**Appendix No.1**

**questionnaire**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Farmer and farm profile | | | | | | | | | | | | | | | | | |
| Area under cultivation? | | |  | | | | How to supply irrigation water? | | | | | | | |  | | |
| Distance from the farm to the place of residence | | |  | | | | Number of irrigations in the production period? | | | | | | | |  | | |
| Type of land ownership? | | |  | | | | Type and specifications of water pump? | | | | | | | |  | | |
| soil texture? | | |  | | | | Duration of water pump use (hr)? | | | | | | | |  | | |
| Land rental cost (dollars per hectare)? | | |  | | | | Amount of water consumption during the cultivation period (M3ha-1)? | | | | | | | |  | | |
| Agricultural operations and type of agricultural machinery used in one Hectares | | | | | | | | | | | | | | | | | |
| The type of operation | Type of machine | machine weight (kg) | | | Hours of use | Fuel consumption (L) | | | Consumption of lubricating oil (L) | | | diesel fuel cost ($) | | oil cost ($) | | Labor force ($) | The cost of Labor force ($) |
| Primary tillage |  |  | | |  |  | | |  | | |  | |  | |  |  |
| Secondary farming |  |  | | |  |  | | |  | | |  | |  | |  |  |
| Disk and leveling |  |  | | |  |  | | |  | | |  | |  | |  |  |
| Plotting and demarcation |  |  | | |  |  | | |  | | |  | |  | |  |  |
| Spray |  |  | | |  |  | | |  | | |  | |  | |  |  |
| Transportation of inputs |  |  | | |  |  | | |  | | |  | |  | |  |  |
| Other operations |  |  | | |  |  | | |  | | |  | |  | |  |  |
| Inputs in the production process | | | | | | | | | | | | | | | | | |
| Input type | unit | Consumption (unitha-1) | | | | | | Price per unit | | | Total price | | How to use the input | | | | |
| Nitrogen fertilizer (N) | kgha-1 |  | | | | | |  | | |  | |  | | | | |
| (P2O5) Phosphate | kgha-1 |  | | | | | |  | | |  | |  | | | | |
| Potassium (k) | kgha-1 |  | | | | | |  | | |  | |  | | | | |
| Pesticides | Lha-1 |  | | | | | |  | | |  | |  | | | | |
| Fungicides | Lha-1 |  | | | | | |  | | |  | |  | | | | |
| Herbicide | Lha-1 |  | | | | | |  | | |  | |  | | | | |
| Seed | kgha-1 |  | | | | | |  | | |  | |  | | | | |
| Electricity | kwhha-1 |  | | | | | |  | | |  | |  | | | | |
| Human labor | hrha-1 |  | | | | | |  | | |  | |  | | | | |
| Water for irrigation | M3ha-1 |  | | | | | |  | | |  | |  | | | | |
| Crop production and selling price | | | | | | | | | | | | | | | | | |
| The amount of crop production (kgha-1) during the production period | | | |  | | | | | | crop price ($kg) | | | | | |  | |