

INSTRUCTIONS FOR INTERVIEWERS

NPIWC-II SURVEY MANUAL (DRAFT VERSION)

SURVEY COORDINATORS:

GIVE A COPY OF THESE INSTRUCTIONS TO EVERY INTERVIEWER. IF NECESSARY, TRANSLATE INTO THE LOCAL LANGUAGE. ENSURE THAT THE INFORMATION IS APPROPRIATE TO YOUR SURVEY.

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INTRODUCTION

The Government of Pakistan is implementing a project entitled “National Program for Improvement of Watercourses in Pakistan Phase-II (NPIWC-II) at a total cost of PKR 154,542.355 million (Umbrella PC-I) over a period of 05 years. This project will cover Punjab, KP, Balochistan and Gilgit Baltistan, Azad Jammu & Kashmir as well as Islamabad Capital Territory (ICT). The proposed project Phase-II will be beneficial for the country. A Joint Venture of G3 Engineering Consultants (Pvt.) Ltd., Ease-Pak Engineering services (Pvt.) Ltd., Centre for Social Research and Development (CSR) and ADA Consultants Inc. Canada has been selected through a competitive bidding process as ME&IE Consultants.

The general scope of the ME&IE Consultants services is to:

- i) Monitoring, Evaluation and impact evaluation of the project performance during operation of the project,
- ii) Monitoring of project activities,
- iii) Carrying out ME&IE studies to evaluate the impact of the interventions for meeting the project objectives,
- iv) Assessing physical, hydrological, and economic impact of the project,
- v) Design, develop and maintain a Management Information System (MIS) for ME&IE including establishment of a Spatial Database. All the data collection will be done through tabs/smart phones with the help of an android based application developed by ME&IE Consultants.

The NPIWC-II comprises four components to be implemented in Punjab, KP, Balochistan, GB, AJK, and ICT:

- i) **C1: ORGANIZATION OF WATER USERS ASSOCIATIONS:** Establishment/ reactivation of Water Users Associations (WUAs) through community driven implementation approach.
- ii) **C2: WATERCOURSE IMPROVEMENTS:** 47,278 Watercourses are planned to be improved /reconstructed and lined.
- iii) **C3: CONSTRUCTION OF WATER STORAGE TANKS:** Construction of 14,932 Water Storage Tanks (WSTs).
- iv) **C4: PROVISION OF LASER LAND LEVELING UNITS:** Provision of 11,610 Laser Land Levelling units to the farmers.

The consultants plan to carry out ME&IE assignments:

monitoring through field visits and surveys of Watercourses, Water Storage Tanks, and Laser Land Levelling Units will be carried out. The following activities will be carried out;

- Base line and impact surveys will be carried out on sample basis.
 - Data will be collected by field teams on pre-designed data collection tools through an android application on TABs.
 - Baseline and impact surveys will be carried out in phases as target watercourses are not preselected.
 - Base line will be carried out before the intervention and the impact one year (two crop seasons) after the completion of the intervention.
 - The midterm study will review the project progress at middle of the project implementation
- The end line study will assess the impact of the project interventions.

PURPOSE OF THIS MANUAL

The G3 Engineering Consultants in collaboration with the National Project Coordinator (NPC) and Directorate of On Farm Water Management (OFWM) has undertaken to conduct the Baseline Survey

for NPIW-II project. This baseline survey is being conducted countrywide (excluding Sindh), covering farming households in rural areas. The sample size of 1000 households distributed across the country, and questionnaires will collect information on agriculture system and economy from households.

This baseline survey is developed by G3 Engineering Consultants to assist NPC to gauge the field information and real situation of the ongoing activities being implemented for the improvement of agriculture economy according to set indicators.

This manual includes all the Modules (Questionnaire) which will be used in field area through Android. Each question is properly explained and a detail of methodology has been explained in coming pages for what care should be taken before and during execution of these questionnaires.

TRAINING PACKAGE

A training package has been prepared for each individual, and includes the following items:

- Training Manuals
- All Questionnaires
- Android and its charger
- Training Agenda
- Notepad, pencil, eraser, sharpener, pen
- Internet device

TRAINING RULES FOR TRAINEES

To facilitate the smooth flow of the training exercise, it is important that the following ground rules be adhered to at all times:

- **Signing the attendance register** – the register should be signed at the beginning of both the morning and afternoon sessions.
- **Use of cell phones** – the use of cell phones during the training sessions is discouraged. Cell phones should either be turned off or set on vibrate mode. If it is absolutely necessary to take or make a call, this should be done outside of the training room.
- **Discussions** – All trainees are expected to participate in discussions. To facilitate learning, only one person should speak at a time, and differences in opinions should be aired respectfully.
- **Punctuality** – the training starts promptly at 8:30am daily. Delays in beginning the training will prolong the day for you and your colleagues.

TRAINING COMPULSION

All persons involved in the collection of the data and supervision of fieldwork must attend the training sessions. The training will enable you to have a thorough knowledge of the main concepts and be familiar with the questionnaires and the training manual.

GENERAL CHARACTERISTICS OF THE INTERVIEWER

CONFIDENTIALITY

Some respondents may out rightly refuse to answer the questionnaire, while others may be reluctant to answer some of the questions. This is understandable since you would be asking for information that is not usually disclosed to strangers. You, the interviewer will be expected to inform the respondent that:

- (a) Information collected is kept strictly confidential. No information about any individual can be made available, even to a government department.
- (b) The information collected will be used solely in the preparation of tables showing group totals, not individuals' information.

HOW TO HANDLE AN INTERVIEW?

The Role of Interviewers

Interviewers play a central role in the collection of data, and the ultimate outcome of the exercise depends on how well you conduct the interviews. Success, therefore, depends on the quality of the interviewers' work. It is therefore important that you are consistent in the way you put the questions to the respondent.

In general, the responsibilities of the interviewers will include:

- With the assistance of the chairman of the Water Users Association (WUA), locating the relevant beneficiaries to administer the questionnaires;
- Interviewing all the eligible respondents selected for the purpose;
- Ensuring that the information given is correct by keeping the respondent focused on the questions;
- Preparing additional debriefing notes for other problems or observations;

Gain rapport with the respondent

The interviewer and the respondent are strangers to each other; therefore, one of the main tasks of the interviewer is to establish rapport with the respondent. The respondent's first impression of you will influence her/his willingness to participate in the survey, therefore, make sure that your appearance is neat with appropriate dressing according to the culture and you also appear friendly as you introduce yourself.

The first impression, a respondent make for you is through your appearance. The way you dress may affect whether your interview is successful or not, therefore you should dress neatly and simply at all times.

When first approaching the respondent, do your best to make him/her feel at ease. With a few well-chosen words, you can put the respondent in the right frame of mind for the interview. You should start with salutation to him. After that you should introduce yourself stating your name and the organization you are working for. Now discuss general routine of

the farmer and how he feels about the general condition of his surroundings. After that share the objectives of the survey, and what you want the respondent to do for you. Always open the interview with a smile and greeting and then proceed with your introduction as specified on your questionnaire.

- You are advised to avoid long discussions on issues which are not related to the survey and which may consume a lot of your time.

Remain calm and polite at all times.

- After building rapport with the respondent:
 - Ask questions slowly and clearly to ensure the respondent understands what he/she is being asked.
 - After you have asked a question, pause and give the respondent time to think. If you pressurize the respondent to answer you hurry, will not allowed to form his/her opinion, he/she may respond with “I don’t know” or give an inaccurate answer.

Always have a positive approach

Never adopt an apologetic manner, and never approach with such words as “Are you too busy?” or “If you are not too busy?” or “If you don’t mind ...” Such questions will invite refusal before you even start. Rather, tell the respondent “I would like to ask you a few questions, please.”

The following guidelines will help you handle interviews:

- Ensure that you understand the exact purpose of the survey and each question. This will help you to know if the responses you are receiving are adequate or relevant.
- Keep in mind the survey schedule, and remember that you are part of a team. Do not stay and talk for too long, but do not rush the interview either.
- Ask the questions exactly as they are written. Even small changes in wording can alter the meaning of a question.
- Ask the questions in the same order as they are given on the questionnaires. Do not change the sequence of the questions.
- Ask all the questions, even sometimes during discussion respondent may have answered something ahead, but you must ask each question individually again by saying “Just to refresh my memory...”, and then ask the question.
- If and when necessary, tell the respondent that the survey will help the government in the development of plans for improvement in agricultural production and that his/her cooperation will be highly appreciated.

- Use a language understandable by the respondent to get this message across. Never mention other interviews or read the questionnaire with other interviewers or the supervisor in front of a respondent or any other person. This will automatically erode the confidence the respondent has in you.
- Help your respondents feel comfortable, but make sure you do not suggest answers to your questions. Those cases when you are expected to 'help' the respondent, such as probing for answers with examples, should be enough elaborative that beneficiary may understand easily.
- Do not leave a question unanswered unless you have been instructed to skip it, as questions left blank are difficult to deal with later. When questionnaires arrive to Team Lead, it may look as though you forgot to ask the question.
- Record answers immediately and carefully, keep care when you enter the values, you may not enter any irrelevant value. For example, if you wish to write 100, so you may not write it 1000 or 10 by mistake. It will change the whole scenario of the question.
- Thank the respondent for his/her cooperation and giving you time to interview him/her. This helps to leave the way open to future interviews (for re-visits) if necessary.
- Avoid over-staying in the respondent's house/hujra/workplace even if he/she is very friendly and welcoming.

Emphasize the confidentiality of any information collected

- Always stress confidentiality of the information you obtain from the respondent. Explain to the respondent that the information you collect will be used for official purpose and will not be shared with any other irrelevant person. Be prepared to explain what is meant by confidentiality and to convince respondents to participate if they are reluctant.

Probe for adequate responses

You should phrase the question as it is in the questionnaire.

- If you realize that an answer is not fulfilling the required data, then you should seek clarification through asking indirect questions or some additional questions so as to obtain a complete answer to the original question. This process is called probing.
- Questions, while probing, should be worded so that they are neutral and do not lead the respondent to answer in a particular direction.
- Ensure the meaning of the original question is not changed.

Pause and wait if the respondent is trying to remember difficult items.

If you may have misunderstood the response, ask the respondent to reply the answer again if necessary.

Check for consistency between the answers a respondent give.

- Treat the questionnaires as tools that you are using to converse with the respondent.
- Try to understand and remember the responses, and if there is an inconsistency, ask the questions again.
- However, never point out to the respondent's inconsistencies that you may have identified in a manner that may be understood as if you are testing the respondent's honesty or integrity.

Answering questions to respondent

The respondent may ask you some questions about the survey or how he/she was selected to be interviewed or how the survey is going to help him/her, before agreeing to be interviewed. Be direct and pleasant when you answer. The respondent may also be concerned about the length of the interview. Please be frank to tell him/her how long you are likely to take to administer the questionnaire.

Interview the respondent alone

The presence of a third person during the interview can prevent you from getting frank and honest answers from the respondent.

- It is therefore very important that the interviews are conducted separately and that all the questions are answered by the respondent only.

Handling hesitant respondents

There may be situations where the respondent simply says "I don't know", or gives an irrelevant answer or acts in a manner suggesting he/she is bored or contradicts earlier answers. In all these cases, try your best to make him/her become interested in the question. Spending a few moments to talk about things unrelated to the interview (e.g. his/her town or village, the weather, his/her daily activities etc.) may be useful.

Adopt a non-judgemental attitude

"Social desirability response bias" is a potential problem in surveys and refers to the tendency for respondents to present a favourable image of themselves to the interviewers. Appearance of questions may lead respondents to adjust their answers so as to appear socially acceptable.

To minimise social desirability response bias, it is very important to adopt a non-judgemental attitude and to not display any of your own attitudes, such as cultural or religious values, political preferences, and the like.

GENERAL CHARACTERISTICS OF THE QUESTIONNAIRES

SKIP INSTRUCTIONS

Skip instructions are given in the questionnaires to ensure that you do not ask irrelevant questions to a respondent. For example, in question WC1.10 (Identification of watercourse improvement Questionnaire), you are required to ask “Watercourse location”. If the response is “No”, the skip instruction is to continue the interview with the next question 1.15, so that WC1.11 to WC1.14 are not asked to the respondent: These questions are only for canal irrigation which are shared, and are designed to collect information on location and information of the canal.

Skips are very important, since a failure to take a skip into account may result in:

- (a) Asking an inappropriate question to the respondent; and/or
- (b) Incorrectly skipping a whole section which should actually be administered.

QUESTION STYLES

- Some modules include “rosters” or “repetition”, which are lists that involve the collection of information on the same subject for multiple persons or items. For example, the Crop relevant questions in “Farming Module in the Watercourse Questionnaire” is in the form of a roster, where different crops information is collected for all agricultural practices.
- Skip instructions are provided to the right of the response categories (with the exception of rosters), normally in a skip column, and indicate the number of the question that the interviewer should skip to. For example, in question ----- in the Farming Module of the Watercourse Questionnaire, where cotton will be either picked or harvested, so on harvest option a skip will, indicating that if the response is not relevant the next question will appear.
- **Probes** are used to ask further questions to the respondent, and are either indicated as “Probe:” or with a question such as “Anything else?”. For example, ----- Questionnaire.
- **Prompts** are used to explicitly ask about a specific item or a specific topic. For example, in the case of household assets, the respondent is not asked to simply list all household assets in the household, but rather, each of the assets the questionnaire is intended to collect is verbalized as a question. Example, HC7 in the Household Characteristics Module in the Household Questionnaire.
- There are occurrences when a word is either in bold characters or underlined. These are intended to emphasize a point, or make sure that you do not forget what the question is intended to capture. For instance, in question ----- (Watercourse Module), the word ‘Canal/Non-canal’ is underlined (‘canal/non-canal’) to emphasize that only the main source of water should be recorded.
- “Other” response codes are almost always followed by (*specify*), which indicate that once the “other” option is recorded, you are expected to write the exact answer.

ENDING THE QUESTIONNAIRE

Record the time.

The time of the day you finish the household interview will be recorded using the 24-hour system.

QUESTIONNAIRES AND ELIGIBLE RESPONDENTS

OVERVIEW OF QUESTIONNAIRES

This survey includes (8 watercourses, 4 farming, 5 LLL, 3 WST) questionnaires; watercourse (Profile, environment, gender, shareholders, spot-check, water flow), farming (farming practices, yield, water saving), Laser land levelling (Training checklist, service provider feedback, beneficiary feedback), water storage tank (spot check of WST, beneficiary feedback). These questionnaires will be asked from farming community:

WATERCOURSE (WC)			
WC-ID_01-01	Identification of Watercourse	WC-SC_06-01	Spot-check of Watercourse
WC-SH_02-01	Watercourse Shareholders	WC-HH_07-01	Farming Households
WC-BE_03-01	Watercourse Beneficiaries	WC-SG_08-01	Social and Gender Structure
WC-BP_04-01	Watercourse Brief Profile	WC-WF_09-01	Water Flow in Watercourse
WC-FF_05-01	Beneficiary Farmer Feedback		

WATER STORAGE TANK (WST)			
WST-ID_01-01	WST Identification	WST-FF_01-01	Farmer Feedback
WST-SC_01-01	WST Spot Check		

LASER LAND LEVELING (LLL)			
LLL-ID_01-01	LLL Identification	LLL-Tr_01-01	LLL Training
LLL-SF_01-01	LLL Service Provider Feedback	LLL-BF_01-01	LLL Beneficiary Feedback

SELECTION OF WATERCOURSE AND WATER STORAGE TANK

Only those watercourses and water storage tanks (WST) will be selected for survey whose Technical Sanction (TS) will be issued by OFWM after survey approval of NESPAK. The OFWM will share the detail of the approved target immediately with ME&IE so they can start their baseline.

ELIGIBLE RESPONDENTS FOR THE QUESTIONNAIRES

Eligible Respondents for the Baseline of Watercourse

The team will find the chairman of the WUA and will get information regarding the watercourse and its shareholders and tenants at Head, mid and tail sections. The team will select 6 farmers (2 each from head, mid and tail) and will ask the baseline questions from them. Among these 6 team will take care to select due representation of small, medium and large farmers if possible. Team will also take care to get a true representation from tenant as well as owners.

Eligible Respondents for the Baseline of Water storage tank

The team will find the location of the Water storage tank and identify the owner of the WST and will fill baseline questionnaire from him.

Technical data collection from watercourse

The visiting team will also collect technical data of the watercourse which includes water flows and other spot checks regarding the improvement/construction activity.

Technical data collection from water storage tank

The visiting team will also collect technical data of the water storage which includes spot checks regarding the construction activity.

Social and Gender Data

Social and Gender data will be collected through one female from sampled watercourse. This female will be recommended by local farmers and could be family member of any farmer. This female could be married or unmarried as well. ME&IE team will try to get services of female enumerator for this purpose, so data may be collected appropriately.

THE WATERCOURSE MODULE

The purpose of the Watercourse Questionnaire is to provide information on the location of the watercourse, its technical specifications and type. You will use the watercourse Questionnaire to collect important information on topics such as watercourse type, length, discharge and physical condition for reference.

This will further identify how much land holding is being irrigated with this watercourse, how many farmers are benefitting with this watercourse and what kind of agricultural production they are getting on the culturable command area of this watercourse.

IDENTIFICATION

Q.1.1 Province?

This question focuses on the province in which the current watercourse is located which is to be improved. In answer the required province will be selected from the given list.

Q.1.2 Division?

Each Province is divided in administrative boundaries called divisions for easy handling. The required division in which the current watercourse is located will be selected in the answer from the given list.

Q.1.3 District?

Each division is further sub-divided to more small administrative boundaries which is called as districts, there could be many districts in a division. Select the required district in which the current watercourse is located from the list in answer.

Q.1.4 Tehsil?

Under each district there are more than one tehsils which are also known as sub-districts. Select the required tehsil in which the current watercourse is located from the list in answer.

Q.1.5 OWFM Field Team?

On Farm Water Management Departments field team will visit the site physically and check the current watercourses are known as OWFM Field team. Name of the field team will be entered in the answer e.g. ADA Lahore or Faisalabad or the place where ADA is present.

Q.1.6 Union Council?

Each Tehsil is sub-divided into smaller towns known as union councils. Enter the name of the Union Council in which the current watercourse is improved in answer.

Q.1.7 Village?

Village is known as a group of houses and associated buildings, smaller than a town, situated in a rural area. Enter the name of village in which the current watercourse is located.

Q.1.8.1 NA Constituency?

There are 342 seats in National Assembly of Pakistan. Each seat represents a unique administrative portion of Pakistan called as constituency. Each portion is being represented by member of National assembly called as Member of National Assembly (MNA). Name of

the NA constituency will be entered in the answer, under which the current watercourse is located. (for example NA-31, it represents the NA constituency of that specific area).

Q.1.8.2 PA Constituency?

Likewise, the National assembly, each province has its own constituency and member of the parliament is called Member of Provincial Assembly (MPA). Name of the Provincial Assembly constituency will be entered in the answer, under which the current watercourse is located. (for example PK-31, it represents the Provincial constituency of that specific area).

Q.1.9 Watercourse Name?

Enter the name of current watercourse being visited physically for data collection.

Q.1.10 Watercourse Location?

- Canal Area
- Non-Canal Area

Whether the proposed watercourse is situated in a Canal Command Area or Non-Canal Area. "Canal Area is an area in which the source of water is Canal", "Non-Canal Area is an area where the source of water is other than Canal like Rain, Water Storage Tank, Lakes, Ponds etc.,"

SKIP: Record the code corresponding to the response given. If the answer is 'Canal Area' continue with Q. # 1.11. Otherwise if the answer is 'Non-Canal Area' you will skip to Q. # 1.15.

Q.1.11 Canal?

Canal is an artificial waterway constructed to allow the water for irrigation. Name of that Canal will be entered in answer from where the current watercourse is derived.

Q.1.12 Branch?

Branch is an artificial waterway constructed to allow the water for irrigation and is connected to Canal. Name of that branch will be entered in answer from where the current watercourse is derived.

Q.1.13 Distributary?

Distributary is an artificial waterway constructed to allow the water for irrigation and is connected to Branch. Its head discharge is less than Branch. Name of that branch will be entered in answer from where the current watercourse is derived.

Q.1.14 Minor?

Minor is an artificial waterway constructed to allow the water for irrigation and is connected to Distributary. Enter the name of minor from which the current watercourse is derived.

Q.1.15 Type of Water Source?

- "Perennial Canal
- "Annual Canal
- "Tube Well

What is the main source of water flow in this watercourse? "Perennial Canal is a canal where water flows throughout the year". "Annual Canal is a canal in which water flows for a certain period of time and then stops rest of the year (Lower Jehlum Canal is the example of annual canal)". "Tube Well" is a source of mechanized uplifting of water through deep well.

Q.1.16 Category of Watercourse to be Improved?

- “Regular (New)
- “Additional Lining
- 20 Years Old

This question is asked to determine the category of current watercourse to be improved. “Regular (New) means Improvement of watercourse that is not been improved earlier in any scheme”. “20 Years Old means reconstruction of more than 20 years old improved watercourse that has outlived its economic life”. “Additional Lining means The watercourse which is already lined under any previous scheme and is to be additionally lined up to 50% of the total length of current watercourse”.

Q.1.17 Type of Watercourse?

- | | |
|-----------------------------|---------------|
| Rectangular/ Bricks | RCC |
| Precast parabolic structure | PCC |
| PVC 3" | Stone Masonry |
| PVC 4" | Karez |

Select the type of watercourse to be improved by the choice /demand of the farmer/WUA and technical feasibility of the site. “Rectangular/ Bricks means watercourse that is lined from bricks”. “Parabolic means watercourse that is made of precast parabolic structure. (Precast Parabolic structures are pre-fabricated structure and brought to site and are installed in watercourse)”. “PVC 3" means watercourse that is made of Poly Vinyl Chloride material and its diameter is 3 inch”. “PVC 4" means watercourse that is made of Poly Vinyl Chloride material and its diameter is 4 inch”. “RCC means watercourse that is made of Reinforced Cement Concrete RCC (material used for RCC is Iron, Cement, Sand & Crush)”. “Stone Masonry means watercourse that is made of stones”. “PCC means watercourse that is made of Plain Cement Concrete PCC (Material used for PCC is Cement, Sand & Crush)”. “Karez means watercourse that is made inside the mountains for water flow”.

Q.1.18 Location of Watercourse on the Minor/Canal

- | Head | Mid | Tail |
|------|-----|------|
|------|-----|------|

Select the location on the minor/canal from which the watercourse is derived. Canal/Minor length is divided into 3 parts. “Head means watercourse is derived from the head area (defined by irrigation department) of the parent channel canal/branch/distributary/minor”. “Middle means watercourse is derived from the middle area (defined by irrigation department) of the parent channel canal/branch/distributary/minor”. “Tail means watercourse is derived from the tail area (defined by irrigation department) of the parent channel canal/ branch/ distributary/ minor.

Q.1.19 Financial Year?

Enter the year in which watercourse is improved. (for example. 2020-21 starts from July 2020 and ends on June 2021).

Q.1.20 Comments of Interviewer?

Kindly write the comment/remarks of the Enumerator/Interviewer.

BRIEF PROFILE OF SAMPLED WATERCOURSE

1. IDENTIFICATION

DB.# Q.# Field Name

Q.1.1 Province?

This question focuses on the province in which the current watercourse is located which is to be improved. In answer the required province will be selected from the given list.

Q.1.2 Division?

Each Province is divided in administrative boundaries called divisions for easy handling. The required division in which the current watercourse is located will be selected in the answer from the given list.

Q.1.3 District?

Under each district there are more than one tehsils which are also known as sub-districts. Select the required tehsil in which the current watercourse is located from the list in answer.

Q.1.4 Tehsil?

Under each district there are more than one tehsils which are also known as sub-districts. Select the required tehsil in which the current watercourse is located from the list in answer.

Q.1.5 OWFM Field Team?

On Farm Water Management Departments field team will visit the site physically and check the current watercourses are known as OWFM Field team. Name of the field team will be entered in the answer e.g. ADA Lahore or Faisalabad or the place where ADA is present.

Q.1.6 Union Council?

Each Tehsil is sub-divided into smaller towns known as union councils. Enter the name of the Union Council in which the current watercourse is improved in answer.

Q.1.7 Village?

Village is known as a group of houses and associated buildings, smaller than a town, situated in a rural area. Enter the name of village in which the current watercourse is located.

1.8 Name of WUA Chairman?

Chairman is known as a person known as the presiding officer of an organized group such as a board or committee. Name of the chairperson of WUA will be entered.

1.9 Contact # of Chairman?

Mobile number of the chairperson of WUA to be need to be entered for any future need.

Q.1.10 NA Constituency?

There are 342 seats in National Assembly of Pakistan. Each seat represents a unique administrative portion of Pakistan called as constituency. Each portion is being represented by member of National assembly called as Member of National Assembly (MNA). Name of the NA constituency will be entered in the answer, under which the current watercourse is located. (for example NA-31, it represents the NA constituency of that specific area).

Q.1.11 PP Constituency?

Likewise, the National assembly, each province has its own constituency and member of the parliament is called Member of Provincial Assembly (MPA). Name of the Provincial Assembly constituency will be entered in the answer, under which the current watercourse is located. (for example PK-31, it represents the Provincial constituency of that specific area).

Q.1.12 Watercourse Name?

Enter the name of current watercourse being visited physically for data collection.

Q.1.13 Watercourse Location?

- Canal Area
- Non-Canal Area

Whether the proposed watercourse is situated in a Canal Command Area or Non-Canal Area. "Canal Area is an area in which the source of water is Canal", "Non-Canal Area is an area where the source of water is other than Canal like Rain, Water Storage Tank, Lakes, Ponds etc.,"

Record the code corresponding to the response given. If the answer is 'Canal Area' continue with Q. # 1.14. Otherwise if the answer is 'Non-Canal Area' you will be skipped to Q. # 1.18.

SKIP: Record the code corresponding to the response given. If the answer is 'Canal Area' continue with Q. # 1.14. Otherwise if the answer is 'Non-Canal Area' you will skip to Q. # 1.18.

If 'Canal area' in Q.# 1.13 then Continue with Q.# 1.14 Otherwise continue with Q# 1.18

Q.1.14 Canal?

Canal is an artificial waterway constructed to allow the water for irrigation. Name of that Canal will be entered in answer from where the current watercourse is derived.

Q.1.15 Branch?

Branch is an artificial waterway constructed to allow the water for irrigation and is connected to Canal. Name of that branch will be entered in answer from where the current watercourse is derived.

Q.1.16 Distributary?

Distributary is an artificial waterway constructed to allow the water for irrigation and is connected to Branch. Its head discharge is less than Branch. Name of that branch will be entered in answer from where the current watercourse is derived.

Q.1.17 Minor?

Minor is an artificial waterway constructed to allow the water for irrigation and is connected to Distributary. Enter the name of minor from which the current watercourse is derived.

Q.1.18 Type of Water Source?

- "Perennial Canal
- "Annual Canal
- "Tube Well

What is the main source of water flow in this watercourse? "Perennial Canal is a canal where water flows throughout the year". "Annual Canal is a canal in which water flows for a certain period of time and then stops rest of the year (Lower Jehlum Canal is the example of annual canal)". "Tube Well" is a source of mechanized uplifting of water through deep well.

Q.1.19 Category of Watercourse to be Improved?

- “Regular (New)”
- “Additional Lining”
- “20 Years Old”

This question is asked to determine the category of current watercourse to be improved. “Regular (New)” means Improvement of watercourse that is not been improved earlier in any scheme”. “20 Years Old” means reconstruction of more than 20 years old improved watercourse that has outlived its economic life”. “Additional Lining” means The watercourse which is already lined under any previous scheme and is to be additionally lined up to 50% of the total length of current watercourse”.

Q.1.20 Type of Watercourse?

- | | |
|---------------------|-----------------------------|
| Rectangular/ Bricks | Precast parabolic structure |
| PVC 3" | PVC 4" |
| RCC | PCC |
| Stone Masonry | Karez |

Select the type of watercourse to be improved by the choice /demand of the farmer/WUA and technical feasibility of the site. “Rectangular/ Bricks” means watercourse that is lined from bricks”. “Parabolic” means watercourse that is made of precast parabolic structure. (Precast Parabolic structures are pre-fabricated structure and brought to site and are installed in watercourse)”. “PVC 3” means watercourse that is made of Poly Vinyl Chloride material and its diameter is 3 inch”. “PVC 4” means watercourse that is made of Poly Vinyl Chloride material and its diameter is 4 inch”. “RCC” means watercourse that is made of Reinforced Cement Concrete RCC (material used for RCC is Iron, Cement, Sand & Crush)”. “Stone Masonry” means watercourse that is made of stones”. “PCC” means watercourse that is made of Plain Cement Concrete PCC (Material used for PCC is Cement, Sand & Crush)”. “Karez” means watercourse that is made inside the mountains for water flow”.

Q.1.21 Location of Watercourse on the Minor/Canal

- | Head | Mid | Tail |
|------|-----|------|
|------|-----|------|

Select the location on the minor/canal from which the watercourse is derived. Canal/Minor length is divided into 3 parts. “Head” means watercourse is derived from the head area (defined by irrigation department) of the parent channel canal/branch/distributary/minor”. “Middle” means watercourse is derived from the middle area (defined by irrigation department) of the parent channel canal/branch/distributary/minor”. “Tail” means watercourse is derived from the tail area (defined by irrigation department) of the parent channel canal/ branch/ distributary/ minor.

Q.1.22 Financial Year?

Enter the year in which watercourse is improved. (for example. 2020-21 starts from July 2020 and ends on June 2021).

Q.1.23. Designed Discharge (LPS)

Water course generally off takes from a minor or distributary. Capacity of a water course depends upon Design discharge, which is the maximum water that any watercourse cross section allows to pass safely without overtopping from the banks. It is mentioned as Litre per second or cusec.

Q.1.24. Additional discharge?

Do Additional Discharge is required to supply the water to the farm land? (Additional discharge is the source of water to land other than that watercourse (for example like Tube well or other water course). If the answer is Yes record 1 and continue with Q. # 1.25. Otherwise if the answer is No record 2 and you will be skipped to Q. # 1.26.

SKIP: Record the code corresponding to the response given. If the answer is 'Canal Area' continue with Q. # 1.25. Otherwise if the answer is 'Non-Canal Area' you will skip to Q. # 1.26.

Q.1.25. Additional discharge source (List)?

Q.1.26. Quality of Ground water

Sweet
Brackish

Water quality describes the condition of the **water**, including chemical, physical, and biological characteristics, usually with respect to its suitability for a particular purpose such as drinking or swimming. Water having more salts than permitted is called brackish water.

Q.1.27. Total Cultureable Command Area (CCA) (Acres)

By CCA we mean the area which can be irrigated or fit for cultivation through this watercourse. Total area in Acres will be recorded in answer.

Q.1.28. Total Nos of Water User's?

"Water users are the farmers which are associated with watercourse" Enter all the numbers of farmers which are benefited from this watercourse.

Q.1.29. Status of watercourse to be improved?

"Technical Sanction (TS)

"During Construction

"Final Completion Report(FCR)

During visit of watercourse the mentioned 3 scenarios could be observed by team. Team has to select most suitable status, where the process of construction reached. "Technical Sanction (TS) is a document which gives official permission to farmer to start the construction activity on watercourse". If Technical Sanction is issued, then skip to Q.# 1.32 otherwise continue with Q.# 1.30. "During Construction involve the time period between earthen work start and before FCR stage". "Final Completion Report(FCR) Issued means completion of all planned works".

SKIP: Please Note Q1.30 is mandatory. Record the code corresponding to the response given. If the answer is 'Technical Sanction' skip Q. # 1.31. Otherwise if the answer is 'During Construction' continue with Q. # 1.31.

Q.1.30. Coordinates & picture at Mogha?

"Moghs is a structure which is installed at the start of watercourse from where fixed quantity of water flows in watercourse". Take pictures and coordinates at Mogha.

Q.1.31. Coordinates & picture of Kacha WC and Lining of watercourse at lining end?

"Kacha WC is the portion which is not lined" and also at the End of lining of watercourse "Lining is the portion of WC which is improved". Take pictures and coordinates at Kacha WC.

Q.1.32. Coordinates & pictures at Kacha end

Take pictures and coordinates at the end of Kacha watercourse.

Q.1.33. Sanctioned lining length of watercourse

“Sanctioned lining length is the approved length according to approved design”. Enter the sanctioned lining length of WC.

Q.1.34. Date of Technical Sanction(TS)

Enter the date of TS (TS is a document in which detailed estimate of the cost of work of construction is mentioned by the Project Director)

Q.1.35. Sanctioned Cost (rupees)

“Sanction cost is the estimated cost of the work of construction approved by the Project Director”. Enter the Sanctioned cost in rupees.

Q.2. COMMENTS OF INTERVIEWER

Kindly write the comment/remarks of the Enumerator/Interviewer.

LIST OF WATERCOURSE SHAREHOLDERS

It provides the basic info of farmers/shareholders; who's land is getting water from watercourse

1. IDENTIFICATION

Watercourse ID:

Enter current watercourse ID will that appear here

2. SHAREHOLDERS LIST

2.1 Name of Shareholder?

“Shareholder means a person who uses the watercourse to irrigate his/her land”. Ask respondent about the names of the farmers facilitated by the watercourse.

2.2 Gender?

Male Female

2.3 Father Name?

Ask the father name of the shareholder.

2.4 Area Owned (Acres)?

Area owned means the total area owned by all members of a household irrespective of its location. It also includes the area held in owner-like possession; such as land temporarily allotted, the mortgaged land under possession, government land taken on lease, etc. Ask the respondent, how much area shareholder owned in acres.

2.5 Area Rented in (Acres)?

Ask the respondent, how much rented-in area shareholder owned in acres. (Rented-in means the farmer took a piece of land on rent from its owner and pay rent to landlord).

2.6 Area Rented out (Acres)?

Ask the respondent, how much rented-out area shareholder owned in acres. (Rented-out means the owner shares a land and receive rent in return from person).

2.7 Total Area operated (Acres)?

Total number of area in acres of the land benefited by current watercourse of the shareholder.

2.8 Status in association?

chairman of WUA

Member

Treasurer

not a member

Secretary

Select the status of shareholder in WUA. If the shareholder a chairman of WUA. “Treasurer means who look after to all the financial matters of the association”? If the shareholder is a treasurer of WUA. If the shareholder is a secretary of WUA. “Member means a person who is registered with the association”. If the shareholder is not a member of WUA.

2.9 Location on WC?

- 1 Head
- 2 Middle
- 3 Tail

Where is your landholding at this watercourse, Head represents the starting area of a watercourse, same as middle and tail sections show middle and tail areas of the watercourse, respectively. However, in case the respondent may have land holding in more than one location than please select multiple options.

3. COMMENTS OF INTERVIEWER

Kindly write the comment/remarks of the Enumerator/Interviewer.

LIST OF WATERCOURSE BENEFICIARIES/FARMERS

It provides the basic info of direct beneficiaries (the person getting direct benefit from the land which is facilitated by the watercourse)

Watercourse ID:

Enter current watercourse ID will that appear here

2.1 Name of Share Croppers / Harries / Tenant / etc.

Enter the name of Share croppers/tenants. **Tenant farmers** usually paid the landowner rent for farmland **and** a house. They owned the crops they planted **and** made their own decisions about them. After harvesting the crop, the **tenant** sold it **and** received income from it. Sharecropping is a legal arrangement with regard to agricultural land in which a landowner allows a tenant to use the land in return for a share of the crops produced on that land. **Sharecroppers** had no control over which crops were planted or how they were sold.

2.2 Father Name

Enter the father's name of sharecropper/tenant.

2.3 Gender?

Male Female

2.4 Total area operated in (Acres)

Enter the total number of area in acres operated by sharecropper/tenant through this watercourse. "Area operated means area used for cultivation".

2.5 Location on watercourse(WC)

- 1 Head
- 2 Middle
- 3 Tail

Where is your landholding at this watercourse, Head represents the starting area of a watercourse, same as middle and tail sections show middle and tail areas of the watercourse, respectively. However, in case the respondent may have land holding in more than one location than please select multiple options.

3. COMMENTS OF INTERVIEWER

Kindly write the comment/remarks of the Enumerator/Interviewer.

QUESTIONNAIRE FOR SOCIAL STRUCTURE & GENDER

1. IDENTIFICATION

1.1 Watercourse ID:

Enter current watercourse ID will that appear here

1.2 Name of Respondent

As this questioner will be filled from a female, so it should be clear that the name of the female respondent should be entered. Sometime in few areas female respondent gives the name of the household owner, husband or father's name to the interviewer.

1.3 Age (Years) (till to date)

Enter the age of the respondent in years at the time of form filling.

1.4 Level of Education

Select the education of respondent.

"Illiterate" means the respondent is unable to read and write.

Primary mean the respondent has studied till 5th grade at school level.

Middle means the respondent has studied till 8th grade at school level.

Matric means the respondent has studied till matric/10th grade at school level".

Intermediate means the respondent has studied till Intermediate/12th grade at college level".

Graduate and above means the respondent has studied till 14th grade or above like

Master/16th grade at college/university level".

Madrasa Education is an Islamic education taken in as institute called Madrassa.

Literate means the respondent is able to read and write.

1.5 Occupation

Select from the list If the respondent work anywhere, so specify the nature of work.

"Housekeeping" means the respondent is taking care of household or is engaged in household activities". "

Agriculture means the respondent is working in farmland".

Labour means is a person who perform physical strength work and is paid in return.

"Government/Private" job means working in a government sector or has a job in private organization.

own business.

any other.

Land, Cultivation and Irrigation Information

2.1 Are you currently married?

Married Un-Married

Ask respondent about her current marital status.

2.2 Do you own a piece of agricultural land?

Yes

No

Don't Know

This question means that do the respondent own a piece of agriculture land, that has been purchased, or leased and has its ownership. If Yes continue with Q.# 2.3 otherwise, you will be skipped to Q.# 2.5.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 2.3. Otherwise if the answer is 'No or Don't know' you will skip to Q. # 2.5.

2.3 How much land is as tenancy? (Acres)

"Tenancy mean land owned on rent and amount is paid in return" Area of the land will be provided in acres (one acre = 8 kanal or 2 Jerib or 160 marla). Farmers will tell different kind of local names and areas, but enumerator must calculate the area in acres and put on the values.

2.4 Who cultivates your land?

Who cultivates the land own by the respondent? Give the relationship with the respondent.

Herself	Her Husband
Her Father	A Tenant
Her Brother	Don't Know

2.5 Do your family/husband own a piece of agriculture land or work as tenant?

Does the family/husband of the respondent own a piece of agriculture land or works as a tenant? Owns a piece of land,

Tenant.

Both owner and tenant.

Don't know

2.6 Do you participate in farming activities?

Yes No

"Farming activities means cultivation of farmland and activities associated with farming".

2.7 Do you people face problems regarding irrigation water?

Yes No Don't Know

"Irrigation is the artificial way to supply controlled water to land". If respondent/people face any problem, then record the appropriate answer.

Probe if there is need.

2.8 Are you consulted in making farming decisions regarding your land?

Always consulted Sometimes Never Consulted

"Farming decision means selection of crop for cultivation, area distribution for cultivation etc".

2.9 Are you consulted in spending income at your household?

Always consulted Sometimes Never Consulted

"Ask respondent does if any discussion is taken from her in spending the money at her household. (Household means peoples sharing meal within the boundary)".

2.10 Are you consulted in making household decisions?

Always consulted Sometimes Never Consulted

"Ask respondent does her advice is being admired in making decision at her household. (Household means immediate family, father house for un married and husband house for married.)".

2.11 What household activities are performed by you?

Cooking	Taking care of children
Look after parents/elders	Collection of fire wood
Washes clothes/ dishes	Any other (specify)
Cleaning of house	

In which activities respondent involves herself in her house. If more than one, select multiple options.

2.12 Have you heard about NPIWC-II Project?

Yes No

Ask respondent about NPIWC-II project and its components?

Probe if there is need.

2.13 Do You know about WUA?

Yes No

Ask respondent does she knows about the WUA. (Water User's Association is a committee formed to resolve the matters of the farmers regarding the farming).

2.14 Are your member of WUA?

Yes No

Is the respondent a member of WUA?

2.15 Do you participate in WUA meetings?

Attend Do not Attend Never Invited in meeting

Does the respondent take participation in meeting held by WUA? "If respondent attend/participate in every meeting of WUA". "If respondent do not attend/participate in every meeting of WUA". "If the meeting is held by WUA and the respondent is never invited/called".

2.16 Do you wash clothes at a washing bays at watercourse?

Yes No

Washing bays means a place where different things are washed like clothes, crockery's etc. Does respondent wash clothes on the washing bay at watercourse. "If respondent use washing bay to wash clothes record Yes". "If respondent do not use washing bay to wash clothes record No".

3. COMMENTS OF INTERVIEWER

Kindly write the comment/remarks of the Enumerator/Interviewer.

BENEFICIARY/FARMER FEEDBACK

The purpose of the questioner is to check the benefits of watercourses to the farmers during 3 stages. And this form will be filled from only farmers or beneficiaries. (Beneficiary means who is gets benefits from this watercourse.

1.IDENTIFICATION

1.1 Watercourse ID?

Enter watercourse ID will that appear here.

1.2 Status of watercourse to be improved?

“Technical Sanction (TS)

“During Construction

“Final Completion Report(FCR)

During visit of watercourse the mentioned 3 scenarios could be observed by team. Team has to select most suitable status, where the process of construction reached. “Technical Sanction (TS) is a document which gives official permission to farmer to start the construction activity on watercourse”. If Technical Sanction is issued, then skip to Q.# 1.32 otherwise continue with Q.# 1.30. “During Construction involve the time period between earthen work start and before FCR stage”. “Final Completion Report(FCR) Issued means completion of all planned works”.

2.1 Do you know about the Water User's Association(WUA)?

Yes No Don't Know

Ask respondent does she knows about the WUA. (Water User's Association is a committee formed to resolve the matters of the farmers regarding the farming).

SKIP: Record the code corresponding to the response given. If the answer “Yes” continue with Q. #

2.2. Otherwise if the answer is ‘No or Don't know’ you will skip to Q. # 2.15.

2.2 Are you a member of the Water User's Association(WUA)?

Yes No Don't Know

Ask respondent that is he a member of the water user association. If respondent is a member of WUA record it, continue with Q.# 2.3, otherwise you will be skipped Q.# 3.1. If respondent is not a member of WUA record No. If respondent don't know record it.

SKIP: Record the code corresponding to the response given. If the answer is ‘Yes’ continue with Q. #

2.3. Otherwise if the answer is ‘No or Don't know’ you will skip to Q. # 3.1.

2.3 Is your participation voluntary?

Yes No Don't Know

“Voluntary means a person's own willingness to do something, or by his own choice”. If the respondent is the member of WUA, so his participation is by his own choice

2.4 Who motivated you to be a member?

Fellow Farmer

OFWM Team

Big Landlord

Any Other (specify)

"Motivated means a reason through which a person's acts/behave in a particular way". Who has inspired or promoted the respondent to become a member of water user association.

"Fellow Farmer means a friend who is also a farmer or in same position". If this is the reason of respondent motivation. Big Landlord means "Landlord (Zamindaar) is an owner of area, land, house, etc. which is purchased". If a person/big landlord has motivated the respondent to become a member of WUA. "OFWM field team perform the field activities related to

irrigation and farming". If the reason of motivation is OFWM. If there is any other reason of motivation other than the mentioned options, and specify.

2.5 Did you pay any membership fee to become member of WUA?

Yes No Don't Know

"Membership means to take part or join any group". Has respondent paid any amount (in rupees) as a membership fee to become a member of WUA?

2.6 Do all the WUA members are water user's?

Yes No

"Water Users are the persons who uses water for agriculture and farming" Do All the members of WUA are those persons who uses water from watercourses

2.7 Do WUA holds regular meetings of the association?

Yes No To Some extent

"When for a particular purpose people meet to discuss their issues". Respondent have any knowledge about the regular meetings done by WUA before, to make any decision. If "To some Extent" record to some extent. To Some Extent means in a limited way.

2.8 What is the frequency of WUA meetings?

Every Month Every 3 months Once in a year Issue based

Frequency is the number of occurrences of a repeating event per unit of time. This question refers to the number of times the WUA held meeting for any matter of interest. Please select the appropriate frequency.

2.9 Do majority of the members participate in the meetings?

Yes No To some extent

It is very good to involve more members in a meeting so a decision could be made easily. If less members may participate, then it is a possibility that other members may not agree with their decision.

2.10 Do you participate in the WUA meetings?

Always Occasionally Never

Does the respondent take participation or attend WUA meetings held, what is the frequency of his participation?

2.11 Do you know that the minutes are recorded and got approved in next meeting?

Always Occasionally Never

Meeting minutes are notes that are recorded during a meeting. The minutes of a meeting are usually taken by a designated member of the group.

2.12 Decisions being taken democratically?

Yes No To some extent

"Democratically means when all the members have a mutual understanding and equal rights to make decision". In meetings are decisions taken with the mutual concern/agreement of all members?

2.13 Do you aware about functions and responsibilities of the Association?

Skilled/ Labor Arrangement
Resolve Disputes

WCs Maintenance
Funding for Accounts

"Every association developed has some functions and responsibilities which are used to facilitate and resolve the issues of the committee". Does respondent know that what are the responsibilities of the WUA?

2.14 Do you think WUA helps in solving your farming problems?

Always To some extent Never

In farming communities water based issues rise day to day basis. Active Water User Association helps to resolve these issues. Does the respondent think that the association formed is helping him in solving his farming problems?

Farmer Feedback: Watercourse

2.15 Do you Know that your watercourse is going to be newly lined/ additionally lined/reconstructed?

Yes No Don't Know

If the respondent knows that his watercourse is going to be newly lined (watercourse that is not improved earlier in any scheme) / additionally lined (Already lined before but is to be improved 50% of the total length of watercourse) / reconstructed (Reconstruction of more than 20 years old improved watercourse that has outlived its economic life)?

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 2.16. Otherwise if the answer is 'No or Don't Know' you will skip to Q. # 3.1.

2.16 Do you know that the lining will be up to 50% of the watercourse length?

Yes No Don't Know

Does the respondent know that the lining will be done 50% of the total watercourse length? If the answer is Yes record 1. If the answer is No record 0. If respondent don't know record 3.

2.17 Do you think that watercourse lining up to 50% will benefit you?

Yes No Don't Know

If watercourse is lined 50% of the total length of the watercourse, will it benefit the respondent in farming. If the answer is Yes record 1. If the answer is No record 0. If respondent don't know record 3.

Probe if there is need.

3. Feedback: Environment

3.1 Will there be land required for the improvement / alignment of watercourse?

Yes No

Does extra land will be required for lining / improvement of watercourse? If extra land requires for watercourse improvement record 1. If no extra land requires for watercourse improvement record 0.

3.2 Are the clothes being washed on this watercourse currently?

Yes No

Is this watercourse also used for washing clothes currently? If clothes are washed on this watercourse record 1 and continue with Q.# 3.3 otherwise, you will be skipped to Q.# 3.4. If no clothes are washed on this watercourse record No.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 3.3. Otherwise if the answer is 'No' you will skip to Q. # 3.4.

3.3 How many places and at what locations?

If clothes are washed on this watercourse, specify at what and how many locations?

- 3.3.1 How many at Head? How many places are used for washing clothes at the head area?
3.3.2 How many at Middle? How many places are used for washing clothes at the middle area?
3.3.3 How many at Tail? How many places are used for washing clothes at the tail area?

3.4 Do washing bays required on this watercourse?

Yes No

If Washing bays are required record 1 and continue with Q.# 3.5 otherwise, you will be skipped to Q.# 3.6. If Washing bays are not required record 2.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 3.5. Otherwise if the answer is 'No' you will skip to Q. # 3.6.

3.5 How many places and at what locations?

If washing bays are required on this watercourse, specify at what and how many location?

- 3.5.1 How many at Head? How many places are required for washing bays at the head area?
3.5.2 How many at Middle? How many places are required for washing bays at the middle area?
3.5.3 How many at Tail? How many places are required for washing bays at the tail area?

3.6 Will any trees be cut down on this watercourse?

Yes No

Due to this watercourse construction/improvement, any tree will be cut down in this area? If tree is cut down, record 1 and continue with Q.# 3.7 otherwise you will be skipped to Q.# 3.8. If no tree is cut down, select 0.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 3.7. Otherwise if the answer is 'No' you will skip to Q. # 3.8.

3.7 Number of Trees to be Cut Down?

If trees are too being cut down during watercourse construction/improvement, Enter in numbers?

3.8 Will a temporary diversion channel be needed?

Yes No

For the improvement for watercourse will there be a need of a temporary diversion channel for water supply? (Diversion means turning of something aside of its line/course). If temporary diversion channel is needed record 1. If no temporary diversion channel is needed record 2.

Probe if there is need.

3.9 How the solid waste material will be disposed of?

Used in filling small depressions Left unattended
Used for dressing Inspection Path / Non If any other, Specify
Inspection Path

Solid waste material is the material which is dig out during the improvement of watercourse (for example mud, stones, etc.,) will be disposed of? Will that solid material be used in filling of depressions around the watercourse? (Depression means Khadda), if Yes record 1. Will the mud/solid waste be used around the watercourse for inspection path or will utilized in land. (Inspection path is made on the sides of the watercourse for watercourse inspection, while Non inspection path means other area like farmland), if Yes record 2. Will that solid material, not be used/used in any activity and left like, if Yes record 3. If it will be used in any other activity, select 4 and specify.

3.10 Will there be disruption to local routes?

Yes No

Disruption to local routes means local transportation will be disturbed due to this watercourse construction/improvement? If Yes record 1. If No record 2.

3.11 Will the local labour be hired to work on this watercourse?

Yes No

During construction/improvement of watercourse, are there any local labours to be hired? If Yes record 1. If No record 2.

Farmer's Feedback: DURING CONSTRUCTION

3.12 Do you know that this watercourse has been lining up to 50 percent?

Yes No

Ask farmer that do he know that the lining has been done 50% of the total watercourse length. If Yes record 1. If No record 0.

3.13 Was the land required for WC alignment provided by the land owners voluntarily?

Yes No

Land Owner willingness has been asked to provide land required for watercourse alignment. If Yes record 1. If No record 0.

3.14 Are washing bays under construction as per technical sanction?

Yes No

Washing bays which are under construction are as per technical sanction (like design, material, etc). If Yes, record 1. If No record 0.

3.15 How many places and at what locations?

If washing bays are under construction are as per technical sanction (like design, material, etc), specify at what and how many location?

3.15.1 How many at Head? How many places are under construction are as per technical sanction (like design, material, etc) for washing bays at the head area?

3.15.2 How many at Middle? How many places are under construction are as per technical sanction (like design, material, etc) for washing bays at the middle area?

3.15.3 How many at Tail? How many places are under construction are as per technical sanction (like design, material, etc) for washing bays at the tail area?

3.16 Were any trees cut down during watercourse improvement work?

Yes No

Due to this watercourse construction/improvement, were any trees cut down in this area? If Yes record 1 and continue with Q.# 3.17 otherwise, you will be skipped to Q.# 3.19. If No select 0.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 3.17. Otherwise if the answer is 'No' you will skip to Q. # 3.19.

3.17 If Yes then how many trees were cut down, specify in numbers.

If trees were cut down, specify in number. (for example 8 or 12 trees).

3.17 How many saplings have been planned to be planted against each cut down tree?

If trees are cut down so in replacement how many new plants will be planted against each tree cut down.

3.18 Do the arrangements made for the protection of newly planted saplings?

Yes No

During the construction/improvement of this watercourse were any safety measures taken to protect the newly planted plant. (example net around the saplings). If Yes record 1. If No record 2.

3.19 Were temporary diversion channel(s) made?

Yes No

During construction/improvement of watercourse, were any other diversion channel for water distribution were made? (Diversion means turning of something aside of its line/course).

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 3.20. Otherwise if the answer is 'No' you will skip to Q. # 3.21.

3.20 How the solid waste material was disposed of?

Used in filling small depressions Left unattended
Used for dressing Inspection Path / Non If any other, Specify
Inspection Path

Solid waste material is the material which is dig out during the improvement of watercourse (for example mud, stones, etc.,) will be disposed of? Will that solid material be used in filling of depressions around the watercourse? (Depression means Khadda), if Yes record 1. Will the mud/solid waste be used around the watercourse for inspection path or will utilized in land. (Inspection path is made on the sides of the watercourse for watercourse inspection, while Non inspection path means other area like farmland), if Yes record 2. Will that solid material, not be used/utilized in any activity and left like, if Yes record 3. If it will be used in any other activity, select 4 and specify.

3.21 Do the disruption of local routes occurred?

Yes No

Disruption to local routes means local transportation was disturbed due to this watercourse construction/improvement? If Yes record 1 and continue with Q.# 3.22 otherwise, you will be skipped to Q.# 3.23. If No record 2.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 3.22. Otherwise if the answer is 'No' you will skip to Q. # 3.23.

3.22 Do you take measurements to restore the local routes properly?

Yes No

Did the respondent take any measurements to restore the local transportation routes properly during construction/improvement of watercourse? If Yes record 1. If No record 2.

3.23 Do local labour hired for improvement works of the watercourse?

Yes No

For improvement of watercourse, were there any local labours hired? If Yes record 1. If No record 2.

4.1 Do you know that watercourse was lined up to 50%?

Yes No No Response

Ask farmer that do he know that the lining was done 50% of the total watercourse length. If Yes record 1. If No record 0. If respondent is not willing to answer the question record 2.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 4.2. Otherwise if the answer is 'No or No Response' you will skip to Question 5.

4.2 Did you ever visit watercourse site as it was being improved?

Yes No No Response

Respondent is asked that when the watercourse was improved/constructed, did he ever visited the site physically. If Yes record 1. If No record 0. If respondent is not willing to answer the question record 2.

4.3 Have you heard about the quality of work?

Yes No No Response

Respondent knows or has any idea about the quality of work done for watercourse improvement/construction. If Yes record 1 and continue with Q.# 4.4 otherwise, you will be skipped to Q.# 4.6. If No record 0. If Respondent is not willing to answer the question record 2.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 4.4. Otherwise if the answer is 'No or No Response' you will skip to Q. # 4.6.

4.4 Do you think work quality was?

Good Not good
Average Don't know

What does respondent thinks that the work done was of good quality. If satisfied with quality of work record 1 and continue with Q.# 4.7 otherwise, you will be skipped to Q.# 4.8. If the quality of work was average record 2. If not satisfied with quality of work record 3. If respondent don't know about the quality of work done record 4.

SKIP: Record the code corresponding to the response given. If the answer is 'Good' skip to Q. # 4.6. Otherwise if the answer is 'Not Good, Average or Don't know' continue with Q. # 4.5.

4.5 If work quality is not good, then of which?

If the quality of work is not good and the respondent is not satisfied, what is the reason (select from below).

- Bricks quality/quantity.
- RCC/PVC pipe quality and quantity.
- Cement quality and quantity.
- Slab quality and quantity (Slab is a structure in rectangular shape made of Cement, Iron, Crush and Sand)
- Control structure/Nacca is not properly installed.
- Labour work was of not satisfactory.
- If any other reason please elaborate.

4.6 Do you know that before the lining work was started, the watercourse was earthen, improved/renovated?

Yes No Don't Know

Was the respondent aware about the earthen work improved before the lining work started. (earthen work means to level the ground of watercourse before lining. If respondent was

aware record 1 continue with Q.# 4.7 otherwise, you will be skipped to Q.# 4.8. If respondent was not aware record 0. If respondent don't know record 2.
SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 4.7. Otherwise if the answer is 'No' you will skip to Q. # 4.8.

4.7 How much in your view watercourse length was earthen improved / renovated?

Entire length

Only Lining part

Do not know

If complete length of watercourse earthen improved record 1. If only the improved lining part of the watercourse earthen improved record 2. Respondent don't know record 3.

4.8 Do WUA arranged skilled and unskilled labour for earthen improvement of the watercourse?

Do the WUA provided/arranged the skill and unskilled labour for construction or renovation of earthen work of watercourse. If Skilled/Unskilled labour arranged record 1. If no Skilled/Unskilled labour arranged record 0. If to some Extent record 2.

4.9 Do WUA arranged skilled and unskilled labour for watercourse lining/ alignment?

Yes No To some extent

Do the WUA provided/arranged the skill and unskilled labour for construction of lining/alignment of watercourse. If Skilled/Unskilled labour arranged record 1. If no Skilled/Unskilled labour arranged record 0. If to some Extent record 2.

4.10 Did you participate in earthen improvement activity?

Yes No To some extent

Did the respondent take any participation in the earthen improvement activity? If respondent participated record 1 and continue with Q.# 4.11 otherwise, you will be skipped to Q.# 4.12. If respondent did not participated record 0. If to some Extent record 2.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 4.11. Otherwise, if the answer is 'No or to some extent' you will skip to Q. # 4.12.

4.11 In what form?

Contributed Labour Contributed through money

If respondent worked, so what was his contribution and in which form. If he provides labour record 1. If he provides in kind/money record 2. (Means provided money to arrange the labour).

4.12 Do you think that irrigation water availability has increased after the watercourse improvement at your farm?

Yes No Don't Know

Do respondent think that after the lining of water course, the water required for irrigation at his farm has increased according to landform requirement. If water availability is increased record 1 and continue with Q.# 4.12 otherwise, you will be skipped to Q.# 4.14. If water availability is not increased record 0. If respondent don't know record 3.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 4.12. Otherwise if the answer is 'No or Don't know' you will skip to Q. # 4.14.

Probe if there is need.

4.13 How much? (Please guess keeping in view difference in acreage irrigated before and after WC improvement).

- 1 Less than 5%
- 2 5%
- 3 10%
- 4 20%

4.14 Did WUA Resolve disputes arising during the construction of the watercourse?

If Yes record 1.

If No record 0.

If to some Extent record 2.

4.15 Did WUA Resolve issues relating to controlled structures/Nacca fixing?

- 1 Yes
- 0 No
- 3 To some Extent

4.16 The improved watercourse is properly maintained?

Yes No To some extent

Is the watercourse which is improved maintained properly. If maintained record 1. If not maintained record 0. If to some Extent record 2. To some Extent

Environment

4.17 Were the washing bays constructed/completed?

Yes No

Washing bays used for washing different things on watercourse were completed/constructed? If washing bays are completed record 1. If washing bays are not completed record 0.

4.18 How many places, and at what locations?

In how many places and at what locations these washing bays are being constructed?

4.18.1 How many at Head? At how many places washing bays are completed at the head area?

4.18.2 How many at Middle? At how many places washing bays are completed at the middle area?

4.18.3 How many at Tail? At how many places washing bays are completed at the tail area?

4.19 How many saplings were planted against each tree cut down?

After watercourse lining how many new plants were planted against each tree cut down during watercourse construction/improvement.

4.19.1 Number of Survived Trees? How many trees were not cut down and survived after watercourse lining.

4.20 Were the arrangements made for the protection of newly planted saplings?

Yes No

After the plantation of new sapling, did any protection measurement have been taken (like boundary around plants). If protection arrangements were made record 1. If no protection arrangements were made record 0.

4.21 Were temporary diversion channel(s) restored?

Yes No

If any other water flow channel created during or before watercourse lining, was that channel restored to its actual state. If restored record 1. If not restored record 0.

4.22 How the solid waste material was disposed of?

Used in filling small depressions

Used for dressing Inspection Path / Non Inspection Path

Left unattended

If any other, Specify

Solid waste material is the material which is dig out during the improvement of watercourse (for example mud, stones, etc.,) will be disposed of? Will that solid material be used in filling of depressions around the watercourse? (Depression means Khadda), if Yes record 1. Will the mud/solid waste be used around the watercourse for inspection path or will utilized in land. (Inspection path is made on the sides of the watercourse for watercourse inspection, while Non inspection path means other area like farmland), if Yes record 2. Will that solid material, not be used/utilized in any activity and left like, if Yes record 3. If it will be used in any other activity, select 4 and specify.

4.23 Was the disruption of local routes occurring?

Yes No

Disruption to local routes means local transportation will be disturbed due to this watercourse construction/improvement?

4.24 Were measures taken to restore the local routes properly?

Yes No

If any disruption in local routes occur, did any measurements taken (like to restore the depressions in road). If measurements taken record 1. If no measurements taken record 0.

4.25 Were the local labour hired for works on this watercourse?

Yes No

For improvement of watercourse, were there any local labours hired? If local labours were hired record 1. If local labours were not hired record 0.

5 COMMENTS OF INTERVIEWER

Kindly write the comment/remarks of the Enumerator/Interviewer.

QUESTIONNAIRE FOR AGRICULTURAL PRACTICES

1.1 **Watercourse ID:** _____

This ID will generate automatically in the main office, so, no need to ask from farmer.

2.1 **Name**

Record the Name of the respondent

2.2 **Father's Name**

Ask the name of the father of the respondent.

2.3 **District**

Write the name of the District, where this watercourse is located. This data will be needed only once until Water ID generated. If Water ID generated, then this information will appear automatically.

2.4 **Tehsil**

Write the name of the Tehsil, where this watercourse is located. This data will be needed only once until Water ID generated. If Water ID generated, then this information will appear automatically.

2.5 **Field Team**

Please enter the official name of OFWM team i-e (ADA OFWM Lahore)

2.6 **Village**

Please write the name of the village where this watercourse is lined. Incase this watercourse covers multiple villages, then select the give the name of village from where watercourse started.

2.7 **Location of farm on water course**

- 1 Head
- 2 Middle
- 3 Tail

Where is your landholding at this watercourse, Head represents the starting area of a watercourse, same as middle and tail sections show middle and tail areas of the watercourse, respectively. However, incase the respondent may have land holding in more than one location than please select multiple options.

QUESTIONNAIRE FOR FARMING BENEFICIARY OF WATERCOURSE

Roaster: This Questionnaire will go with repetition or roaster mechanism. Once a crop is selected, all the below questions will be repeated again and again, until skip option is pressed after recording of all the entries.

2. Name of Crop and Sown area

HH-2.1 Name of Crop

HH-2.2 Area (acres) under crop

Area of the land will be provided in acres (one acre = 8 kanal or 2 Jerib or 160 marla). Farmers will tell different kind of local names and areas, but enumerator must calculate the area in acres and put on the values.

3. Land Preparation (By Tractor)

Land preparation is the activity to make sure that the field is ready for planting through ploughing (dig-up, mix, and overturn the soil); harrowing (break the soil clods into smaller mass); incorporate plant residue, and leveling the field. Now a day mostly this activity carried out by tractor, however some old methods using bulls etc. are also in place.

HH-3.1 Area (Acres)

Record that how much area of the land has been prepared through tractor

HH-3.2 Time (Hr/ Acre)

Record that how many hours spent for land preparation per acre

HH-3.3 Cost (Rate/Hr)

Record that what was the rate/cost of land preparation per hour

4. Laser Land Leveling

Laser leveling is the process of smoothening the land surface from its average elevation by using laser equipped drag buckets to achieve precision in land leveling. This helps in smooth flow of water.

HH-4.1 Area (Acres)

How much area has been prepared through laser land leveler?

HH-4.2 Time (Hr/ Acre)

How many hours spent in laser land leveling of one acre

HH-4.3 Cost (Rate/Hr)

What was the rate of laser land leveling per hour?

5. Seedbed Preparation (Ridges/Raised bed)

The seedbed preparation involves removal of weeds and debris, leveling of land, breaking of compact soil and fertilization etc. and preparation of ridges and raised bed for seed sowing.

HH-5.1 Area (Acres)

How much area has been prepared for seedbed preparation?

HH-5.2 Time (Hr/ Acre)

How many hours spent in seedbed preparation of one acre?

HH-5.3 Cost (Rate/hr)

What was the rate of seedbed preparation per hour?

6. Seedbed Treatment

Seedbed treatment is a process where different activities of seeding and plantation took place from sowing of seed to other advance level

HH-6.1 How much Kg seed used per acre

How much seed was used during sowing process in Kg per acre

HH-6.2 What is the rate in PKR per KG

What is seed rate paid by the farmer, mention the rate in Rupee per KG

HH-6.3 What is seedling cost / acre

A seedling is a young plant develop out of a seed. Seedling development starts with germination of the seed. What was the cost of this seedling paid by the farmer?

HH-6.4 Home Grown Seedling cost/acre

Home grown seedling carried out at safe environment of a home. If farmer made this seedling at home, if yes, what was the cost per acre.

HH-6.5 Purchased Seedling cost/acre

Did farmer purchase this seedling from commercial seller or any other farmer, what was the cost per acre.

HH-6.6 What is Sowing man days for Casual Hired Labor (CHL)

Sowing is the process of planting a seed or seedling through labor.

Male

How many male labor were involved in sowing?

Female

How many female labor were involved in sowing?

Probe if there is need.

HH-6.7 What is Plantation man days (CHL)

Plantation is a process where plants are planted or cultivated through labor directly

Male

How many male labor were involved in plantation?

Female

How many female labor were involved in plantation?

Probe if there is need.

HH-6.8 What is Transplantation man days (CHL)

In this seedling are transferred from the nursery or one place to the field is called transplantation

Male

How many male labor were involved in transplantation?

Female

How many female labor were involved in transplantation?

Probe if there is need.

Seedbed Treatment

Seed treatments are the physical and chemical techniques applied to provide protection and improve the establishment of healthy crops.

HH-6.9 What is total seed treatment per acre cost

What is the cost of this treatment according to area of the land?

HH-6.10 What is the total seed treatment man days (CHL)

How many labor have been hired for Seed treatment?

Male

How many male labor were involved in seed treatment?

Female

How many female labor were involved in seed treatment?

Probe if there is need.

7. Use of Fertilizers (50 Kg bag/acre)

A fertilizer is a chemical material that is applied to soil to supply one or more plant nutrients essential for plant growth.

HH-7.1 Urea (No. of bags per acre)

Mostly fertilizer used for the nourishment of the plants. These are Urea, DAP, Potash, NP.

HH-7.2 Urea Price per Bag

Please mention the number of bags against each fertilizer bag and price for one bag. Mostly bags are 50 kg weight

HH-7.3 DAP (No. of bags per acre)

HH-7.4 DAP Price per Bag

HH-7.5 Potash SOP (No. of bags per acre)

HH-7.6 Potash Price per Bag

HH-7.7 NP (No. of bags per acre)

HH-7.8 NP Price per Bag

HH-7.9 Other fertilizer e.g. Gypsum or any other

Other name of fertilizer could be Gypsum or anything farmer may tell

Probe if there is need.

HH-7.10 Quantity per acre

The quantity may vary and may not be in bags. It must be given total KGs

HH-7.11 Price of the 50 kg bag for other fertilizer

HH-7.12 What is the fertilizer man days (CHL)

How many labor have been hired for use of fertilizer?

Male

How many male labor were involved in fertilizer spread?

Female

How many female labor were involved in fertilizer spread?

Probe if there is need.

8. Use of FYM (Trolleys/acre)

Farm yard Manure (FYM) is prepared using cow dung, cow urine, waste straw and other dairy wastes. It is highly useful and rich in nutrients. When cow dung and urine are mixed, a balanced nutrition is made available to the plants.

HH-8.1 Area treated in acres

How much area in acres was being treated by FYM?

HH-8.2 No. of Trollies. /Acre)

How many number of trollies were used for FYM?

HH-8.3 Cost per trolley

What is the cost of one trolley?

HH-8.4 What is the FYM man days (CHL)

How many labor have been hired for this activity?

Male

How many male labor were involved in FYM spread?

Female

How many female labor were involved in FYM spread?

Probe if there is need.

9. Use of Sprays

Crop spraying is the process of spraying insecticides, pesticides, fungicides and other preventative treatments on crops.

HH-9.1 No. of spray (per acre)

How many sprays were made per acre?

HH-9.2 Cost of Sprays

Give the cost of sprays

HH-9.3 What is the Sprays man days (CHL)

How many labor have been hired for sprays?

Male

How many male labor were involved in spray?

Female

How many female labor were involved in spray?

Probe if there is need.

10. Irrigation

Irrigation is the process of watering to a piece of land through Canal or Tube well source

HH-10.1 No. of canal irrigation per acre

How many irrigations were given by the canal water?

HH-10.2 Abyana & taxes per crop

What was the rate of water (abiana) for a crop?

HH-10.3 Tube well irrigation Hour/acre

How many hours' tube well took to cover one acre of land?

HH-10.4 What is tube well irrigation cost/hour

What was the cost of tube well water per hour?

HH-10.5 Area Irrigated by Tube well

How many acres were irrigated by tube well?

11. Crop Management

HH-11.1 How many number Mulching took place

Mulching means to cover the soil between plants with a layer of material to prevents water from evaporating and protects the soil from wind, rain and sun, and suppresses weed growth by blocking out sunlight.

HH-11.2 How many number Pruning took place

Pruning is the removal or reduction of parts of a plant or tree that are not needed or are injurious to the health or development of the plant.

HH-11.3 How many number Stalking took place

In Stalking a piece binds with stem of plant that supports the plant part to keep it straight or away from earth

HH-11.4 What is the Mulching/Pruning/Stalking man days (CHL)

How many numbers mulching/pruning and stalking took place, keeping in mind that different activities took place with different crops

Male

How many male labor were involved in mulching/pruning and stalking?

Female

How many female labor were involved in mulching/pruning and stalking?

Probe if there is need.

HH-11.5 How many time Hoeing took place

Hoeing is done to remove weed, or loosen the earth around plants

HH-11.6 How many time Thinning took place

Thinning is removal of some plants, or parts of plants, to make room for the growth of others

HH-11.7 What is the Hoeing/Thinning man days (CHL)

How many number of hoeing/thinning performed during the crop?

Male

How many male labor were involved in hoeing/thinning?

Female

How many female labor were involved in hoeing/thinning?

Probe if there is need.

12. Crop Harvest

Harvesting is the process of gathering a ripe crop from the fields.

HH-12.1 How many number of cotton picking

Picking is a seasonal activity during harvest time in areas with fruit or cotton growing

HH-12.2 How many number fruit picking

When cotton, fruit or vegetables are nearly matured, they need to be handpicked or cut down. In each picking mature fruit or cotton will be collected. There could be gap of days in each picking.

HH-12.3 How many number of vegetable picking

How many time picking of the crop has been made?

HH-12.4 What is the Picking man days (CHL)

How many Casual Labor have been hired for this activity?

Male

How many male labor were involved in picking?

Female

How many female labor were involved in picking?

Probe if there is need.

HH-12.5 Harvest Material Cost (Tying Wheat and Rice)

Harvest material is the material which is used for binding of wheat and rice crop after harvesting

HH-12.6 Cost of Labor for Harvesting in rs.

HH-12.7 Harvesting by family and permanent hired labor (Acres)

Male

Female

Probe if there is need.

HH-12.8 Harvesting by Contractor

Harvesting carried out by contractor

HH-12.9 Area Harvested

How much area was harvested by contractor?

HH-12.10 Share of Harvesters in output (%)

Was contractor only taking share in crop for harvesting services, how much percentage

HH-12.11 Was contractor charging in cash, mention in PKR/acre

Was contractor providing the services against cash, how much cash per acre.

HH-12.12 Was contractor hired on cash/share crop

Was contractor hired on some cash and some share in crop for harvesting services, mention cost and percentage of the crop being provided.

HH-12.13 Casual Hired Labor (CHL)
(Man-Days per acre)

How many male and female casual hired labor for harvesting?

Male

How many male labor were involved in harvesting?

Female

How many female labor were involved in harvesting?

Probe if there is need.

HH-12.14 Threshing by own tractor and thresher

Was threshing done by farmer himself. Threshing is the process of loosening the edible part of grain from the straw to which it is attached. It is the step in grain preparation after reaping.

HH-12.15 Threshing by family and permanent hired labor

Was threshing carried out by family members or permanently hired labor?

Male

How many male labor were involved in threshing?

Female

How many female labor were involved in threshing?

Probe if there is need.

HH-12.16 Threshing by Contractual (acres)

If threshing was done by contractor, how much acres crop or mounds were paid for services

HH-12.17 Share of Harvesters in output (%)

If threshing was done by contractor, how much %age of crop was paid to harvester

HH-12.18 Was contractor charging in cash, mention in PKR/acre

Was contractor providing the services against cash, how much cash per acre or mounds.

HH-12.19 Casual Hired Labor (CHL) (Man-Days per acre)

How many male and female casual hired labor for threshing?

Male

How many male labor were involved in threshing?

Female

How many female labor were involved in threshing?

Probe if there is need.

13. Yield

Yield of a crop is the in agriculture, the yield is a measurement of the amount of a crop grown, or product such as wool, meat or milk produced, per unit area of land. The seed ratio is another way of calculating agricultural productivity

HH-13.1 Yield Product (Mound/Acre) (Mound = 40 Kg)

The production of crop is called yield and mentioned in KGs or Monds (40Kg)

HH-13.2 Yield by Product (Mound/Acre) (Mound = 40 Kg)

A by-product is a secondary product derived from a production process, manufacturing process or chemical reaction; it is not the primary product. The byproducts of crop are proly, wheat- rice straw and cotton sticks etc.

HH-13.3 Price Product (Rs. /Mound) (Mound = 40 Kg)

Please mention the main product price as of per 40 KG bag

HH-13.4 Price by Product (Rs. /Mound) (Mound = 40 Kg)

Please mention the by-product price as of per 40 KG bag

HH-13.5 *In case sold as such Rs. /Acre for fruit plants only*

Sold Rs/acre means that in fruit growing areas, farmer's sale the fruit of a garden way ahead of the final product on the basis of acreage.

BENEFICIARY'S PERCEPTION ABOUT WATER SAVING

9.1 Do you think use of labor force increased on farm after improvement of water course?

Lining of watercourse improves water for fields and helps in increase of crops. It also brings barren land under cultivation. If Land increased, do farmer think that his labor utilization has been increased after lining?

- 1 Yes Please select yes, if his answer is yes.
- 2 No Please select no, if his answer is no.

If "Yes" in Q.#9.1 then continue with Q#9.2 Otherwise got Q#9.3

If Q 9.1 answer is yes, the Q 9.2 is linked with this yes and android will come to this question. However, if answer in Q 9.1 is no, then android will jump to Question 9.3 and will skip Question 9.2.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 9.2. Otherwise if the answer is 'No' you will skip to Q. # 9.3.

9.2 How much (%)

How many labor have been hired, Give answer in %age? For this you have to take the number of labor involving before lining and number of labor involved after lining. By dividing recent from previous labor and multiply with 100 will give you %age (New/previous*100)
You have to probe that how many workers were involved before improvement and how many after improvement.

9.3 Are you satisfied with the equity in distribution of water?

Farmers get water share according to size of landholding, do farmer think that he gets appropriate share of water according to his landholding?

- 1 Yes
Please select yes, if his answer is yes.
- 2 No
Please select no, if his answer is no.

9.4 How much your land was irrigated before lining in one go?

Water wastes in kacha watercourse, so this question helps to understand that how much land was irrigated in one-time irrigation before lining?

9.5 After lining, how much your land irrigates in one go?

In lined area water do not waste enough, so this question helps to understand that how much land is being irrigated in one-time irrigation after lining? Did he increase some barren land after lining?

9.6 During the season have you faced any problem regarding water theft/ dispute or litigation?

Due to less irrigation water, disputes arises among farmer. Did farmers faced any issue after lining of watercourse?

- 1 Yes
Please select yes, if his answer is yes.
- 2 No
Please select no, if his answer is no.

If "Yes" in Q.#9.6 then continue with Q#9.7 Otherwise go to Q#9.8

If Q 9.6 answer is yes, the Q 9.7 is linked with this yes and android will come to this question. However, if answer in Q 9.6 is no, then android will jump to Question 9.8 and will skip Question 9.2.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 9.7. Otherwise if the answer is 'No' you will skip to Q. # 9.8.

9.7 During and after water course improvement on OFWM team has guided you about economically use of water?

Scientifically it is possible to get more crop with less water, for efficient use of water without wastage, do OFWM team provide you guidance?

1 Yes

Please select yes, if his answer is yes.

2 No

Please select no, if his answer is no.

9.8 Have OFWM team provided you any literature about economically use of water? To use water efficiently without wastage, do OFWM team provide literature to farmers?

1 Yes

Please select yes, if his answer is yes.

2 No

Please select no, if his answer is no.

9.9 General remarks of beneficiaries about watercourse improvement intervention

THE LASER LAND LEVELLER MODULE

QUESTIONNAIRE FOR SERVICE PROVIDER OF LASER UNIT

1. IDENTIFICATION

1.1 Province/Unit

1.2 District

Write the name of the District, where this watercourse is located?

1.3 Tehsil

Write the name of the Tehsil, where this watercourse is located?

1.4 Union Council

Write the name of the Union Council, where this watercourse is located?

1.5 Village

Please write the name of the village where this watercourse is lined?

1.6 NA Constituency

Please mention the constituency of National Assembly number.

1.7 PP Constituency

Please mention the constituency of Provincial Assembly number.

1.8 Name of Service Provider

Mention the name of the person who was given the Laser land leveler equipment

1.9 Father's Name

Provide the name of the father of service provider

1.10 Gender

What is the Gender of the Service provider?

Male

Please mention male if service provider is a male.

Female

Please mention female if service provider is a female.

1.11 CNIC

What is the CNIC number of service provider.

1.12 Cell Number

Please provide the mobile number of service provider.

1.13 Financial Year

1.14 Comments

CHECK LIST FOR TRAINING OF SERVICE PROVIDER /OPERATOR OF LASER LAND LEVELER

Please Note:

- If suggested answer is Yes or No, it means you have to select one of the answer, whichever respondent may give to you.
- Few questions are Assessment relevant and covers rating of satisfaction, starting from "Excellent which means Best and comes to "Not Satisfactory" which means Not Good. These are 5 categories and it is expected that enumerator may select the appropriate answer according to his feeling.

2. AVAILABILITY OF FACILITIES FOR CAPACITY BUILDING

The interviewer will visit the training venue and check the availability of the following facilities.

2.1. **Audio-Visual Aids for Training**

Audio Visual aid means that "Training material which will be used for graphic and listening representation, its includes charts, whiteboard, multimedia, sound system etc."

2.2 **Blackboard**

Check if there is any blackboard available in the training center or class room or place where this training is facilitated

Yes

Please tick "Yes" if blackboard is present

No

In case blackboard is not available then select "No"

2.3 **Flip Charts**

Check if Charts are available for working of trainer and trainees

Yes

If charts are available, select "Yes"

No

If charts are not available, select "No"

2.4 **Overhead Projector (OHP)**

Do you see any overhead projector in the training venue (Though this technology is obsolete now)?

Yes

If OHP is available, select "Yes"

No

If OHP is not available, select "No"

2.5 **Multimedia**

Do you see any Multimedia projector in the training venue for presentations?

Yes

If Multimedia is available, select "Yes"

No

If Multimedia is not available, select "No"

2.6 **White Board**

Check if there is any Whiteboard available in the training center or class room or place where this training is facilitated

Yes

Please tick "Yes" if Whiteboard is present

No

In case Whiteboard is not available then select "No"

2.7 Any other

Any other material including e.g. TV, Computer, video etc. are available to substitute the training.

Yes

If any other material is available, select "Yes"

No

If any other material is not available, select "No"

2.8 Refreshments Provided to the Participants

Did you see that any refreshment, food and water etc. was provided to participants of the training?

Yes

If refreshment was provided, select "Yes"

No

If refreshment was not provided, select "No"

2.9 Necessary Stationery for the trainees

Is there any stationary (copy, pencil, pen etc.) was provided to trainees?

Yes

If stationary provided, select "Yes"

No

If stationary was not provided, select "No"

2.10 Handouts provided to the trainees

Is there any printed material for reading provided to trainees for information and reading?

Yes

If handouts are provided, select "Yes"

No

If handouts are not provided, select "No"

2.11 Copies of the curriculum provided to the trainees

Did any curriculum (course) of training provided to the trainees.

Yes

If provided, select "Yes"

No

If not provided, select "No"

2.12 Field visit during training

Is there any session regarding field visit for the trainees?

Yes

If field visit was carried out, select "Yes"

No

If field visit was not carried out, select "No"

2.13 No. of Participants

How many number of participants were present in the training?

Training period days

How many days this training was continued

3. OTHER ASSESSMENT ITEMS

3.1. Coverage

This portion is related to check that how appropriately curriculum was covered in the training in all aspects

3.2 Extent of coverage of the curriculum

How you think that curriculum was covered during the training.

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.1.2 **Depth of trainer's knowledge**

In your opinion how was the trainer knowledge, was he able to satisfy the questions with appropriate answers or tried to avoid the questions.

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.1.3 **Other related topics covered**

Was trainer giving some additional information other than laser equipment e.g. on agriculture, tractor, fertilization etc.

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2. **Effectiveness of the Speakers/Trainers**

Training effectiveness refers to the quality of the training provided and measuring whether the training met its goals and objectives.

3.2.1 **How subject matter was introduced?**

In good training, trainer need to Introduce the session with a brief overview of the training subject's main points. Explains the information and in the main portion of the session, explain key points etc. If someone can't do, there might be issues with trainer.

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.2 **Use of Participatory Approach**

Participatory Learning is used to gain an in-depth understanding of a situation through active involvement of the participants.

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.3 **Clarity/command on the subject**

It portrays that how much a trainer is clear on subject and how better he conveys his message to the participants

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.4 **Style of delivery**

A speaker's style is simply the unique way in which the information is delivered to the audience. People are different. So, in order to get the message across in the most effective way, the speaker's style must factor into the content of the speech

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.5 **Reference to handouts/training material**

Reference materials are sources that provide background information or quick facts on any given topic. It is to check that trainer use and refer training to this manual.

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.6 **Confidence of the trainer**

It needs to check that trainer overcome shyness and has *confidence* in facing an audience

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.7 **Use of Audio-Visual Aids**

Audiovisual (AV) is electronic media with sound and visual component. How much appropriately the trainer uses the audio visual aid

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.8 **Handouts Provided**

A handout is a printed view of the presentation where each handout page contains from one to six thumbnails of the slides

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.9 **Level of Interest Maintained**

The trainer should know exactly what areas the *trainees* need training and keep them involved. Does the interest of participants maintain during training?

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.10 Managed Session within Time Limit

Time management is the ability to plan and complete your activities and tasks in a timely and productive manner. Check whether the trainer manage training sessions according to curriculum time

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.11 Effective Reply to Questions

Was trainer able to answer the question quickly and according to the query of the trainee?

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.2.12 Explained with examples

Was trainer using day to day examples for the training. Was it a successful method to understand?

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.3. Group Discussion

Group discussion used to share experiences and answer queries from self-knowledge and experience. Was there group discussion among trainees.

3.3.1 Level of Participation of Trainees

How were trainee's participation to discuss things among them and sharing their experiences.

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.3.2 Question Answer Session Held

Was question answer session held and how was the responses of the trainer.

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.3.3 Quality of Group Discussions

How you see the quality of group discussion, was it informative and trainees learnt from it

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.4. Training Environment

A training environment is a setting designed to assist individuals in learning work-related skills or competencies with ease.

3.4.1 Seating Arrangement

How were the seats arranged, were seats organized appropriately?

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.4.2 Comfort of Participants

Were participants feel comfortable during sitting and in training.

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.4.3 General Discipline

How was the discipline of the training, were trainees participating well or they were gossiping?

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.4.4 Participation Environment/Encouragement

How was the environment, did trainer allow the participants to ask any question?

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.4.5 General Treatment Extended by TAT Staff

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.5. Participants/Trainees

How was the participant's attitude towards training, were they trying to learn new things?

3.5.1 Enthusiasm

Enthusiasm is enjoyment, interest and acceptance towards training.

Excellent

Very Good

Good

Satisfactory

Not Satisfactory

3.5.2 Level of Participation/Involvement

How you see that participants were involved towards learning or just passing time

Excellent

Very Good

Good
Satisfactory
Not Satisfactory

3.5.3 Regularity/Attendance

How you see the attendance of the trainees. Were they regular.

Excellent
Very Good
Good
Satisfactory
Not Satisfactory

3.6 Overall Assessment of the Training Process

How you will assess this overall training and its environment and how you look the process of the training?

Excellent
Very Good
Good
Satisfactory
Not Satisfactory

4 COMMENTS OF INTERVIEWER

BENEFICIARY FEEDBACK OF USERS OF LASER LAND LEVELER

1.1 LLL ID: _____

1.2 Farm Area in Acres

How much total landholding he has with him right now?

Cultivated Area in Acres

How much area is under cultivation out of total farm area?

Area Levelled in Acres

How much area is levelled out of total farm area?

Time consumed in hours

How much time consumed for levelling of the area?

Rate per acre

What is the rate of land levelling per acre?

Rate Per hour

What is the rate of land levelling per hour?

Roaster: This Questionnaire will go with repetition or roaster mechanism. Once a crop is selected, all the below questions will be repeated again and again, until skip option is pressed after recording of all the entries.

2. BENEFICIARY (USER) FEEDBACK

Time saving in water application (Hrs)

Do you think your irrigation time has improved in following lands? Mention in Hours.
Please give the data before and after land level.

Fallow Land Before Leveling

Fallow land is a piece of land, which is not sown for crop during the current crop season

2.2 Fallow Land After Leveling

2.3 Sugarcane Before Leveling

2.4 Sugarcane After Leveling

2.5 Rice Before Leveling

2.6 Rice After Leveling

2.7 Cotton Before Leveling

2.8 Cotton After Leveling

2.9 Fodder Before Leveling

2.10 Fodder After Leveling

2.11 Wheat Before Leveling

2.12 Wheat After Leveling

2.13 Maize Before Leveling

2.14 Maize After Leveling

2.15 Sugar Beet Before Leveling

2.16 Sugar Beet After Leveling

2.17 Vegetables Before Leveling

2.18 Vegetables After Leveling

2.19 Any Other Before Leveling

2.20 Any Other After Leveling

3. YIELD LEVEL PER ACRE (40 Kgs)

Here please mention the yield of the crop in Monds (40KG) before and after land leveling?

3.1 Wheat Land Before Leveling

3.2 Wheat Land After Leveling

- 3.3 **Sugarcane Before Leveling**
- 3.4 **Sugarcane After Leveling**
- 3.5 **Rice Before Leveling**
- 3.6 **Rice After Leveling**
- 3.7 **Maize Before Leveling**
- 3.8 **Maize After Leveling**
- 3.9 **Fodder Before Leveling**
- 3.10 **Fodder After Leveling**
- 3.11 **Sugar Beet Before Leveling**
- 3.12 **Sugar Beet After Leveling**
- 3.13 **Cotton Before Leveling**
- 3.14 **Cotton After Leveling**
- 3.15 **Vegetable Before Leveling**
- 3.16 **Vegetable After Leveling**
- 3.17 **Any Other Before Leveling**
- 3.18 **Any Other After Leveling**

4. **OTHER BENEFITS**

What could be the other benefits you are getting after laser land leveling

4.1 **Seed Germination is better than before**

Germination is the process by which a plant comes out from a seed

Yes

If answer is yes, please write "Yes"

No

If answer is no, please write "No"

No Change

If there is no change, please tick it

4.2 **Labor saving in crop operation like hoeing, spread of fertilizer, spray, harvesting etc.**

Laser land leveling can provide benefit in crop operations by saving labor charges. Please ask the questions regarding hoeing, and other operations?

Yes

If answer is yes, please write "Yes"

No

If answer is no, please write "No"

No Change

If there is no change, please tick it

5 **COMMENTS OF INTERVIEWER**

WATER STORAGE TANK (WST)

1. IDENTIFICATION

1.1 Province / Unit?

This question focuses on the province in which the current water storage tank is located which is to be improved. In answer the required province will be selected from the given list.

1.2 Division?

Each Province has more than one divisions, so the required division in which the current water storage tank is located will be selected in the answer from the given list.

1.3 District?

Under each division there are more than one districts. Select the required district in which the current water storage tank is located from the list in answer.

1.4 Tehsil?

Under each district there are more than one tehsils which are also known as sub-districts. Select the required tehsil in which the current water storage tank is located from the list in answer.

1.5 Field Team?

OWFM represents On Farm Water Management Departments. The field team which will visit the site physically and check the current water storage tank are known as OWFM Field team. Name of the field team will be entered in the answer.

1.6 Union Council?

Each Tehsil is sub-divided into more than on villages. Enter the name of the village in which the current water storage tank is improved in answer.

1.7 Village?

Village is known as a group of houses and associated buildings, smaller than a town, situated in a rural area. Enter the name of village in which the current water storage tank is located.

1.8.1 NA Constituency?

The constituency of National Assembly is called NA (National Assembly) followed by a consecutive number; the member of National Assembly is called MNA (Member of National Assembly). Name of the NA constituency will be entered in the answer, under which the current water storage tank is located. (for example NA-31, it represents the NA constituency of that specific area).

1.8.2 PP Constituency?

The constituency of Provincial Assembly is called PA (Provincial Assembly) followed by a consecutive number; the member of Provincial Assembly is called MPA (Member of Provincial Assembly). Name of the Provincial Assembly constituency will be entered in the answer, under which the current water storage tank is located. (for example PK-31, it represents the Provincial constituency of that specific area).

1.9 Name of Farmer?

As this water storage tank will be constructed for a single farmer use, the name of the farmer will be entered.

1.10 Gender?

While it may seem quicker to determine the sex of farmer by referring to their names, it may turn out that a boy's name has given to a girl, or vice versa. The appropriate procedure is to ask the sex through a question, such as (Name) is a woman/girl, isn't she? Select from the options.

- Male.
- Female.

1.11 Name of Father?

Ask the father name of the farmer.

1.12 CNIC?

Enter the CNIC number of the farmer from his ID/CNIC card.

1.13 Cell Number?

Enter the mobile number of the farmer.

1.14 Sources of Irrigation System?

Irrigation is the artificial way of water supply to the soil through various systems of tubes, pumps, canal etc. Irrigation is usually used in areas where rainfall is irregular or dry times or drought is expected. There are many types of irrigation systems, in which water is supplied to the entire field uniformly. This question is asked from farmer to get the information that before which source of irrigation is being used for irrigation? Select suitable option.

- *If Canal Water is the source of irrigation.*
- *If Rainfall is the source of irrigation.*
- *If Tail Water Recovery Ditch (TWRD) is the source of irrigation.*
- *If Canal Stream is the source of irrigation.*
- *If Naala is the source of irrigation.*
- *If Spring is the source of irrigation.*
- *If Tube Well is the source of irrigation.*
- *If Dug Well is the source of irrigation.*

1.15 Area Operated (Acres)?

Enter the total number of area in acres operated by farmer through this water storage tank. "Area operated means area used for cultivation".

1.16 Land Topography

1 Even

2 Uneven

1.17 Financial Year?

By financial year we mean the fiscal year in which water storage tank to be constructed. (for example. 2020-21 starts from July 2020 and ends on June 2021).

1.18 Comments?

Kindly write the comment/remarks of the Enumerator/Interviewer.

SPOT CHECK OF WATER STORAGE TANK (WST)

1. IDENTIFICATION

1.1 WST ID?

Enter current water storage tank ID will that appear here.

1.2 Coordinates?

Enter the coordinated through GPS device of the current water storage device.

2. SPOT CHECK

2.1 Shape of water storage tank?

The shape of the water tank is normally of “Rectangular” or “Square” shape. But it depends on the availability of land on the field. The shape of the water storage tank will be according to the approved design of the Project consultants.

2.2 Dimensions (Feet)?

The dimensions of the water storage tank are calculated in “Feet”. The length and width of both sides along with depth will be entered in Feet.

- Length 1
- Length 2
- Width 1
- Width 2
- Depth

2.3 The farmer completed the WST using his/her own funds before subsidy?

A subsidy is a benefit given to an individual, business, or institution, usually by the government. It is usually in the form of a cash payment. Cost sharing of water storage tanks would be 60 percent by the project and 40 percent by the Farmers.

If the farmer has used his own funds for WST completion before subsidy select Yes.

If the farmer has not used his own funds for WST completion before subsidy select No.

2.4 The WST was completed as per approved standards and specifications?

If the WST is completed according to the approved design, standards and specification given by the Project consultants, select from options:

- Yes.
- No.

2.5 Excavation was done as per standard engineering practices?

Excavation is the process of removing earth to form a cavity in the ground. If the excavation was done as per standard engineering practices, select from options:

- Yes.
- No.

2.6 The NWM Consultants inspected the excavation?

After the excavation NWM consultants will inspect the excavated area on the site.

- If inspected the excavation, select Yes.
- If not inspected the excavation, select No.

2.7 Is the geo-membrane thickness minimum 0.5 mm

A geo-membrane is very low permeability synthetic membrane liner or barrier used with any geotechnical engineering related material so as to control fluid migration in a human-made project, structure, or system. If the geo-membrane thickness is minimum 0.5 mm, select the option.

- Yes.
- No.

2.8 The NWM Consultants inspected the excavation and quality of geo-membrane and certified as satisfactory?

The quality of the geo-membrane and inspection of excavation will be inspected by the NWM consultant and will be certified as satisfactory.

- If certified as satisfactory select Yes.
- If certified as not satisfactory select No.

2.9 Before filling the WST, the OFWM team prepared the completion report?

Before filling of WST, the OFWM team will inspect the WST site physically and will prepare the completion report according to all standards.

- If completion report is prepared select Yes.
- If no completion report is prepared select No.

2.10 Any variations in specifications and material used?

Material and specifications will be used according to approved by the project consultants in WST.

- If any variations found, select Yes.
- If any variations not found, select No.

If YES in Q# 2.10 then continue with Q# 2.11, Otherwise go to Q# 2.12

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 2.11. Otherwise if the answer is 'No' you will skip to Q. # 2.12.

2.11 The subsidy was paid as per cost estimates based on geo-membrane design?

- If subsidy was paid as per cost estimates based on geo-membrane design, select Yes.
- If subsidy was not paid as per cost estimates based on geo-membrane design, select No.

2.12 Does the water depth in WST exceed 5 feet?

Yes.

No.

According to design, WST depth must not exceed the 5 feet. If it would be exceeded, it must be checked that any permission in design has been provided or not.

2.13 Do all joints weld through fusion welding or other similar techniques?

Yes.

No.

Fusion welding is a generic term for welding processes that rely on melting to join materials of similar compositions and melting points.

If yes in Q# 2.13 then continue with Q# 2.14, Otherwise go to Q# 3.

SKIP: Record the code corresponding to the response given. If the answer is 'Yes' continue with Q. # 2.13. Otherwise if the answer is 'No' you will skip to Q. # 3.

2.14 Did the testing of Joints welded parts done before filling the water storage tank?

Yes.

No.

3. COMMENTS?

Kindly write the comment/remarks of the Enumerator/Interviewer.

BENEFICIARIES' FEEDBACK FOR WATER STORAGE TANKS

1. IDENTIFICATION

Q# Field Name

1.1 WST ID?

Enter current water storage tank ID will that appear here.

2. BENEFICIARY FEEDBACK

2.1 Name of Beneficiary / Owner?

Enter the name Beneficiary/Owner of the water storage tank.

2.2 How was your application attended by OFWM staff?

Does the application attend by the OFWM staff took a lot of time or the process was quickly? Select suitable option.

- Promptly
- Took a lot of time

2.3 How you assess survey and design process?

- Fast track
- Lengthy

2.4 Behaviour of OFWM staff?

How was the behaviour of the OFWM staff with the beneficiary during all the process till the completion of WST? Select from option.

- Friendly / Supportive
- Indifferent

2.5 The subsidy was paid?

The subsidy after the completion of WST was paid to beneficiary? Select from option.

- Within reasonable time
- Required a lot of time

2.6 How do you feel about the maintenance of WST?

After construction completion about the maintenance of WST will be asked from the beneficiary. Select suitable option.

- Easy
- Difficult

2.7 Cropping intensity has increased on your farm after WST?

"Cropping intensity refers to raising of a number of crops from the same field during one agricultural year". Select suitable option.

- Yes
- No
- To Some Extent

2.8 Crops / orchards yield has increased after WST?

“Orchards means fruits”. “Yield means an amount produced of an agricultural”. Crops / Orchard yield increased or not? Select suitable option.

- Yes
- No
- To Some Extent

2.9 Your area under cultivation has increased after WST construction?

“Area under cultivation means the area that corresponds to the total sown area”. Has the area increased or not? Select suitable option.

- Yes
- No Change

2.10 Number of irrigation/ acres has increased after WST construction?

- Yes
- No Change

3. COMMENTS.

Kindly write the comment/remarks of the Enumerator/Interviewer.