APPENDICES
APPENDIX 1

DEPARTMENT OF POST-GRADUATE STUDIES AND RESEARCH IN ECONOMICS
KARNATAKA UNIVERSITY, DHARWAD-580 003.

PLANNING AND MANAGEMENT OF IRRIGATION PROJECTS
A CASE STUDY OF UPPER KRISHNA PROJECT IN KARNATAKA

FARMERS’ SCHEDULE

PART I: GENERAL INFORMATION

1. NAME OF VILLAGE: ____________________________

2. NAME OF CANAL: ______________________________

3. CANAL REACH: □ HEAD □ MIDDLE □ TAIL

4. NAME OF FARMER: ____________________________

5. LAND HOLDING CLASSIFICATION:

<table>
<thead>
<tr>
<th></th>
<th>MARGINAL</th>
<th>LESS THAN 1 HECTARE</th>
<th>SMALL</th>
<th>1 TO 2 HECTARES</th>
<th>SEMI-MEDIUM</th>
<th>2 TO 4 HECTARES</th>
<th>MEDIUM</th>
<th>4 TO 10 HECTARES</th>
<th>LARGE</th>
<th>MORE THAN 10 HECTARES</th>
</tr>
</thead>
</table>

6. DETAILS OF FAMILY MEMBERS:

<table>
<thead>
<tr>
<th>SL. NO.</th>
<th>PARTICULARS</th>
<th>PRESENT</th>
<th>15 YEARS EARLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
</tr>
<tr>
<td>i.</td>
<td>CHILDREN BELOW AGE-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. HEALTHY</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B. UNDER-WEIGHT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>MEMBERS BETWEEN 5 AND 18 YEARS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>MEMBERS ABOVE 18 YEARS (ADULT MEMBERS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. ILLITERATES</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B. LITERATES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL FAMILY MEMBERS: ____________________________
PART II: EMPLOYMENT AND INCOME

7. DETAILS OF FAMILY MEMBERS EMPLOYED IN AGRICULTURE:

<table>
<thead>
<tr>
<th>SL. NO.</th>
<th>PARTICULARS</th>
<th>BEFORE IRRIGATION</th>
<th>AFTER IRRIGATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
</tr>
<tr>
<td>i.</td>
<td>FULLY EMPLOYED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>MARGINALLY EMPLOYED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. i. WHETHER EMPLOYMENT TO FAMILY MEMBERS HAS INCREASED DUE TO IRRIGATION?:

- [ ] YES
- [ ] NO

ii. IF YES, HOW MUCH?

- [ ] A. 0 TO 25% INCREASE
- [ ] B. 25 TO 50% INCREASE
- [ ] C. 50 TO 75% INCREASE
- [ ] D. 75 TO 100% INCREASE
- [ ] E. 100% INCREASE

9. WHETHER AGRICULTURAL INCOME HAS INCREASED AFTER IRRIGATION?

- [ ] YES
- [ ] NO

10. DETAILS OF AGRICULTURAL INCOME DURING LAST 3 YEARS:

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NET AGRICULTURAL INCOME (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. 1993-94</td>
<td>____________________________</td>
</tr>
<tr>
<td>ii. 1994-95</td>
<td>____________________________</td>
</tr>
<tr>
<td>iii. 1995-96</td>
<td>____________________________</td>
</tr>
</tbody>
</table>
11. PLEASE INDICATE SATISFACTION WITH INCOME FROM IRRIGATION.

☐ A. MAXIMUM SATISFACTION
☐ B. AVERAGE SATISFACTION
☐ C. NO SATISFACTION
☐ D. INCURRED LOSSES

12. IF NOT SATISFIED, WHAT ARE REASONS?
(Please give rankings in order of their causes)

☐ A. INADEQUATE WATER SUPPLY
☐ B. WATERLOGGING AND SALINITY
☐ C. INADEQUATE ON-FARM-DEVELOPMENT
☐ D. INABILITY TO INVEST IN INPUTS
☐ E. LACK OF REMUNERATIVE PRICES FOR PRODUCES
☐ F. FREQUENT PEST AND DISEASE ATTACKS
☐ G. OTHERS

PART III: IRRIGATION

13. TYPE OF SOIL: ☐ DEEP BLACK ☐ RED/MEDIUM BLACK

14. TOTAL LAND HOLDING: _______ HECTARES

15. TOTAL NOTIFIED AREA: _______ HECTARES

16. WHAT IS THE PERCENTAGE OF TOTAL AREA IRRIGATED?

☐ A. 100% LAND HOLDING
☐ B. 61 TO 99% LAND HOLDING
☐ C. 0 TO 60% LAND HOLDING
☐ D. NIL
17. IF THERE IS ANY NOTIFIED AREA NOT IRRIGATED, WHAT ARE REASONS? (PLEASE GIVE RANKINGS)

- [ ] A. INADEQUATE WATER SUPPLY
- [ ] B. WATERLOGGING AND SALINITY
- [ ] C. INADEQUATE ON-FARM-DEVELOPMENT
- [ ] D. SHORTAGE OF FUNDS
- [ ] E. TO RESTRICT IRRIGATION AS PER DESIGN
- [ ] F. OTHERS

18. HAVE YOU SATISFIED WITH SUPPLY OF IRRIGATION WATER MADE AVAILABLE TO YOU?

- [ ] YES
- [ ] NO

19. IF NO, WHY?
(PLEASE GIVE RANKINGS)

- [ ] A. DO NOT GET WATER TO IRRIGATE ENTIRE LAND HOLDING
- [ ] B. DO NOT GET WATER TO IRRIGATE DESIGNED PERCENTAGE OF LAND HOLDING IN EACH SEASON
- [ ] C. DO NOT GET WATER AT ALL

20. WHAT DO YOU CONSIDER AS THE REASONS FOR INADEQUACY OF WATER SUPPLY? (PLEASE GIVE RANKINGS)

- [ ] A. HEAD REACH FARMERS USE MORE WATER
- [ ] B. GROWING OF WATER INTENSIVE CROPS
- [ ] C. INADEQUATE DESIGN OF CANALS
- [ ] D. LEAKAGE AND SILTING OF CANALS
- [ ] E. IRRIGATION OF MORE AREA THAN THE DESIGNED
- [ ] F. NON-IMPLEMENTATION OF WARABANDI
- [ ] G. NON-PRACTISING OF NIGHT IRRIGATION
- [ ] H. INADEQUATE ON-FARM-DEVELOPMENT WORKS
- [ ] I. OTHERS
21. WHAT IS THE PERCENTAGE OF TOTAL LANDHOLDING IRRIGATED IN DIFFERENT SEASONS DURING LAST THREE YEARS?

<table>
<thead>
<tr>
<th>YEAR</th>
<th>KHAIRIFF</th>
<th>TWO-SEASONAL</th>
<th>RABI</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. 1993-94</td>
<td>_______</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>ii. 1994-95</td>
<td>_______</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>iii. 1995-96</td>
<td>_______</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

22. ARE YOU AWARE OF THE NORM, THAT CANALS OF THE PROJECT HAVE BEEN DESIGNED TO IRRIGATE ONLY A CERTAIN PERCENTAGE OF EACH LAND HOLDING IN EACH SEASON?

A. YES, AND HAS BEEN FOLLOWING THE DESIGN NORM
B. YES, BUT NOT FOLLOWING
C. NO KNOWLEDGE

23. IF YES AND NOT FOLLOWING, WHAT ARE REASONS FOR NOT ADHERING TO DESIGN NORM?
(PLEASE GIVE RANKINGS)

A. TOO SMALL A HOLDING
B. UNECONOMICAL TO IMPLEMENT
C. NOT PRACTICABLE TO IMPLEMENT
D. AS NONE FOLLOWS
E. OTHERS

24. HAVE YOU MADE ANY EFFORTS TO UNDERSTAND THE ABOVE DESIGN NORM?

A. YES  B. NO

25. IN CASE YOU ARE INFORMED, WILL YOU FOLLOW THE NORM?

A. YES  B. NO
26. IF NOT, WHY? GIVE THE REASONS (PLEASE ASSIGN RANKINGS)

   □ A. TOO SMALL A HOLDING
   □ B. UNECONOMICAL TO IMPLEMENT
   □ C. NOT PRACTICABLE TO IMPLEMENT
   □ D. AS NONE FOLLOWS
   □ E. OTHERS

PART IV: IRRIGATION

27. HAVE YOU SEEN WARABANDI SCHEDULE PERTAINING TO YOUR CANAL?

   □ YES   □ NO

28. DOES IT EXIT?

   □ YES   □ NO

29. WHETHER IRRIGATION OFFICIALS HAVE EXPLAINED THE SCHEDULE TO YOU?

   □ YES   □ NO

30. IF YES, HAVE YOU UNDERSTOOD?

   □ YES   □ NO

31. IF NO, HAVE YOU MADE ANY ATTEMPTS TO UNDERSTAND?

   □ YES   □ NO

32. IF ATTEMPTED TO UNDERSTAND, FROM WHOM?

   □ A. IRRIGATION OFFICIALS
   □ B. NEIGHBOURING FARMERS
   □ C. LEARNED FARMERS IN THE VILLAGE
   □ D. OTHERS
33. WHETHER WARABANDI IS FOLLOWED IN YOUR CANAL?

☐ YES ☐ NO

34. IF FOLLOWED, WHAT ARE REASONS FOR ITS SUCCESS?
(PLEASE GIVE RANKINGS)

☐ A. FARMERS KNOW ITS ADVANTAGE
☐ B. IRRIGATION OFFICIALS HAVE TAKEN KEEN INTEREST
☐ C. THERE IS WATER USERS ASSOCIATION TO IMPLEMENT
☐ D. THERE IS A LEADERSHIP TO EDUCATE AND ASSIST
☐ E. OTHERS

35. IF NOT FOLLOWED, WHAT ARE REASONS?
(PLEASE GIVE RANKINGS)

☐ A. INDIFFERENT ATTITUDE OF FARMERS WHO GET ADEQUATE WATER
☐ B. NON-REALIBILITY OF WATER SUPPLY IN THE CANALS
☐ C. LACK OF INTEREST IN FARMERS
☐ D. LACK OF SINCERE EFFORTS BY IRRIGATION OFFICIALS
☐ E. NON-WILLINGNESS OF FARMERS TO FOLLOW NIGHT IRRIGATION
☐ F. DUE TO DEFICIENT DESIGN OF CANAL SYSTEM
☐ G. OTHERS

PART V: HUMAN POVERTY

36. PLEASE GIVE THE FOLLOWING DETAILS?

<table>
<thead>
<tr>
<th>SL NO</th>
<th>PARTICULARS</th>
<th>BEFORE IRRIGATION</th>
<th>AFTER IRRIGATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>i.</td>
<td>ACCESS TO SAFE DRINKING WATER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>ACCESS TO HEALTH SERVICES?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
37. IF THERE ARE ANY DEATHS IN THE FAMILY DURING 10 YEARS BEFORE COMMENCEMENT OF IRRIGATION, AND IN THE RECENT YEARS AFTER IRRIGATION, PLEASE GIVE APPROXIMATE AGES AT THE TIME OF THEIR DEATHS?

AGE AT THE TIME OF DEATH

i. PERSONS DIED DURING 10 YEARS BEFORE COMMENCEMENT OF IRRIGATION : 1. _______ 2. _______

ii. PERSONS DIED DURING LAST 10 YEARS : 1. _______ 2. _______

PART VI. PERFORMANCE OF THE PROJECT

38. HOW DO YOU RATE SUCCESS OF UPPER KRISHNA PROJECT?

A. FULLY SUCCESSFUL
B. PARTIALLY SUCCESSFUL
C. NOT SUCCESSFUL

39. IF SUCCESSFUL, IN WHAT WAY? (PLEASE GIVE RANKINGS)

A. INCREASED AGRICULTURAL PRODUCTION
B. IMPROVED THE LIFE OF FARMERS
C. INCREASED EMPLOYMENT
D. AVOIDED DEPENDANCY ON RAIN
E. OTHERS.
40. IF NOT SUCCESSFUL TO THE EXPECTATIONS, WHAT ARE REASONS? (PLEASE GIVE RANKINGS)

A. LACK OF EFFORTS BY IRRIGATION OFFICIALS TO EFFECTIVELY DISTRIBUTE WATER
B. LACK OF CO-OPERATION AMONG FARMERS TO SHARE WATER
C. POOR DRAINAGE ARRANGEMENT
D. NON-RESPONSIBLE USE OF WATER BY FARMERS
E. POOR QUALITY AND MAINTENANCE OF CANALS
F. DEFECTIVE CANAL DESIGN
G. VIOLATION OF CROPPING PATTERN
H. OTHERS

41. WHAT ARE YOUR SUGGESTIONS FOR EFFECTIVE FUNCTIONING OF THE PROJECT? (PLEASE GIVE RANKINGS)

A. MAINTAIN CANALS PROPERLY
B. DEVELOP WATER USERS ASSOCIATIONS
C. IMPLEMENT WARABANDI STRICTLY
D. IMPLEMENT DESIGNED CROPPING PATTERN
E. DEVELOP GOOD DRAINAGE ARRANGMENT
F. DEPLOY SINCERE PROJECT PERSONNEL
G. MODIFY DESIGN OF CANALS
H. OTHERS

42. GENERAL OPINION ON PLANNING AND MANAGEMENT OF THE PROJECT: