs.

The mango cultivation in 3 acres shows 300 kg of total production in Kunigal village, which shows 100 kgs of yield per acre (at the rate of Rs. 50 per kg) the total value for 300 kgs of mango is Rs. 15,000. The total expenditure towards crop management is Rs. 3,600. Therefore, the net profit after deduction of Rs. 3,600 from mango cultivation is Rs. 11,400. This shows an income of Rs. 3,800 per acre of mango. The maximum yield of mango in Kunigal village is 133 kgs while minimum yield is 66 kgs per acre.

In Kunigal village the agricultural land is consisting of red soil. Out of 30 acres of arable land the total irrigated area is 9 acres which belongs to 15 families. Out of 15 acres, rice cultivation shares 5 acres, coconut cultivation shares 9 acres, ragi shares 9 acres, silk shares 4 acres and mango shares 3 acres. Out of 9 acres of irrigated land, river irrigation through pump sets shares 4 acres, well irrigation shares 2 acres, tank irrigation shares 3 acres.

Out of 15 surveyed families 6 families have expressed that they are not interested to expand the land under any type of irrigation as they do not have adequate supply of additional water.

The farmers of Kunigal village use chemical fertilizers such as urea, potash and sulphate, apart from animal dung. Farmers in this village use bullock carts, iron furrows and tractors to carry out agricultural activities. Further they also use animal strength and human power in the form of labourers to carry out agricultural activities.

Out of 15 surveyed families, 3 farmers are using tractors for agricultural works and another 8 farmers use bullocks for agricultural works. Out of 15 surveyed farmers 6 farmers have expressed their problems related to shortage of bullock carts and other implements for carrying out agricultural works. Such shortage is met with great difficulty by hiring. About 6 farmers have expressed regarding shortage of water for irrigation. About 2 farmers have said that due to salty water in their bore wells, the irrigation intensity is very much restricted. Out of 15 surveyed families 10 farmers reported that they have got tested their soil. About 12 farmers have reported that they
are using contour bunding system in their agricultural land, while 2 farmers said that they had no idea regarding soil bunding. In this village farmers are not aware of rain harvesting methods. About 9 farmers have reported that they make use of T.V. for adopting the modern innovations of agriculture, while 6 farmers do not have any knowledge of agricultural operations through radio and T.V. About 6 farmers have expressed the shortage of electricity to irrigate. The shortage of electricity has impacted on 6 farmers for low production of crops in their fields. Generally the farmers spend Rs. 75 for male labour and Rs. 50 for female labour, such labours ask more wages during peak period of agricultural activities.

In such periods the members of the farming family themselves participate as labour to work in their fields. Some farmers who solely depend on labourer have to wait till they get the labours.

The surveyed farmers use oxen, buffalo and cows for agricultural works. Out of 15 surveyed families 10 farmers are getting milk products from she buffalos and cows.

There are 12 married couples, out of which 10 women have undergone family planning operations. All the 15 families surveyed expressed that the population growth in their family is not a burden. Out of 65 population belonging to 15 surveyed families of Kunigal village 10 males and 5 females participate in agricultural works. Out of 15 families 10 persons of 6 families have gone out of the village to do government job. Out of 65 people belonging to 15 surveyed families, 54 (83.07%) are literates of which 29 are males and 25 are females. Out of 29 male literates, 5 males have studied up to primary education, 13 males have studied up to secondary level education, 10 males have studied up to college level education and 1 male have studied up to B.E. Out of 25 females, 2 have studied up to primary level education, 17 have studied up to secondary level education and 6 females has studied up to college level education. All the surveyed family members are satisfied with their agricultural occupation and no one feels as unemployed. Further these people expressed about they being in good health.

All the 15 families have additional income from 8 cows, 5 she buffalos and 6 oxens. The agricultural products and other products of Kunigal village are sold in Ramnagar town, to which the farmers have to travel a distance of 10 kms by three wheels motors and goods motors. Depending upon the quality of agricultural goods the farmers have received suitable market price from Ramnagar market. The
Karnataka State passenger transport buses are available to general public from Ramnagar to Kunigal village. In addition to this private buses are run by private people.

Out of 15 surveyed families 5 farmers families do not have any knowledge regarding watershed management, soil conservation, fertilizer status, agriculture subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.

Table 102
Kunigal Village (Taluk Ramnagar, Dist. Bangalore Rural)
Data on Crop Landuse and its related aspects as per field survey carried out by the researcher during 2004-05

<table>
<thead>
<tr>
<th>Crop</th>
<th>Net area under sown (in acres)</th>
<th>Number of farmers by whom sown</th>
<th>Total production</th>
<th>Per acre yield</th>
<th>Net amount spent by farmers in Rupees</th>
<th>Per Acre amount spent in Rupees</th>
<th>Total Money Value Received</th>
<th>Net profit per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>5</td>
<td>6</td>
<td>50 quintals</td>
<td>10 quintals</td>
<td>Rs. 20,000</td>
<td>Rs. 4,000*</td>
<td>Rs. 35,000</td>
<td>Rs. 3,000*</td>
</tr>
<tr>
<td>Coconut</td>
<td>9</td>
<td>6</td>
<td>9000 kgs.</td>
<td>1000 kgs.</td>
<td>Rs. 18,000</td>
<td>Rs. 2,000</td>
<td>Rs. 63,000</td>
<td>Rs. 5,000</td>
</tr>
<tr>
<td>Ragi</td>
<td>9</td>
<td>9</td>
<td>90 quintals</td>
<td>10 quintals</td>
<td>Rs. 9,000</td>
<td>Rs. 1,000</td>
<td>Rs. 63,000</td>
<td>Rs. 6,000</td>
</tr>
<tr>
<td>Silk</td>
<td>4</td>
<td>4</td>
<td>600 kgs.</td>
<td>150 kgs.</td>
<td>Rs. 24,000</td>
<td>Rs. 6,000</td>
<td>Rs. 66,000</td>
<td>Rs. 10,500</td>
</tr>
<tr>
<td>Mango</td>
<td>3</td>
<td>3</td>
<td>300 kgs. (300 pieces)</td>
<td>100 kgs.</td>
<td>Rs. 3,600</td>
<td>Rs. 1,200</td>
<td>Rs. 15,000</td>
<td>Rs. 3,800</td>
</tr>
</tbody>
</table>

* The rice cultivation is not profitable in Kunigal village as per acre expenditure is Rs. 4,000, while per acre profit is only Rs. 3,000 and hence Rs. 1,000 per acre is a loss.

Thrust of the Research
In this Kunigal village coconut, ragi, silk and mango cultivation are found to be profitable while rice cultivation is under loss. The per acre investment for rice cultivation is Rs. 4,000 while gain is only Rs. 3,000, which amounts to a loss of Rs. 1,000 per acre of rice cultivation. The shortage of water for irrigation and high cost of labour have resulted to a loss in rice cultivation. However the urban impact on the profit of remaining crops is much glaring.
ARALALUSANDRA VILLAGE to represent the agriculture in a very high developed taluk of Kanakapur in South Karnataka

The Aralalusandra village belongs to Kanakapur taluk of Bangalore Rural district. This village is located at a distance of 10 kms to the north of Kanakapur town. As per 1991 census this village has population of 830. The total geographical area of Aralalusandra village is 1436.62 acres (581.63 hectares). The village also has got 1 primary school and 1 middle school and health center at a distance of 5-10 kms. The village has facilities like drinking water from wells, tank and hand pumps, the post office is located at a distance of 5 kms. The village people have to travel a distance of 10 kms for market facilities available at Kanakapur. For bus facility the people of Aralalusandra village have to travel up to 10 kms i.e. up to Kanakapur, which being a class III town. However, the private buses and three wheelers are available in the village. The total area available for agriculture in the Aralalusandra village is 851.53 acres (344.75 hectares) of which 29.50% i.e. 251.27 acres are irrigated (101.73 hectares) and remaining 600.26 acres are un-irrigated. About 576.10 acres of land is not available for cultivation.

As per 1991 census the total number of residential houses in Aralalusandra village were 281. Out of the total population of 1326, the males were 683 while females were 643. Out of the total population 1326, 171 (12.89%) were in the age group of 0-6 years, out of them 89 were males and 82 were females. The total S.C. population in the village is 382, out of which 201 are males and 181 are females. In this village S.T. peoples are not noticed as per 1991 census. Out of total population of the village 483 are identified as literates (36.42%) of which 310 are males and 173 are females. Out of total population 1326, 395 are main workers (29.78%), out of them 390 are males and 5 are females. Out of main workers (395) cultivators are 207 (52.40%), agricultural labourers are 107 (27.08%), people engaged in livestock, forestry, fishing, hunting and plantation orchards are 71 (17%), trade and commerce are 5, other services are 4, marginal workers are 57 and non-workers are 874 of which 293 are males and 581 are females.

The total agricultural land available in Aralalusandra village is 851.53 acres. Out of this area, 47 acres of land belonging to 13 families (households) is surveyed by the researcher through door to door survey. In all, there are 15 persons spread in 13 families as land owners, who won 47 acres of land. This 47 acres of land supports 69 population of which 37 are males and 32 are females. Out of 69
population 16 are married couples (which shows 16 husbands + 16 wives). The age wise break up of 69 population is as following: below the age of 14, males are 12 and females are 10, in the age group of 14 to 59 males are 20 and females are 24, above the age group of 60, males are 2 and female is 1.

The caste wise composition of 13 surveyed families in Aralalusandra village shows 9 families as Gouda (Vakkaliga) and 4 families as S.C. (Chalavadi)

Out of 47 acres of crop landuse the crop wise landuse in Aralalusandra village is as following: rice 13 acres, coconut 22 acres, ragi 5 acres and silk 7 acres.

The cultivation of rice in 13 acres shows 66 quintals of total production in Aralalusandra village, which shows 5.07 quintals of yield per acre (at the rate of Rs. 800 per quintal), the total value for 66 quintals of rice is Rs. 52,800. The total expenditure towards crop management is Rs. 19,000. Therefore, the net profit from rice cultivation is Rs. 33,800. This shows an income of Rs. 2,600 per acre of rice cultivation. The maximum yield of rice in Aralalusandra village is 10 quintals while minimum yield is 5 quintals per acre.

The coconut cultivation in 22 acres show 80600 kg of total production in Aralalusandra village, which shows 3662 kg of yield per acre (at the rate of Rs. 8 per kg) the total value for 80600 kg of coconut is Rs. 6,44,800. The total expenditure towards coconut management in 22 acres of land is Rs. 44,000. This shows Rs. 2,000 as per acre expenditure. After deduction of Rs. 44,000 the net profit from coconut cultivation is Rs. 6,00,800. This shows an income of Rs. 27,309 per acre of coconut cultivation in Aralalusandra village. The maximum yield of coconut in Aralalusandra village is 200 kgs while minimum yield is 50 kgs.

The silk cultivation in 7 acres shows 1250 kgs of total production in Aralalusandra village, which means 178.57 kgs of yield per acre. At the rate of Rs. 120 per kg, the total value for 1250 kgs of silk is Rs. 1,50,000. The total expenditure towards mulberry crop/tree management is Rs. 14,000. This shows Rs. 2,000 per acre of mulberry cultivation. Therefore, after deduction of Rs. 14,000 the net profit from silk cultivation is Rs. 1,36,000. This shows an income of Rs. 19,428 per acre of silk/mulberry cultivation. The maximum yield of silk in Aralalusandra village is 200 kgs while minimum yield is 120 kgs.

Ragi cultivation in 5 acres show 16 quintals of total production in Aralalusandra village, which shows 3.2 quintals of yield per acre. At the rate of Rs. 800 per quintal, the total value for 16 quintals of ragi is Rs. 12,800. The total
expenditure towards crop management is Rs. 5,000. Therefore, the net profit after
deduction of Rs. 5,000 from ragi cultivation is Rs. 7,800. This shows an income of
Rs. 1560 per acre of ragi cultivation. The maximum yield of ragi in Aralalusandra
village is 8 quintals while minimum yield is 4 quintals per acre.

In Aralalusandra village the agricultural land is consisting of red soil. Out of
14 surveyed families 23 acres of land is reported as fallow land. Out of 47 acres of
arable land the total irrigated area is 16 acres which belongs to 14 families. Out of 47
acres, rice cultivation shares 13 acres, coconut cultivation shares 22 acres, silk shares
6 acres and ragi shares 6 acres. Out of 16 acres of irrigated land, river irrigation
through pump sets shares 11 acres, well irrigation shares 2 acres, bore well shares 1
acre and tank irrigation shares 1 acre.

Out of 14 surveyed families 10 families have expressed that they are not
interested to expand the land under any type of irrigation as they do not have adequate
supply of additional water.

The farmers of Aralalusandra village use chemical fertilizers such as urea,
potash and sulphate, apart from animal dung. Farmers in this village use bullock carts,
iron furrows and tractors to carryout agricultural activities. Further they also use
animal strength and human power in the form of labourers to carryout agricultural
activities. Out of 14 surveyed families, 2 families are using tractors for agricultural
works and another 7 farmers use bullocks for agricultural works. Out of 14 surveyed
farmers 5 farmers have expressed their problems related to shortage of bullock carts
and other implements for carrying out agricultural works. Such shortage is met with
great difficulty by hiring. About 10 farmers have expressed shortage of water for irrigation. About 2 farmers have said that due to salty water in their bore
wells, the irrigation intensity is very much restricted. Out of 14 surveyed families 10
farmers reported that they have got tested their soil. About 12 farmers have reported
that they are using contour bunding system in their agricultural land, while 2 farmers
said that they had no idea regarding soil bunding. In this village farmers are not aware
of rain harvesting methods. About 5 farmers have reported that they make use of radio
and TV for adopting the modern innovations of agriculture, while 9 farmers do not
have any knowledge of agricultural operations through radio and T.V. About 10
farmers have expressed the shortage of electricity to irrigate. The shortage of
electricity has impacted on 10 farmers for low productivity of crops in their fields.
Generally the farmers spend Rs. 75 for male labour and Rs. 50 for female labour, such labours ask more wages during peak period of agricultural activities.

In such periods the members of the farming family themselves participate as labourer to work in their lands. Some farmers who solely depend on labourer have to wait till they get the labours.

The surveyed farmers use oxen, buffalo and cows for agricultural works. Out of 14 surveyed families 9 farmers are getting milk products from she buffalos and cows.

There are 16 married couples, out of which 14 women have undergone family planning operations. All the 14 families surveyed expressed that the population growth in their family is not a burden. Out of 69 population belonging to 14 surveyed families of Aralalusandra village 19 males and 16 females participate in agricultural works. Out of 14 families 7 persons of 5 families have gone out of the village to do government job. Out of 69 people belonging to 14 surveyed families, 53 (76.81%) are literates of which 24 are males and 29 are females. Out of 24 literates, 5 males have studied upto primary education, 16 males have studied upto secondary level education and 3 males have studied upto college level education. Out of 29 females, 18 have studied upto primary level education, 10 have studied upto secondary level education and 1 female has studied upto college level. All the family members are satisfied with their agricultural occupation and no one feels as unemployed. Further these people expressed about they being in good health.

All the 14 families have additional income from 10 cows, 5 she buffalos, 6 sheep and 10 hens. The agricultural products and other products of Aralalusandra village are sold in Kanakapur town, to which the farmers have to travel a distance of 5 kms by three wheelers motors and goods motors. Depending upon the quality of agricultural goods the farmers have received suitable market price from Kanakapur market. The Karnataka State passenger transport buses are available to general public from Kanakpur to Aralalusandra village. In addition to this private buses are run by private people.

Out of 14 surveyed families 5 farmers families do not have any knowledge regarding watershed management, soil conservation, fertility status, agriculture subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.
### Table 103

**Araralatusandra Village (Taluk Kanakapur, Dist. Bangalore Rural)**

Data on Crop Landuse and its related aspects as per field survey carried out by the researcher during 2004-05

<table>
<thead>
<tr>
<th>Crop</th>
<th>Net area under sown (in acres)</th>
<th>Number of farmers by whom sown</th>
<th>Total production</th>
<th>Per acre yield</th>
<th>Net amount spent by farmers in Rupees</th>
<th>Total money value received after sale</th>
<th>Total net profit after deduction of total expenditure</th>
<th>Net profit per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>13</td>
<td>5</td>
<td>66 quintals</td>
<td>3.07 quintals</td>
<td>Rs. 19,000</td>
<td>Rs. 52,800</td>
<td>Rs. 33,800</td>
<td>Rs. 2,600</td>
</tr>
<tr>
<td>Coconut</td>
<td>22</td>
<td>11</td>
<td>8060 kg</td>
<td>3663.63 kg</td>
<td>Rs. 44,000</td>
<td>Rs. 6,44,800</td>
<td>Rs. 6,00,800</td>
<td>Rs. 27,509</td>
</tr>
<tr>
<td>Silk</td>
<td>7</td>
<td>8</td>
<td>1250 kgs.</td>
<td>178.57 kgs.</td>
<td>Rs. 14,000</td>
<td>Rs. 1,50,000</td>
<td>Rs. 1,36,000</td>
<td>Rs. 19,428</td>
</tr>
<tr>
<td>Ragi</td>
<td>5</td>
<td>5</td>
<td>16 quintals</td>
<td>3.2 quintals</td>
<td>Rs. 5,000</td>
<td>Rs. 12,800</td>
<td>Rs. 7,800</td>
<td>Rs. 1,500</td>
</tr>
</tbody>
</table>

**Thrust of the Research**

The cultivation of rice in Aralalusandra village (Kanakapur taluk) shows Rs. 1,461 expenditure per acre while profit is Rs. 2,600. This shows the net profit of Rs. 1,139 for rice cultivation. Similarly for ragi cultivation the per acre investment is Rs. 1,000 while profit is Rs. 1,560 which shows about Rs. 560 net profit. The cultivation of coconut and silk show high profit where after deduction of per acre expenditure of Rs. 2,000 the net profit show Rs. 25,309 for coconut cultivation, while for silk cultivation the net profit Rs. 17,428 after deduction of Rs. 2,000 per acre towards investment cost. The **Aralalusandra village belonging to Kanakapur taluk**, which is identified as very high developed taluk has made significant impact on agricultural practice like coconut and silk to grow them with high profit.

**TANGADI VILLAGE** to represent a taluk of Athani known for commercial crop cultivation

Tangadi village belongs to Athani taluk of Belgaum district. This village is located at a distance of 9 kms to the south west of Athani town. As per 1991 census this village has population of 1424. The total Geographical area of Tangadi village is 1773.68 acres (718.09 hectares). The village also has got primary health center. The village has facilities like drinking water from well and hand pumps, post office and electricity. The village people have to travel a distance of 5 to 10 kms for market facility. For bus facility the people have to walk at least 5 kms. Athani is the nearest
class III town located at a distance of 9 kms from Tangadi village. The total area available for agriculture in the village is 1652.65 acres (669.09 hectares) of which 35.19% is irrigated (581.66 acres) and remaining 1070.99 acres are un-irrigated. About 121.03 acres of land is not available for cultivation.

As per 1991 census the total number of residential houses in Tangadi village were 211, whereas the number of households were 231. Out of the total population of 1424, the males were 736 while females were 688. Out of the total population 261 (18.32%) were in the age group of 0-6, out of them 135 were males and 126 were females. The total S.C. population in the village is 237, out of which 119 are males and 108 are female. In this village S.T. people are not noticed as per 1991 census. Out of total population of the village 513 are identified as literates (36%) of which 337 are males and 176 are females. Out of total population 490 people are main workers (34.41%). Out of them 411 are males and 79 are females. Out of main workers (490) cultivators are 275 (50.12%), agricultural labours are 129 (26.32%), people engaged in household industry are 14, trade and commerce 3, other services 26 and marginal workers are 331 (male 39, female 292). Out of total population of Tangadi village (1424) 23.24% are marginal workers (331). Out of the total population (1424) of Tangadi village 603 people (42.32%) are non-workers.

The total agricultural land available in Tangadi village is 1652.65 acres. Out of this area, 113 acres of land belonging to 23 families (households) is surveyed by this researcher through door to door survey. In all, there are 47 persons spread in 23 families as land owners, who own 113 acres of land. This 113 acres of land supports 205 population belonging to 23 families. Out of 205 population 114 are males and 91 are females. Out of 205 population 45 are married couples (which shows 45 husbands + 45 wives). The age wise break up of 205 population is as follows; below the age of 14 = 19 males, 24 females, in the age group of 14 to 59 males are 77 and females are 68, while above the age of 60 males are 11 and females are 6.

The caste wise composition of 23 surveyed families in Tangadi village shows 13 families as Maratha, 1 family as Kshatriya, 2 families of Carpenter, 1 family of Potter (Kumbar), 2 families of Shepherd, 1 family of Muslim, 2 families of SC and 1 family of ST.
Out of 113 acres of crop land use the crop wise land use in Tangadi village is as
following: Jowar 30 acres, wheat 33 acres, sugarcane 36 acres, gram 10 acres and
sunflower 2 acres. Out of 113 acres of land 2 acres of land was found as fallow.

The average yield of sugarcane in Tangadi village is 35.76 tones per acre.
However the range of sugarcane yield varies from 60 tons per acre to 17 tons. The
total production of sugarcane from 36 acres of land is 1287 tons, whose money value
will be Rs. 1287692 (at the rate of Rs. 1000 per ton). The total amount spent in
Tangadi village by ten farmers for the cultivation and management of sugarcane in 36
acres of land shows Rs. 397384. This works out Rs. 11038 per acre. The net profit
after the sale of 1287 tons of sugarcane is Rs. 890307, which works out to Rs. 24730
per acre of sugarcane cultivation.

Wheat is cultivated in 33 acres and its production is 161 quintals, which
shows 4.87 quintals per acre. At the rate of Rs. 1200 per quintal, the total value for
161 quintals of wheat is Rs. 193200. The total expenditure towards crop management
is Rs. 41100 (Rs. 1245 per acre). The net profit from wheat cultivation is Rs. 152100.
This shows an income of Rs. 4609 per acre of wheat cultivation.

Jowar is cultivated in 30 acres of land by 23 surveyed families. The total
production of jowar from 30 acres of land is 107 quintals, for which Rs. 18500 are
spent towards its cultivation and management. Thus it shows Rs. 616 for management
of jowar cultivation per acre. The sale value of 107 quintals of jowar is Rs. 96300, at
the rate of Rs. 900 per quintal. After making deduction of Rs. 18500 towards cost of
jowar cultivation and management, the net profit received from jowar crop is Rs.
77800. This shows an income of Rs. 2593 per acre of jowar cultivation.

Gram is cultivated in 10 acres of land by 23 farmer families in Tangadi
village. The total production of gram from 10 acres of land is 17 quintals and it is sold
at the rate of Rs. 2000 per quintal and there by its total money value is Rs. 34000. The
total amount spent towards cultivation and management of gram crop is Rs. 11000 for
10 acres of land, which shows Rs. 1100 per acre. The total profit to the farmers by
sale of gram is Rs. 23000, which shows Rs. 2300 profit for per acre of gram
cultivation.

The sunflower crop is cultivated in 2 acres of land where its total production
is 10 quintals. The total expenditure on sunflower cultivation is Rs. 1700 which shows
Rs. 850 per acre of sunflower cultivation. The total market value for the sale of 10
quintals of sunflower is Rs. 11000, at the rate of Rs. 1100 per quintal. After the
deduction of Rs. 1700 towards sunflower cultivation and management, the net profit is Rs. 9300. It shows a profit of Rs. 4650 per acre of sunflower cultivation.

In Tangadi village the agricultural land is consisting of black soil and very light black soil. Out of 23 surveyed families 2 acres of land is reported as fallow land. The total irrigated area is 47 acres out of 117 acres of land of 23 families, where sugarcane cultivation shares 36 acres while wheat cultivation shares 11 acres. Out of 47 acres of irrigated land 36 acres are irrigated from stream canals while pumpset irrigation shares 11 acres. Out of 23 surveyed farmers, 20 families have expressed that they are not interested to expand the land under any type of irrigation as they do not have adequate supply of additional water. About 2 farmers said that due to saline land they cannot practice irrigation in their land.

The farmers of Tangadi village use chemical fertilizers such as urea, D.A.P., apart from animal dung. Farmers in this village use bullock carts, iron furrows and tractors to carryout agricultural activities. Further they also use animal strength and human power in the farm of labourers to carry out agricultural activities. Out of 23 surveyed farmers 3 farmers are using tractors for agricultural works and another 3 farmers use diesel pumps for irrigation purpose, while 20 farmers are not using any type of machines in their agricultural operations. The farmers are not facing any problems related to the use of fertilizers, and pesticides and its supply, shortage etc.

Out of 23 surveyed farmers 10 farmers have expressed their problems related to shortage of bullock carts and other implements for carrying out agricultural works. Such shortage is met with great difficulty by hiring. About ten farmers have expressed regarding shortage of water for irrigation. About 4 farmers have said that due to salty water in their bore wells, the irrigation intensity is very much restricted. Out of 23 surveyed families 18 families said that they don't have any idea regarding soil testing while 5 families reported that they have got tested their soil. About 15 farmers have reported that they are using contour bunding system in their agricultural land while 4 farmers use long and big stone bunding to prevent soil loss and water loss during rainy season. In this village farmers are not aware of rain harvesting methods. About 13 farmers have reported that they make use of radio to practice modern innovations of agriculture while 10 farmers do not have any knowledge of agricultural operations through radio and T.V. About 10 farmers have expressed the shortage of electricity to irrigate while another 10 farmers have not faced such problems. The shortage of electricity has impacted on 9 farmers for low productivity of crops in their fields.
Generally the farmers spend Rs. 50 for male labour and Rs. 40 for female labour and such labourer ask more wages during peak period of agricultural activities. In such periods the members of the farming family themselves participate as labourer to work in their lands. Some farmers who solely depend on labourer have to wait till they get the labours. The surveyed farmers use oxen, buffaloes and cows for agricultural works. All the 23 farmers are getting milk products from their buffalos and cows.

There are 45 married couples, out of which 26 women have undergone family planning operations. All the 23 families surveyed, expressed that the population growth in their family is not a burden. Out of 205 population belonging to 23 surveyed families of Tangadi village 47 males and 34 females participate in agricultural works. Out of 23 families 3 persons of 3 families have gone out of the village to do Government job. Out of 205 people belonging to 23 surveyed families 141 (68%) are literates. Out of 141 literates 95 are males and 46 are females. Out of 95 males 62 males have studied upto primary education, 29 males have studied upto secondary level, 3 males have studied upto college level and 1 person has studied upto B.E. Out of 47 females 38 have studied upto primary level, 8 have studied upto secondary level and one female has studied upto college level education. All the surveyed family members are satisfied with occupation and no one feels as unemployed. Further these people expressed about being in good health. The 23 families have additional income from 200 sheep, 50 hens and 15 she buffalos. The agricultural products and other products of Tangadi village are sold in Athani, to which the farmers have to travel by tractors. Depending upon the quality of agricultural goods the farmers have received suitable market price from Athani market. The Karnataka State passenger transport buses are available to general public from Athani to Tangadi village. In addition to this 3 wheelers are run by private people.

The farmers of 23 families do not have any knowledge regarding watershed management, soil conservation, fertility status of soil, agriculture subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.
Table 104
Tangadi Village (Taluk Athani, Dist. Belgaum)
Data on Crop Landuse and its related aspects as per field survey carried out by the researcher during 2004-05

<table>
<thead>
<tr>
<th>Crops</th>
<th>Net area under sown (in acres)</th>
<th>Number of farmers by whom sown</th>
<th>Total production</th>
<th>Per acre yield (quintals)</th>
<th>Net amount spent by farmers in Rupees</th>
<th>Total money value received after sale</th>
<th>Total money profit after deduction of total expenditure</th>
<th>Net profit per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugarcane</td>
<td>36</td>
<td>10</td>
<td>1287 tones</td>
<td>35.75 tones</td>
<td>Rs. 3,97,384</td>
<td>Rs. 12,87,692</td>
<td>Rs. 8,90,307</td>
<td>Rs. 24,730</td>
</tr>
<tr>
<td>Jowar</td>
<td>30</td>
<td>23</td>
<td>107 quintals</td>
<td>3.56 quintals</td>
<td>Rs. 18,500</td>
<td>Rs. 96,300</td>
<td>Rs. 77,800</td>
<td>Rs. 2,593</td>
</tr>
<tr>
<td>Wheat</td>
<td>33</td>
<td>20</td>
<td>161 quintals</td>
<td>4.87 quintals</td>
<td>Rs. 41,100</td>
<td>Rs. 1,93,200</td>
<td>Rs. 1,52,100</td>
<td>Rs. 4,609</td>
</tr>
<tr>
<td>Gram</td>
<td>10</td>
<td>23</td>
<td>17 quintals</td>
<td>1.7 quintals</td>
<td>Rs. 11,000</td>
<td>Rs. 34,000</td>
<td>Rs. 23,000</td>
<td>Rs. 2,300</td>
</tr>
<tr>
<td>Sunflower</td>
<td>2</td>
<td>2</td>
<td>10 quintals</td>
<td>5 quintals</td>
<td>Rs. 1,700</td>
<td>Rs. 11,000</td>
<td>Rs. 9,300</td>
<td>Rs. 4,650</td>
</tr>
</tbody>
</table>

Thrust of the Research

In Tangadi village (Athani taluk) out of 113 acres of surveyed land, 36 acres is under sugarcane cultivation (31.85%). The cultivation of sugarcane provides Rs. 13692 to per acre profit after deduction of Rs. 11038 investment cost per acre. The wheat cultivation provides Rs. 3364 profit per acre after deduction of Rs. 1245 investment cost. The jowar provides Rs. 1977 profit after deduction of Rs. 616 as investment per acre. The gram cultivation provides Rs. 1200 per acre profit after deduction of Rs. 1100 towards investment cost. The sunflower provides Rs. 3800 profit per acre after deduction of Rs. 850 towards investment cost. The sugarcane and sunflower cultivation provides maximum profit of Rs. 13692 and Rs. 3800 respectively, under irrigated farming and therefore the Tangadi village has lot of prosperity for the development of agricultural system, in the years to come. However the crops like jowar, wheat and gram also have shown very good profit and thus the whole village is shining in agriculture where fertile soil, adding of chemical fertilizer and irrigation have given boost to farmers.

PAPINAYAKANAHALLI VILLAGE to represent agricultural aspects of Hospet taluk as a highly literate taluk in backward region of Hyderabad Karnataka

The Papinayakanahalli village belongs to Hospet taluk of Bellary district. This village is located at a distance of 12 kms to the east of Hospet town. As per 1991 census this village has population of 3654. The total geographical area of Papinayakanahalli village is 4622.03 acres (1871.27 hectares). The village has also
got 2 primary schools and 1 middle school and 1 veterinary hospital. The village has facilities like drinking water from wells and hand pumps, post office and electricity. The village people have to travel a distance of 10 kms for market facility located at Kamalapur being a class III town. The total area available for agriculture in the Papinayakanahalli village is 1775.95 acres (719.01 hectares). In this village about 312.08 acres of land (17.57%) is not available for cultivation.

As per 1991 census the total number of residential houses in Papinayakanahalli village were 636. Out of the total population of 3654, the males were 1870 while females were 1784. Out of the total population, 739 (20.22%) were in the age group of 0-6 years, out of them 394 were males and 345 were females. The total S.C. population in the village is 1080, out of which 551 are males and 529 are females. In this village S.T. population is 507, out of which 252 are males and 255 are females. Out of the total population (3654) of the village 1133 are identified as literates (31%) of which 798 are males and 335 are females. Out of total population 1549 people are main workers (42.39%) out of them 1008 are males and 541 are females. Out of main workers (1549) cultivators are 471 (30.40%), agricultural labourers are 458 (29.56%), people engaged in plantation, orchards and allied activities are 11, people engaged in mining and quarrying are 314 (20.27%), people engaged in household industry are 3, in trade and commerce are 42, in other services are 42 and marginal workers are 122 (male 6, female 116). Out of the total population (3654) of Papinayakanahalli village 1983 people (54.26%) are non-workers.

The total agricultural land available in Papinayakanahalli village is 1775.95 acres (38.42%). Out of this area, 90 acres of land belonging to 25 families (households) is surveyed by the researcher through door to door survey. In all, there are 38 persons spread in 25 families as land owners, who own 90 acres of land. This 90 acres of land supports 157 population belonging to 25 families. Out of 157 population 80 are males and 77 are females. Out of 157 population 28 are married couples (which shows 28 husbands + 28 wives). The age wise break up of 157 population is as follows; below the age of 14, 16 males and 16 females, in the age group of 14 to 59, males are 56 and females are 57, above the age group of 60, males are 8 and females are 4.
The caste wise composition of 25 surveyed families in Papinayakanahalli village shows 8 families as Lingayats, 4 families as Reddy Lingayat, 7 families as Muslims, 3 families as Kumbar, 2 families as Valmiki and 1 family as Kuruba.

Out of 90 acres of crop landuse the crop wise landuse in Papinayakanahalli village is as following: jowar 27 acres, sunflower 16 acres, bajra 9 acres, maize 2 acres, tur 2 acres and minor millets 11 acres. Out of 90 acres of land 28 acres of land was found as fallow.

**Jowar** is cultivated by 19 farmers out of 25 surveyed families. The average yield of jowar in Papinayakanahalli village is 6 quintals per acre. However the range of jowar yield varies from 10 quintals per acre to 5 quintals. The total production of jowar from 27 acres of land is 161 quintals, whose money value is Rs. 1,12,700 (at the rate of Rs. 700 per quintal). The total amount spent in Papinayakanahalli village by 19 farmers for the cultivation and management of jowar in 161 acres of land shows Rs. 35,000. This works out Rs. 1296 per acre. After making all deduction of Rs. 35,000 towards cost of jowar cultivation and its management, the net profit received from jowar crop is Rs. 78,400 which works out to Rs. 2903 per acre.

Out of 25 surveyed families **sunflower** is cultivated by 11 farmers in 16 acres of land. The average yield of sunflower in Papinayakanahalli village is 3 quintals per acre. However the range of sunflower yield varies from 10 quintals per acre to 3 quintals. The total production of sunflower from 16 acres of land is 48 quintals whose money value is Rs. 48,000 (at the rate of Rs. 1000 per quintal). The total amount spent in Papinayakanahalli village by 11 farmers for the cultivation and management of sunflower in 16 acres of land shows Rs. 14,960. This works out Rs. 935 per acre. After deducting Rs. 14,960 as total expenditure from Rs. 48,000 the net profit works out as Rs. 33,040. This shows Rs. 2065 as per acre income from sunflower cultivation.

Out of 25 surveyed families, **bajra** is cultivated by 8 farmers in 9 acres of land. The average yield of bajra in Papinayakanahalli village is 2 quintals per acre. However the range of bajra yield varies from 9 quintals per acre to 2 quintals. The total production of bajra from 9 acres of land is 20 quintals whose money value is Rs. 9,000 (at the rate of Rs. 450 per quintal). The total amount spent in Papinayakanahalli village by 8 farmers for the cultivation and management of bajra in 9 acres of land shows Rs. 5,000. This works out Rs. 555 per acre. After making deduction of
expenditure of Rs. 5,000 the net profit from bajra cultivation is Rs. 4,000. This shows Rs. 444 profit per acre of bajra cultivation.

Out of 25 surveyed families maize is cultivated by 2 farmers in 2 acres of land while its total production is 20 quintals. The total expenditure on maize cultivation is Rs. 3,000 which shows Rs. 1,500 per acre of maize cultivation. The total market value for the sale of 20 quintals of maize is Rs. 10,000 (at the rate of Rs. 500 per quintal). After the deduction of Rs. 3,000 towards maize cultivation and its management, the net profit is Rs. 7,000. It shows a profit of Rs. 3,500 per acre of maize cultivation in Papinayakanahalli village.

Out of 25 surveyed families tur is cultivated by 2 farmers in 2 acres of land, where its total production is 3 quintals. The total expenditure on the cultivation is Rs. 4,000 which shows Rs. 2,000 per acre of tur cultivation. The total market value for the sale of 3 quintals of tur is Rs. 9,000 (at the rate of Rs. 3,000 per quintal). After the deduction of Rs. 4,000 towards tur cultivation and management of tur, the net profit is Rs. 5,000. It shows a profit of Rs. 2,500 per acre of tur cultivation.

Out of 25 surveyed families minor millets are cultivated by 3 farmers in 6 acres of land while its total production is 13 quintals. The total expenditure on millets cultivation is Rs. 5,000 which shows Rs. 833 per acre of millets cultivation. The total market value for the sale of 20 quintals of millets is Rs. 16,000 (at the rate of Rs. 800 per quintal). After the deduction of Rs. 5,000 towards millets cultivation and its management, the net profit is Rs. 11,000. It shows a profit of Rs. 1,833 per acre of millets cultivation.

In Papinayakanahalli village the agricultural land is consisting of black and red soil. Out of total land of 62 acres of 25 surveyed families, 28 acres (45%) of land is reported as fallow land in Papinayakanahalli village. Out of 62 acres of land of 25 surveyed families only 3 acres are irrigated. Out of 3 acres of irrigated land sunflower cultivation shares 1½ acres while maize cultivation shares 1½ acres. Out of 25 surveyed families two families who have already done irrigation have expressed that they are not interested to expand the land under any type of irrigation as they do not have adequate supply of additional water. About 23 farmers who are not having irrigated land said that due to mining activities in the nearby lands the problem of dust spread is not encouraging to develop agriculture either by irrigation or by dry farming.

The farmers of Papinayakanahalli village use chemical fertilizers such as urea, D.A.P., apart from animal dung. Farmers in this village use bullock carts, iron furrows
and tractors to carry out agricultural activities. Further they also use animal strength and human power in the form of labourers to carry out agricultural activities. Out of 25 surveyed farmers one farmer uses tractors for agricultural works and another 2 farmers use diesel pump sets for irrigation purpose, while 22 farmers are not using any type of machines in their agricultural operations as agricultural system is failed due to the impact of mining. The farmers are not facing any problems related to the use of fertilizers and pesticides and its supply, shortage, etc. Out of 25 surveyed farmers 8 farmers have expressed their problems related to shortage of bullock carts and other implements for carrying out agricultural works. Such shortage is met with great difficulty by hiring. The 2 farmers who are irrigating have expressed regarding shortage of water for irrigation.

Out of 25 surveyed families 18 families said that they don’t have any idea regarding soil testing while 7 families reported that they have got tested their soils. About 15 farmers have reported that they are using counter bunding system in their agricultural land while 4 farmers use long and big stone bunding to prevent soil loss and water loss during rainy season. In this village farmers are not aware of rain harvesting methods. About 15 farmers have reported that they make use of radio to practice modern innovations of agriculture while 10 farmers do not have any knowledge of agricultural operations through radio and TV. The two farmers who are irrigating have expressed the shortage of electricity to irrigate. The shortage of electricity has impacted on two farmers for low productivity of crops in their fields.

Generally the farmers families spend Rs. 50 for male labour and Rs. 40 for female labour and such labourer ask more wages during peak period of agricultural activities. In such periods the members of the farming family themselves participate as labourer to work in their lands. The surveyed farmers use oxen, buffalo and cows for agricultural works.

There are 28 married couples, out of which 23 women have undergone family planning operations. All the 25 surveyed families, expressed that the population growth in their family is not a burden. Out of 157 population belonging to 25 surveyed families of Papinayakanahalli village 33 are males and 20 are females who participate in agricultural works. Out of 25 families 7 persons of 7 families have gone out of the village to do business and driving work. Out of 157 people belonging to 25 surveyed families, 105 (66.87%) are literates. Out of 105 literates 74 are males and 31 are females. Out of 74 males 32 males have studied upto primary education,
30 males have studied up to secondary level, 10 males have studied up to college level and 2 males have studied technical education. Out of 31 female literates, 16 females have studied up to primary level, 13 have studied up to secondary level and 2 have studied up to college level.

All the surveyed family members are satisfied with occupation and no one feels as unemployed. Further these people expressed about they being in good health. The 25 families have additional income from 18 cows, 5 buffaloes and 50 hens. The agricultural products and other products of Papinayakanahalli village are sold in Bellary, to which the farmers have to travel by tractors and to a distance of 50 km. Depending upon the quality of agricultural goods the farmers have received suitable market price from Bellary market. The Karnataka State passenger transport buses are available to general public from Bellary to Papinayakanahalli village. In addition to this tempo trax are run by private people.

The farmers of 25 surveyed families do not have any knowledge regarding watershed management, soil conservation, fertility status of soil, agricultural subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.

Table 105
Papinayakanahalli Village (Taluk Hospet, Dist. Bellary)
Data on Crop Landuse and its related aspects as per field survey carried out by the researcher during 2004-05

<table>
<thead>
<tr>
<th>Crops</th>
<th>Net area under sown (in acres)</th>
<th>Number of farmers by whom sown</th>
<th>Total production</th>
<th>Per acre yield</th>
<th>Net amount spent by farmers in Rupees</th>
<th>Total money value received after sale</th>
<th>Total net profit after deduction of total expenditure</th>
<th>Net profit per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jowar</td>
<td>27</td>
<td>19</td>
<td>162 quintals</td>
<td>6 quintals</td>
<td>Rs. 35,000</td>
<td>Rs. 1,13,400</td>
<td>Rs. 78,400</td>
<td>Rs. 2903</td>
</tr>
<tr>
<td>Sunflower</td>
<td>16</td>
<td>11</td>
<td>47 quintals</td>
<td>3 quintals</td>
<td>Rs. 14,960</td>
<td>Rs. 48,000</td>
<td>Rs. 33,040</td>
<td>Rs. 2065</td>
</tr>
<tr>
<td>Bajra</td>
<td>9</td>
<td>8</td>
<td>20 quintals</td>
<td>2 quintals</td>
<td>Rs. 5,000*</td>
<td>Rs. 9,000</td>
<td>Rs. 4,000</td>
<td>Rs. 444*</td>
</tr>
<tr>
<td>Maize</td>
<td>2</td>
<td>2</td>
<td>20 quintals</td>
<td>10 quintals</td>
<td>Rs. 3,000</td>
<td>Rs. 10,000</td>
<td>Rs. 7,000</td>
<td>Rs. 3500</td>
</tr>
<tr>
<td>Tur</td>
<td>2</td>
<td>2</td>
<td>3 quintals</td>
<td>1.5 quintals</td>
<td>Rs. 4,000</td>
<td>Rs. 9,000</td>
<td>Rs. 5,000</td>
<td>Rs. 2500</td>
</tr>
<tr>
<td>Millets</td>
<td>6</td>
<td>3</td>
<td>15 quintals</td>
<td>2.16 quintals</td>
<td>Rs. 5,000</td>
<td>Rs. 16,000</td>
<td>Rs. 11,000</td>
<td>Rs. 1833</td>
</tr>
</tbody>
</table>

* Bajra cultivation is in loss as per acre expenditure is Rs. 555 while profit is only Rs. 444.
Thrust of the Research

In the Papinayakanahalli village (Hospet taluk) out of 157 people belonging to 25 surveyed families 105 people (66.87%) are literates. Out of 62 acres survey land 3 acres are irrigated. Due to non availability of additional water, the two farmers who are irrigating 3 acres of land are not in a position to expand further irrigation. Inspite of 66.87% literates the agricultural practice and per acre yield in the village are very poor due to dry land agriculture, insufficient rainfall and little modernity in agriculture. Therefore maize shows Rs. 2,000 profit per acre, jowar Rs. 1,607 profit, sunflower Rs. 1,130 profit, minor millets Rs. 1,000 profit, tur Rs. 500 per acre, while bajra shows a loss, as per acre expenditure is Rs. 555 as against Rs. 444 profit.

HIREMALLIGAWADA VILLAGE is selected to represent the impact of agricultural university on the practice of agriculture and performance in the productivity of crops

Hiremalligawada village belongs to Dharwad taluk. This village is located at a distance of 5 kms to the north west of Dharwad city. As per 1991 census this village has population of 579. The total geographical area of Hiremalligawada village is 825.64 acres (334.27 hectares). The village has got primary health centre and facilities like drinking water from wells and hand pumps, post office and electricity. The village people have to travel a distance of 5 kms for market facility. The total area available for agriculture in the village is 789.65 acres (319.7 hectares) of which 0.37% is irrigated (2.47 acres) and remaining 786.67 acres are un-irrigated. About 28.50 acres of land is not available for cultivation.

As per 1991 census the total number of residential houses in Hiremalligawada village were 106, whereas the number of households were 94. Out of the total population of 579, the males were 304 while females were 275. Out of the total population 74 (12.78%) were in the age group of 0 to 6 years, out of them 63 were males and 11 were females. The total S.C. population in the village is 11, out of which 6 are males and 5 are females. In this village S.T. population is 205, of which males were 102 and females were 103. Out of the total population of the village 154 are identified as literates (26%) of which 114 are males and 40 are females. Out of total population 296 people are main workers (51.12%) out of them 114 are males and 40 are females. Out of main workers (296) cultivators are 134 (23%), agricultural
labourers are 110 (18.99%), people engaged in household industry are 2, trade and commerce are 11 and other services are 3. Out of the total population (579) of Hiremalligawada village 283 people (48.87%) are non-workers.

The total agricultural land available in Hiremalligawada village is 789.65 acres. **Out of this area, 132 acres of land belonging to 26 families (households) is surveyed by this researcher through door to door survey.** In all, there are 41 persons spread in 26 families as land owners, who own 138 acres of land. This 132 acres of land supports 257 population belonging to 26 families. Out of 257 population 128 are males and 129 are females. Out of 257 population 69 are married couples (which shows 69 husbands + 69 wives). The age wise break up of 257 population is as follows; below the age of 14, 34 males and 43 females, in the age group of 14 to 59, males are 81 and females are 81, while above the age group of 60, males are 13 and females are 5.

The caste wise composition of 26 surveyed families in Hiremalligawada village shows 11 families as Lingayats, 12 families as Kuruba, 1 family as SC and 2 families as ST.

Out of 132 acres of crop landuse, the crop wise landuse in Hiremalligawada village is as following: jowar 22 acres, maize 15 acres, rice 35 acres, soybean 7 acres, millets 9 acres, sunflower 8 acres. Out of 132 acres of land 36 acres of land was found as fallow.

The average yield of rice in Hiremalligawada village is 4.54 quintals per acre. However the range of rice yield varies from 10 quintals per acre to 5 quintals. The total production of rice from 35 acres of land is 159 quintals, whose money value is Rs. 1,90,800 (ate the rate of Rs. 1200 per quintal). The total amount spent in Hiremalligawada village by 15 farmers for the cultivation and management of rice in 35 acres of land shows Rs. 35,000. This works out Rs. 1000 per acre. After deducting net expenditure of Rs. 35,000 from Rs. 1,90,800 of the sale value of 159 quintals of rice, the profit is Rs. 1,55,800 and which works out to Rs. 4451 per acre of rice cultivation.

The average yield of jowar in Hiremalligawada village is 2.22 quintals per acre. However the range of jowar yield varies from 2 quintals per acre to 5 quintals. The total production of jowar from 22 acres of land is 49 quintals whose money value is Rs. 44,100 (at the rate of Rs. 900 per quintal). The total amount spent in Hiremalligawada village by 12 farmers for the cultivation and management of jowar
in 22 acres of land shows Rs. 15,400. This expenditure works out to Rs. 700 per acre. The net profit after deduction of total expenditure of Rs. 15,400, after the sale of 49 quintals (Rs. 44,100) of jowar is Rs. 28,700 which works out to Rs. 1304 per acre of jowar cultivation.

The average yield of maize in Hiremalligawada village is 2 quintals per acre. However the range of maize yield varies from 12 quintals per acre to 6 quintals. The total production of maize from 15 acres of land is 30 quintals whose money value is Rs. 15,000 (at the rate of Rs. 500 per quintal). The total amount spent in Hiremalligawada village by 10 farmers for the cultivation and management of maize in 15 acres of land shows Rs. 7,500. This works out Rs. 500 per acre. The net profit after deduction of total expenditure of Rs. 7,500 after the sale of 30 quintals of maize.

The sunflower is cultivated in 8 acres of land by one farmer. The average yield of sunflower in Hiremalligawada village is 3 quintals per acre. The range of sunflower varies from 2.57 quintals per acre to 6 quintals. The total production of sunflower from 8 acres of land is 24 quintals whose money value is Rs. 36,000 (at the rate of Rs. 1500 per quintal). The total amount spent in Hiremalligawada village by one farmer for the cultivation and management of sunflower in 8 acres of land shows Rs. 5,600. This works out as Rs. 700 per acre. The net profit after deduction of Rs. 5,600 towards expenditure of sunflower cultivation is Rs. 30,400 which works out to Rs. 3,800 per acre of sunflower cultivation.

The soybean is cultivated in 7 acres of land by 7 farmers. An average yield of soybean in Hiremalligawada village is 2.57 quintals per acre. The range of yield of soybean varies from 2 quintals per acre to 4 quintals. The total production of soybean from 7 acres of land is 18 quintals whose money value is Rs. 27,000 (at the rate of Rs. 1500 per quintal). The total amount spent in Hiremalligawada village by 7 farmers for the cultivation and management of soybean in 7 acres of land shows Rs. 7,000. This works out as Rs. 1000 per acre. The net profit after deduction of Rs. 7,000 towards expenditure of soybean cultivation is Rs. 20,000 which works out to Rs. 2,857 per acre of soybean cultivation.

In Hiremalligawada village the agricultural land is consisting of red soil and very light black soil. During survey it is reported that nearly 40 acres of land is a fallow, which belongs to 13 families out of 26 surveyed families.

**Out of 132 acres surveyed land 10 acres are irrigated by tank.** Out of 26 surveyed families two farmers are practicing irrigation and they are finding shortage
of underground water for irrigation. The remaining 24 families have expressed that they are not able to irrigate the land due to non-availability of underground water in their farms.

The farmers of Hiremulligawada village use chemical fertilizers such as urea, D.A.P., apart from animal dung. Farmers in this village use bullock carts, iron furrows and tractors to carry out agricultural activities. Further they also use animal strength and human power in the form of labourers to carry out agricultural activities. Out of 26 surveyed farmers 2 farmers are using tractors for agricultural works and another one farmer use diesel pumpsets for irrigation purpose, while 23 farmers are not using any type of machines in their agricultural operations. The farmers are not facing any problems related to the use of fertilizers and pesticides and its supply, shortage, etc. Out of 26 surveyed farmers 8 farmers have expressed their problems related to shortage of bullock carts and other implements for carrying out agricultural works. Such shortage is met with great difficulty by hiring. About 14 farmers have expressed regarding shortage of yield in the fields due to more rainfall than the average. Out of 26 surveyed families 6 families said that they don't have any idea regarding soil testing while 20 families reported that they have got tested their soils. About 20 farmers have reported that they are using counter bunding system in their agricultural land while 4 farmers use long and big stone bunding to prevent soil loss and water loss during rainy season. In this village farmers are not aware of rain harvesting methods. About 13 farmers have reported that they take use of agricultural scientists from university of agricultural sciences Dharwad, and another 10 farmers have reported that they make use of radio to practice modern innovations of agriculture while 3 farmers do not have any knowledge of agricultural operations through radio and TV due to their illiteracy and ignorance. About 10 farmers have expressed that due to heavy rainfall their crops produce low yield.

Generally the farmers spend Rs. 50 for male labour and Rs. 30 for female labour and such labourer ask more wages during peak period of agricultural activities. In such periods the members of the farming family themselves participate as labourer to work in their lands. Some farmers who solely depend on labour have to wait till they get the labours. The surveyed farmers use oxen, buffalo and cows for agricultural works. Nearly 20 farmers are getting milk products from the buffaloes and cows.

There are 69 married couples, out of which 8 males and 25 females have undergone family planning operations. All the 26 families surveyed, expressed that
the population growth in their family is not a burden. Out of 257 population belonging to 26 surveyed families of Hiremalligawada village 61 males and 56 females participate in agricultural works. Out of 26 families one person of one family have gone out of the village to do building works. Out of 257 people belonging to 26 surveyed families, 108 (42.02%) are literates. Out of 108 literates 56 are males and 52 are females. Out of 56 males, 35 males have studies upto primary education, 17 males have studied upto secondary level, 4 males have studied upto college level education. Out of 52 females, 48 have studied upto primary level and 4 have studied upto secondary level education. All the surveyed family members are satisfied with occupation and no one feels as unemployed. Further these people expressed about they being in good health. The 26 families have additional income from 22 she buffaloes, 13 cows, 50 hens and 58 oxens. The agricultural products and other products of Hiremalligawada village are sold in Dharwad, to which the farmers have to travel by tractors to a distance of 5 km. Depending upon the quality of agricultural goods the farmers have received suitable market price from Dharwad market. The Karnataka state passenger transport buses are available to general public from Dharwad to Hiremalligawada village. In addition to this 3 wheelers are also available to the people of this village.

The farmers of 26 families do not have any knowledge regarding watershed management, soil conservation, fertilizer status of soil, agricultural subsidy, adult education, animal welfare program, programmes related to women and child and programmes related to health care system.

Table 106

<table>
<thead>
<tr>
<th>Crops</th>
<th>Net area under sown (in acres)</th>
<th>Number of farmers by whom sown</th>
<th>Total production</th>
<th>Per acre yield</th>
<th>Net amount spent by farmers in Rupees</th>
<th>Per acre amount spent in Rupees</th>
<th>Total money value received after sale</th>
<th>Total net profit after deduction of total expenditure</th>
<th>Net profit per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>35</td>
<td>15</td>
<td>159 quintals</td>
<td>4.54 quintals</td>
<td>Rs. 35,000</td>
<td>Rs. 1,000</td>
<td>Rs. 1,90,800</td>
<td>Rs. 1,55,800</td>
<td>Rs. 6,455</td>
</tr>
<tr>
<td>Jowar</td>
<td>22</td>
<td>12</td>
<td>49 quintals</td>
<td>2.22 quintals</td>
<td>Rs. 15,600</td>
<td>Rs. 700</td>
<td>Rs. 44,100</td>
<td>Rs. 28,700</td>
<td>Rs. 1,304</td>
</tr>
<tr>
<td>Maize</td>
<td>15</td>
<td>10</td>
<td>30 quintals</td>
<td>2 quintals</td>
<td>Rs. 7,500*</td>
<td>Rs. 500</td>
<td>Rs. 15,000</td>
<td>Rs. 7,500</td>
<td>Rs. 500*</td>
</tr>
<tr>
<td>Millets</td>
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<td>6</td>
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<td>3.88 quintals</td>
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<td>Rs. 500</td>
<td>Rs. 35,000</td>
<td>Rs. 30,500</td>
<td>Rs. 3,288</td>
</tr>
<tr>
<td>Sunflower</td>
<td>8</td>
<td>1</td>
<td>24 quintals</td>
<td>2 quintals</td>
<td>Rs. 5,600</td>
<td>Rs. 700</td>
<td>Rs. 26,000</td>
<td>Rs. 20,400</td>
<td>Rs. 3,800</td>
</tr>
<tr>
<td>Soybean</td>
<td>7</td>
<td>7</td>
<td>18 quintals</td>
<td>2.57 quintals</td>
<td>Rs. 7,000</td>
<td>Rs. 1,000</td>
<td>Rs. 27,000</td>
<td>Rs. 20,000</td>
<td>Rs. 2,857</td>
</tr>
</tbody>
</table>

* The per acre expenditure for maize cultivation is Rs. 500, while per hectare profit is also Rs. 500. Hence it is not a profitable crop to cultivate.
Thrust of the Research

The impact of Agricultural University Dharwad on scientific performance of agricultural land is not fully available in Hiremalligawada village which is mainly due to illiteracy and ignorance of farmers. Out of 26 surveyed farmers 23 farmers are not using any type of machine in their agricultural operations. The crop landuse shows profit in case of rice, jowar, millets, sunflower and soybean while maize shows a loss. Due to illiteracy and ignorance of farmers the use of agricultural university is not taken by the farmers and therefore even the agricultural university should think of how to change such a village from traditional practice of agriculture to modernity. Only a few farmers who use Radio, T.V., Newspapers, etc. to adopt new methods for agriculture is not enough to foresee the development in agriculture.