Chapter – V

CONCLUSION AND POLICY SUGGESTIONS

5.1. Socio-Economic Characters

The age group 41-50 consists of 150 samples (37.50 percent). The lowest level of sample householder is in the age-group of above 60 consisting of 35 samples (8.75 percent) in study areas.

The male sample respondents are 242 (72.25 percent) and female respondents are 107 (36.75 percent) in the sample areas.

Majority of the respondents are Hindus consisting of 299 (14.5 percent) and a least level of sample respondents are Muslim 15 (3.75 percent). The majority caste MBC consists of 193 samples (48.25 percent), the lowest level of participation is OC, 37 samples (9.25 percent).

The higher level of sample households has primary education consisting of 127 respondents (31.75 percent) and the lowest level of illiterates is 25 (6.25 percent).
Majority of owned agricultural and allied activities occupation samples are 181 (45.25 percent) and the Government services sample households are 49 (12.25 percent), which is the lowest level.

The joint family consists of 272 (68.00 percent) and the nuclear family consists of 128 (32.00 percent). Therefore most of the sample holders have adopted the joint family system in the study area.

The total food expenditure in the ground water irrigation is Rs.26405 and total non-food expenditure is Rs.24301. In this total expenditure is Rs.50706 and the NLC irrigation is total food expenditure is Rs.29302 and non-food expenditure is Rs.26755. Therefore the total family expenditure is Rs.56061.

The majority of sample holders’ expenditure is Rs.30001 - 40,000 consisting of 134 sample respondents and above Rs.50,001 consisting of 53 sample respondents (3.25 percent) in this study areas.

The sample respondents saving details are Cooperative bank for 68 households (17.00 percent), friends for 26 sample holders (16.5 percent), the leases for 62 surveyed households
(15.5 percent) and cash in hand for 34 households (8.50 percent),

In the debt burden above Rs.25,001 is for 110 respondents (27.50 percent), Rs.15,001 - 20,000 for 77 surveyed households (19.25 percent) and the lowest level of below Rs.5,000 for 29 sample respondents (7.25 percent) in the study areas.

5.2. **Cost Structure of Paddy Cultivation**

i. **Variable Cost**

The variable cost of paddy cultivation under the marginal farm in samba season of total variable cost majority was Rs.18316 for NLC water irrigation followed by Rs.18256 for ground water irrigation. The total cost is Rs.36572 and the average cost is Rs.18286 per acre. In Navarai season, total variable cost is Rs.20341 for NLC water irrigation followed by Rs.19994 for ground water irrigation. In the total cost is Rs.40335 and the average cost is Rs.20168 per acre. In kuruvai season, total variable cost is Rs.20172 for NLC water irrigation followed by Rs.19762 for ground water irrigation, and the total cost is Rs.39934 and the average cost is Rs.19967 per acre.
The variable cost of paddy cultivation under the small farm in samba shows that the total variable cost is Rs.17911 for NLC water irrigation followed by Rs.17747 for ground water irrigation. The total cost is Rs.35658 and the average cost is Rs.17829 per acre. In Navarai season, total variable cost is Rs.19871 for NLC water irrigation followed by Rs.19469 for ground water irrigation. Their total cost is Rs.39340 and the average cost is Rs.19670 per acre. In kuruvai season, total variable cost is Rs.19381 for NLC water irrigation followed by Rs.19056 for ground water irrigation. The total cost is Rs.38437 and the average cost is Rs.19219 per acre.

The analysis of variable cost of paddy cultivation under the medium farm in samba shows that the total variable cost is Rs.16207 for NLC water irrigation followed by Rs.15957 for ground water irrigation. Their total cost is Rs.32164 and the average cost is Rs.16082 per acre. In Navarai season, total variable cost is Rs.18756 for NLC water irrigation followed by Rs.18317 for ground water irrigation. The total cost is 37073 and the average cost is Rs.18597 per acre. In Kuruvai season, total variable cost is Rs.17889 for NLC water irrigation followed by Rs.17481 for ground water irrigation. The total cost is Rs.35970 and the average cost is Rs.17685 per acre.
The analysis of variable cost of paddy cultivation under the large farm in samba shows that the total variable cost is Rs.14831 for NLC water irrigation followed by Rs.14389 for ground water irrigation. The total cost is Rs.29220 and the average cost is Rs.14610 per acre. In Navarai season, total variable cost is Rs.17465 for NLC water irrigation followed by Rs.17057 for ground water irrigation. The total cost is Rs.34522 and the average cost is Rs.17261 per acre. In kuruvai season, variable cost is Rs.16454 for NLC water irrigation followed by Rs.15859 for ground water irrigation. The total cost is Rs.32313 and the average cost is Rs.16157 per acre.

ii. Fixed Cost

The Fixed cost of the NLC water irrigation and the ground water irrigation under the marginal farm in samba season reveals the following fact. The total cost is Rs.16013, the NLC water irrigation cost is Rs.8312, ground water irrigation cost is Rs.7701 and the average cost is Rs.8007. In Navarai season, total cost is Rs.15055, the NLC water irrigation cost is Rs.7997, ground water irrigation cost is Rs.7058, and the average cost is Rs.7528. In Kuruvai season total cost is Rs.14167, the NLC
water irrigation cost is Rs.7710, ground water irrigation cost is Rs.6457, and the average cost is Rs.7084.

The small farms’ total fixed cost of samba season is Rs.15999, its fixed cost for NLC water irrigation is Rs.8305 and ground water irrigation is Rs.7694, and the average cost is Rs.8000. In Navarai season, total fixed cost is Rs.15099, NLC water irrigation cost is Rs.8011 and ground water irrigation cost is Rs.7088, and the average cost is Rs.7550. In Kuruvai season, total fixed cost is Rs.14016, NLC water irrigation cost is Rs.7629 and ground water irrigation cost is Rs.6387 and the average cost is Rs.7008.

The medium farms’ total fixed cost for samba is Rs.15861, NLC water irrigation cost is Rs.8229 and ground water irrigation cost is Rs.7632, and the average cost is Rs.7331. In Navarai season, total fixed cost is Rs.15174, NLC water irrigation cost is Rs.8017, ground water irrigation cost is Rs.7157, and the average cost is Rs.7587. In Kuruvai season, total fixed cost is Rs.14052, NLC water irrigation cost is Rs.7678 and ground water irrigation cost is Rs.6374, and the average cost is Rs.7026.
The large farms’ total fixed cost is Rs.16014, NLC water irrigation cost is Rs.8290 and ground water irrigation cost is Rs.7724 and the average cost is Rs.8007. In Navarai season, total cost is Rs.16014, NLC water irrigation cost is Rs.8290 and ground water irrigation cost is Rs.7724 and the average cost of rental value of own land is Rs.8007. In kuruvai season, total cost is Rs.14025, NLC water irrigation cost is Rs.7620 and ground water irrigation cost is Rs.6405 and the average cost of rental value of own land Rs.7013.

Therefore, in all the farms and seasons NLC water irrigation areas paddy cultivation fixed cost is higher the than ground water irrigation cost.

5.3. Physical Output under the Different Sources of Irrigation

Regarding, the physical output for the NLC water irrigation in the paddy cultivation, the marginal farmers’ total variable cost is Rs.19,544, the fixed cost is Rs.8006 and the total cost is Rs.27550. The marginal farmers’ return is 2403 kg. Its market value is Rs.41297 and the net returns value is Rs.13747. The small farmers’ total variable cost is Rs.19031 and the total fixed cost is Rs.7993 and its total cost is
Rs.27024. The small farmer’s returns is 2337 kg and the value is Rs.40241 and the net returns value is Rs.13217. The medium farmer’s total variable cost is Rs.17420 and the total fixed cost is Rs.7975 and the total cost is Rs.25395. The medium farmer’s returns are 2179kg and its market value is Rs.37713 and the net returns value is Rs.12318. The large farmers’ total variable cost is Rs.16130 and fixed cost is Rs.7970 and its total cost is Rs.24100. The returns is 2081kg and its market value is Rs.36135 and the net return value is Rs.12045.

The physical output of the ground water irrigation for marginal, small, medium and large farmers in the paddy cultivation reveals the following facts. The marginal farmer’s total variable cost is Rs.19574 and total fixed cost is Rs.7075 and its total cost is Rs.26649 and the return is 2591kg and its market value is Rs.46896 and the net return value is 20249. The small farmers’ total variable cost is Rs.19138 and total fixed cost Rs.7060 and its total cost is Rs.26198 and the returns is 2520kg and the market value is Rs.45689, and the net returns value is Rs.19491. The medium farmers’ total variable cost is Rs.17325 and the total fixed cost is Rs.7051 and it’s the total cost is Rs.24379 and the returns is 2343kg.
and the value Rs.42680 and the net returns value is Rs.18301. 
The large farmers’ total variable cost is Rs.16043, and the fixed 
cost is Rs.7048, and the total cost is Rs.23091. The return is 
2240kg and the market value is Rs.40929. and the net returns 
value is Rs.17838.

Regarding the average cost of NLC water irrigation for all 
groups, the total variable cost is Rs.18031 and the fixed cost is 
Rs.7986 and its total average cost is Rs.26017. The average 
returns is 2250kg and its market value is Rs.38849 and the net 
returns value is Rs.12832. Regarding the average cost ground 
water irrigation for marginal, small, medium and large farms 
the total variable cost Rs.18020 and the total fixed cost is 
Rs.7053 and its the total cost is Rs.25053. The returns is 
2424kg and it’s the market value is Rs.44049 and the average 
net returns value is Rs.18879. Therefore, all farms paddy crop 
cost of cultivation for NLC water irrigation is higher than 
ground water irrigation in the study areas.

5.4. Testing of Hypotheses

Considering the overall efficiency of ground and NLC 
water irrigation, it is seen that preparatory cultivation, manures 
and fertilizer, plant protection, transport cost & harvesting,
labour cost, rental value of own land, family laborer wags, depreciation, interest on fixed investment are found to be significant at one per cent level. It is revealed that the quantum of application of fertilizers has already crossed the optimum level and any further application will reduce the output. In the above independent variables together explain 99 per cent of variation in the yield. The net revenue is found to be significant at 1% level under the all seasons.

5.5. Result of Lab Test

The comparison of ground water and NLC water from ISI standard for discharge of irrigation water shows that the presence of toxic substances like Ph and EC highly affect the environment and then the concentration of Ph is found to be 6.70 ppm in ground water in which there is no higher difference between the ISI tolerance limits, But the NLC water concentrations are higher and the ground water concentrations are 7.70 ppm that 1.20 ppm higher above ISI tolerance limits. The electric conductivity is also beyond the ISI limit in NLC water. It is concluded that the ground water is used for irrigation for increasing yield in the surveyed areas when compared to the use of NLC water. Therefore ground water
irrigation is highly suitable for agriculture purpose. The nutrients levels from the soil test shows that the electric conductivity (EC) is 0.09, Ph 6.9, Nitrogen 64, Phosphorus 17 and Potassium 40 in ground water irrigated area like GWIV₁. The content of NLC water is analyzed and the electric conductivity is 0.2, Ph 7.3, Nitrogen 41, Phosphorus 15 and Potassium 58. It is revealed that the nutrients pH, EC and potassium are higher in NLCWIV₁ than in GWIV₁. The nitrogen and phosphorus are lower in NLCWIV₁ than in GWIV₁. The results show that the soil quality of the ground water irrigation is better than the villages of the NLC water irrigated area.

5.6. Policy Suggestions

- The government should immediately open the warehousing facilities in the rural area.
- The government must open the regulated markets in the study areas.
- The government has to provide financial facilities to the farmers for installing the modern rice mills in the study region.
- The government may fix agriculture price on the basis of local production cost.
The government should impart more intensive knowledge regarding the importance of agriculture and allied activities.

The government should practice the system of model farming in all the villages for the purpose of improving knowledge in the technology filed.

The government should encourage the export possibilities and their crops production and give knowledge regarding the importance of crop diversification.

The government must implement the NLC water purification method in an advanced level of technology.

The government and NLC management must provide awareness programmes with reference to soil testing and fertilizers applications to their respective crops.

The government must provide awareness about water management techniques for respective crops.

5.7. In this study, the soil test is carried out. Based on the result, we have concluded the thesis. From result, it is concluded that way farmers should go for soil testing of them land so that they could apply suitable amount of fertilizers to in were the productivity of their land so there is a need for government’s helping soil testing of the farmers.

5.8. Scope for Further Research

1. The NLC water irrigation cultivation cost and solution to reducing the cost of cultivation.

2. Awareness about NLC water irrigation to the farmers.