

1: METHODOLOGICAL OUTLINES

Conceptually, a baseline survey is the study that is done at the beginning of a project to establish the status quo before the project is rolled out. In the baseline surveys, the data is gathered at the outset of a project to portray the pre-project conditions against which future changes amongst a target population can be measured. The information gathered in the baseline consists of data on indicators specifically chosen to monitor project performance on a regular basis. Baseline survey also considers the anticipated use of these indicators at the later time to investigate project effects and impacts. Baseline surveys also provide the basis for subsequent assessment of how efficiently the activity is being implemented and the eventual results achieved and which has a very big bearing on project performance. Lastly, since M&E is integral for any donor to establish future success, they also demand implementing organizations to carryout baseline surveys. In the current baseline survey, an attempt is made to present the existing status of water use, the cropping patterns and yield, the livestock possesses, labor use patterns, female contribution in farming, etc.

1.1 SURVEY METHODOLOGY

A research or survey methodology constitutes the blue print for the collection, measurement and analysis of the data (Kothari, 2005). Baseline design involves the planning of the whole survey project and the outlining the steps to take when conducting the survey. In the following paragraphs, the concepts and areas involved are delineated.

1.2 SAMPLING FRAMEWORK

For the baseline survey sampling frame were those interventions for which **Technical Sanctions are issued**. While samples of these intervention beneficiaries were collected. These beneficiaries consist of the farmers who will use the additional water and or other benefits from NPIWC-II. The beneficiaries consist of two types of farmers:

- a. The owners of a piece of land on the particular watercourse and members of the “Water Users Associations”.
- b. The farmers use the water of the same watercourse but not the owners of the land. They are the tenants, cultivating land either on leasing or on share bases.

1.2.1. Stage-I: Selection of Watercourse

Keeping in view the time, resources and size of the overall size (#) sampling framework, the baseline was planned to be conducted on 2 to 3 % of total planned watercourses. As watercourses were not pre-selected, the sample watercourses were selected at random in phases out of those watercourses for which *Technical Sanctions were issued*. Thus, 1st baseline survey was conducted on 54 watercourses selected randomly for which Technical Sanction was issued. Baseline Phase-1 was conducted on 15th June 2021. The sample of 54 watercourses was selected from the available TS based inventory at Province and District level proportionately.

1.2.2. Stage-II: Selection of Farmer

During the survey, ME&IE field team prepare the list of Shareholders/Beneficiaries on the selected watercourse for second stage sampling. These lists served as sampling frames for the selection of farm households. All the listed shareholders/beneficiaries were divided into three groups, i.e., head, middle and tail. Hence, from each group two households were selected at random for each watercourse. Thus, total number of 324 farmers were randomly selected and their distribution is given in Table 2.1. However, during this selection, due consideration was given to the representation of farm sizes. Moreover, if any female headed farm household was found, that household was purposively selected. If more than one female farm households were found in the same category, then one of them was chosen at random.

Since the ME&IE teams must visit each of the selected household possibly for two times (i.e., baseline, mid-term, or end-term), the availability of the household in the village was also considered while taking the household as sample.

1.2.3. Sample Size Estimation

For determining the sample size, the total number of watercourses was taken as the target population. A sample size of 2 to 3 (%) percent of the total targeted number of interventions were drawn by using simple sampling approach. The sample drawn is divided in proportion of the population amongst provinces/ units/districts, and Union Council/Villages.

The study applied Cochran's Sample Size Formula (Glen, 2021).

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Its most popular form used is given below:

$$\text{Sample Size (n)} = Z\alpha^2 (p) (1-p) / (d)^2$$

Where: "n₀" is the sample size, "t" is the value for the selected alpha level, e.g., 1.96 for (0.25 in each tail) a 95 percent confidence level. "p" is the estimated proportion of an attribute that is present in the population. "q" is 1-p. (p)(q) are the estimate of variance. "d" is the acceptable margin of error for proportion being estimated, so the confidence interval, in decimals.

The overall sample size of various total project interventions area has been estimated at 2% to 3%. The overall NPIWC-II area comprises three provinces namely Punjab, KP and Balochistan, and three units i.e., GB, AJK, ICT. Sample size for each intervention is given in Table-1.

Table-1: Selection of watercourses at stage-I

Province/Unit	Category of WC	Samples WCs
Punjab	20 Years Old	1
	Additional Lining	14
	Regular (New)	4
	Sub-Total	19
KP	20 Years Old	-
	Additional Lining	2
	Regular (New)	15
	Sub-Total	17
Balochistan	20 Years Old	-
	Additional Lining	-
	Regular (New)	11
	Sub-Total	11
AJK	20 Years Old	1
	Additional Lining	1
	Regular (New)	2
	Sub-Total	4
GB	20 Years Old	-
	Additional Lining	-
	Regular (New)	1
	Sub-Total	1
ICT	20 Years Old	-
	Additional Lining	-
	Regular (New)	2
	Sub-Total	2
Overall	20 Years Old	2
	Additional Lining	17
	Regular (New)	35
	Total	54

District wise sample distribution is given under their respective Zone section.

Table-2: District wise sample distribution by location at the watercourse

Prov.	Category of WC	Head	Middle	Tail	Total
Punjab	20 Years Old	2	2	2	6
	Additional Lining	28	28	28	84
	Regular (New)	8	8	8	24
	Sub-Total	38	38	38	114
KP	20 Years Old	-	-	-	-
	Additional Lining	4	4	4	12
	Regular (New)	30	30	30	90
	Sub-Total	34	34	34	102
Balochistan	20 Years Old	-	-	-	-
	Additional Lining	-	-	-	-
	Regular (New)	22	22	22	66
	Sub-Total	22	22	22	66
AJK	20 Years Old	2	2	2	6
	Additional Lining	2	2	2	6
	Regular (New)	4	4	4	12
	Sub-Total	8	8	8	24
GB	20 Years Old	-	-	-	-
	Additional Lining	-	-	-	-
	Regular (New)	2	2	2	6
	Sub-Total	2	2	2	6
ICT	20 Years Old	-	-	-	-
	Additional Lining	-	-	-	-
	Regular (New)	4	4	4	12
	Sub-Total	4	4	4	12
Overall		108	108	108	324

Out of these beneficiaries a sample of 15-20% was drawn proportionally from head, middle and tail particularly in case of watercourse.

This number may vary with increase or decrease in number of beneficiaries. However, due consideration was given to get the representation of the farm size and tenurial status of the beneficiaries in the sample. The purpose of sampling at different locations is to compare the benefits of water usage at different locations on improved intervention after the project activity.

1.3 QUESTIONNAIRES DEVELOPMENT

Collecting data by questionnaire has the advantage of being systematic, cheap, quick and reliable. The questionnaire should contain the queries that you would like to ask the respondents. While designing the survey, the profile of the respondents and on-ground situation must be taken into consideration. Lastly, the terminologies used in the questionnaire should be carefully selected, as these should be well understood by the interviewers and they should be able to effectively convey to the respondents, so that accurate reliable answers can be taken from them. A good questionnaire has four qualities: a) it enables a researcher to draw accurate information; ii) questions are arranged in a logical sequence to work smoothly; c) yields minimum variation in qualitative answers and desired variation for quantitative responses; and, d) facilitate researcher in data processing.

The following sets of questionnaires were developed for gathering different aspects of the project monitoring and evaluation in future.

Table-3: Questionnaires designed, and information sought during the baseline survey

Sr #	Code	Questionnaire
1	MT-1	Brief Profile of Watercourses
2	MT-2	List of Shareholder & Beneficiaries
3	MT-3	Farmer's Feedback & Environment
4	MT-4	Farming Inputs & Outputs
5	MT-5	Social & Gender

The aspects covered in the above sets of questionnaires are delineated in Table-4.

1.4 PRETESTING & FINALIZATION OF THE QUESTIONNAIRES

Before formally initiating the field survey, the questionnaires were pre-tested and changes felt necessary for smooth working of the questionnaires were duly incorporated. The Questionnaires/Tools refinement was made under the observations perceived during the Pretesting of the Questionnaires during April 2021.

1.5 SELECTION OF SURVEY TEAMS

In total, 10 field teams were hired comprising 3 for Punjab, 3 for KP & GB, 3 for Balochistan, and 1 for ICT & AJ&K. The team details are given in respective zone sections. The Organogram (Figure 2) of the ME&IE Key & Non-Key Project team is as below:

1.6 DEVELOPMENT OF BASELINE SURVEY MANUAL

A survey manual provides basic concepts about surveying and is intended for use in the training course and helped enumerator for better understanding of the questionnaire and monitoring tools.

Project prepared a manual for baseline survey; this manual includes all the Modules (Questionnaire) which were used in the 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.

1.7 TRAINING OF THE ENUMERATORS

The survey team consisted of at least graduates belonging to different provinces, fluent in speaking local languages and at least working spoken English language.

Enumerator training is an extremely important part of the primary data collection, and should be planned in advance. It is a joint effort between the field coordinators, the survey firm, and other members of the impact evaluation team (or research team).

Comprehensive training of all teams was arranged at their respective offices. For consistency purposes, a joint meeting of the survey team was arranged to discuss the questionnaire and the ways of asking various questions (especially sensitive and indirect questions) before leaving for the study area. Training content was designed according to the Baseline survey objectives during March 2021.

1.8 TRAINING ON ANDROID BASED DATA COLLECTION APPLICATION

Four-Days virtual training was organized by the ICT Department from 03-05-2021 to 06-05-2021 for the Field Team members (interviewers) and Field Team In-Charge (Field Supervisors) of different Sub Zones.

The main objective of the training was to build capacity among Field Team In-charge and Field Engineers/Data Collectors to use the data collection application independently for Baseline Survey.

1.9 THE DATA COLLECTION

The baseline survey Phase-I was started on 15th June 2021 simultaneously in all Zones/Units. The data collection work was completed on 26th June 2021. A Computer Assisted Personal Interviewing (CAPI) platform was developed for all the baseline data collection forms. The CAPI is a tab-based Android application. All the data collection teams had been given training on CAPI and each team member was given a tab with CAPI installed. Each team was also given an internet device so that the team could update the database daily. The internet connection also enabled core team at the National Office to monitor locations of the teams.

Android is a mobile operating system. It is designed mainly for smartphones and tablets. Before the data collected from the field on various relevant Proforma / questionnaires were programmed in android form so that it may be transmitted immediately to the Management Information System (MIS) directly from the field. It not only saves time, data entering exercise but also will ensure the quality of data.

1.10 FIELD TEAM MOBILIZATION AND SELECTION OF DISTRICTS

The baseline survey Phase-I was started on 15th June 2021 simultaneously in Punjab, Balochistan, KP, ICT, AJK, & GB. The data collection work was completed on 24th June 2021 in all units.

In Balochistan, three field teams were established, Team 1 covered Naseerabad and Sohbatpur districts, Team 2 Covered Mastung, Killa Abdullah, Killa Saifullah and Loralai (04 districts) & Team 3 covered Quetta, Pishin, and Kalat districts.

In KP three teams were formed, Team -1 covered Peshawar & Mardan zone, Team 2 covered Bannu, DI Khan & Kohat area & Team 3 covered Hazara & GB area.

In Punjab three teams collected data during the period, Team 1 covered Lahore Faisalabad Sahiwal Districts, Team 2 covered Gujranwala Sargodha Districts & Team 3 covered Multan, Bahawalpur, D.G. Khan Districts.

In ICT & AJ&K, one field team was established, they covered ICT, AJ&K areas and covered Chakwal, Rawalpindi, Jhelum, and Attock Districts.

All the field teams worked without break on weekends/holidays to keep the momentum of activity & intact with data Collection Schedule approved and used an android app for collection of data. The cooperation and assistance provided by OFWM field teams and staff of district and regional level to M&E survey teams in completing their tasks was commendable.

Each team was also given an internet device so that the team could update the database daily. The internet connection also enabled the core team at ICT office to monitor locations of the teams.

1.11 QUALITY ASSURANCE DURING DATA COLLECTION

The data quality through Android application was ensured throughout the data collection and compilation/tabulation process with respect to completeness, accuracy, and timeliness, through continuous feedback/support and close monitoring by team leader throughout the data collection/tabulation process. This approach has inbuilt mechanism to monitor the data collection, both in terms of progress of work and of quality of the collected data, throughout the process. This makes it possible for the team leader to virtually keep track, provide feedback, correct mistakes and if necessary, and request re-visits. This mechanism was allowed to be corrected during data collection process, without waiting for the time when entire data would be collected and entered because meanwhile all the field team would have returned to their home-base.

The provision of detailed guidelines and timeline, consistency in the definitions/terminology used, and structured procedures of each activity helped in ensuring the data quality.

Finally, qualitative data was collected, which will be used to highlight significant stories of change (in target area) and will be shared with the client to follow up on. Such individuals can be followed over the duration of the

project for follow-up interviews, to get more data to assess the incremental change in their lives along with underlying reasons.

1.12 THE DATA ANALYSIS

The data collection process through the Android application passes through the input data form built-in logical flows and validation checks on the fly to improve the data quality. The received data through android application to aggregate server, store all data in central database. Which further put processes from data cleaning, data validation to data analysis for the preparation of final summary tables and detailed annexure tables.

A dedicated ICT team consisting of Data Analysts worked on to systematize the variables and define coding schemes in SPSS (Statistical Package for the Social Sciences). The analysis process was done by adopting multiple statistical and analytical techniques. Regression analysis and correlations were adopted as per the requirement for relationship among independent and dependent data variables.

By using the primary data collected from field and secondary data, several calculations were performed to obtain the indicators-based values.

1.13 LAND UTILIZATION AND CROPPING INTENSITY

Monitoring land use patterns has been considered as an important indicator for future monitoring the effects and impacts.

Land utilization means classifying farm area according to its use as cultivated area (net sown area and current fallow) and uncultivated area (forestes, culturable waste (*Banjar Jadeed* and *Banjar Qadeem*), and area not available for cultivation). Total culturable area includes cultivated area and culturable waste.

The following terms are used while estimating the land use patterns. Two parameters are estimated out of it, i.e., land use intensity and cropping intensity. The following terms are employed for their estimation.

- i. Total area reported: It can be the total physical area of the farm, village, tehsil, or district etc. It includes cultivated area (net area sown + current fallow), culturable waste, unculturable land and forest area.
- ii. Forest Area: The area of any land classed or administered as forest under any legal enactment dealing with forests. Any cultivated area which may exist within such forest should be excluded and shown under the heading cultivated area.
- iii. Total cropped area: The sum of total area sown during Kharif and Rabi seasons during a given year including Zaid Karif and Zaid Rabi.
- iv. Not available for cultivation: The land absolutely barren, roads, canals, tanks, beds of rivers, torrents and ravines, sites of villages, houses hills, mountains. Sand dunes and all land devoted to uses alien to agriculture.

At farm level, the area not available for cultivation is that part of the uncultivated area of the farm house, barn, storage, farm roads and channels etc.

- v. Culturable waste: All cultivable land not actually cultivated. It should include all grazing and other land not included under forest.

At farm level, culturable waste is that uncultivated farm area which is otherwise fit for cultivation but was not cropped during the census year or in the year before due to any constraint like non-availability of water, water logging, salinity, non-leveling, manpower and/or financial problems.

- vi. Cultivated area: The land currently being used for agricultural purposes, included land under crops, orchards as well as current fallow. It is the area net sown plus current fallow. At farm level, the cultivated pertains to the area sown at least once during the survey year or a year before. It is the sum of net sown area and current fallow.

vii. Current fallow: The part of the cultivated area which has not been used for cropping during the year under reference but for which the total vacant period does not exceed three crop seasons. The land remaining vacant for more than three successive seasons is shown under the head “cultivable waste”.

At farm level, current fallow means that cultivated farm area which was not cropped during the survey year for the purpose of regaining fertility and/or other reasons, but was cropped during preceding year.

viii. Net area sown: The area which has been sown at least once in a year. It will include area under crops, fruit, vegetable etc. At farm level, the net sown area refers to the cultivated farm area which was actually cropped during the survey year regardless of whether crop was harvested or failed and/or the number of crops raised, and also includes area under orchards.

ix. Area sown more than once: The difference between the total cropped area and net sown.

The cropping pattern on a farm shows the relative share of each crop in total cropped area grown in one year. It was computed as:

$$PA_i = \frac{AR_i}{\sum_{i=1}^n AR_i} \cdot 100$$

Where:

PA_i = Percent of total cropped area under i th crop in a cropping season.

AR_i = Total area under i th crop in a cropping season.

$\sum AR_i$ = Total cropped area (sum of area under various crops) in a cropping season.

The cropping intensity refers to the ratio of cropped area to the total area cultivated expressed in percentage. The formula used for computing cropping intensity is given below.

Cropping Intensity = (Total cropped Area ÷ Total Cultivated Area) × 100

Total cropped area means the aggregate area of crops raised at a farm during the year including the area under orchards or gardens.

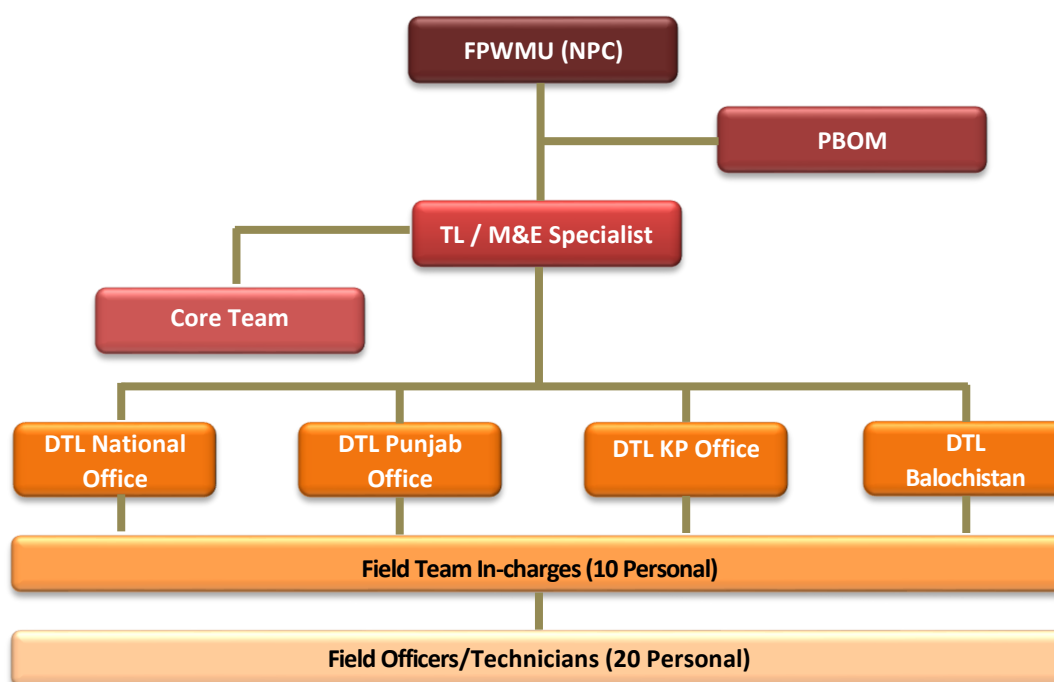
Land use intensity represents the cultivated area measured in terms of total culturable area multiplied by 100.

Land Use Intensity = (Total cultivated area ÷ Total Culturable Area) × 100

Table-4: Aspects of information included for gathering data from sampled farmers in the project NPIWC-II project area.

Profile of sampled watercourses (MT-WC-01)	Profile of the shareholders & beneficiaries (MT-WC-02)	Beneficiary farmers' farming profile (MT-WC-03)	Beneficiary farm household's profile (MT-WC-04A)	Crop farming by Beneficiary farmer (MT-WC-04B)	Beneficiary's views about water saving (MT-WC-04C)	Social Structure and Gender (MT-WC-05)
Identification	Identification	Identification	Identification	Identification	Identification	Identification
Nature of irrigation method used	Beneficiary's farming profile	Land composition	Beneficiary's profile	Area allocated to various field and horticultural crops by seasons	Beneficiary perceptions about water saving	Personal profile
Previous improvement s record	Status of beneficiary in Water Users Association	Water Users' Association Details Before Construction	Farming household's profile	Land preparation activities by crops	Pre- and post-lining water availability situation	Farming control

Profile of sampled watercourses (MT-WC-01)	Profile of the shareholders & beneficiaries (MT-WC-02)	Beneficiary farmers' farming profile (MT-WC-03)	Beneficiary farm household's profile (MT-WC-04A)	Crop farming by Beneficiary farmer (MT-WC-04B)	Beneficiary's views about water saving (MT-WC-04C)	Social Structure and Gender (MT-WC-05)
Location of the farm w.r.t. watercourse	Location of the beneficiary w.r.t. watercourse	Prevalence of waterlogging and salinity	Farm size and tenurial status	Laser land leveling details, if carried out by crops	Pre- and post-lining area irrigated	Farming and household related decisions processes
Water supply nature of the watercourse		Use of watercourse water other than agriculture	Livestock farming profile	Seedbed preparation activities by crops	Views about more equitable water distribution achieved	Knowledge about NPIWC-II
		<i>A priori</i> anticipations about project outputs		Seed sowing and seedlings plantation by crops		
		Post project farming plans and strategies		Fertilizer use patterns by crops		
		Labor use patterns		FYM application by crops		
		During construction aspects		Plant protection measures by crops		
		Labor use patterns		Canal and tubewell irrigations by crops		
		Future environment		Crop specific operations hoeing, thinning, mulching, pruning, staking		
				Harvesting/picking by crops		
				Yield obtained by crop types		
				Price obtained by crops		
				Pre-harvest contracting price of fruit orchards		



FPMU Federal Project Management Unit
 DTL Deputy Team Leader
 M&E Monitoring and Evaluation

PBOM --- Project Board of Management
 TL --- Team Leader

Figure-1: Organogram of ME&IE Key & Non-Key Project team

$$\text{Sample Size (n)} = Z\alpha^2 (p) (1-p) / (d)^2$$

Where “d” is the margin of error, which is 10 %; “p” is prevalence i.e. the probability of the indicator to be measured that is 50%. The Consultants will apply 95% confidence level ($Z\alpha = 1.96$) that the true value for an indicator would be within two Standard Errors (S.E.) of prevalence (p).

Sample Size Estimation by Random Sampling

Sample Frame	2,655,887
Confidence Interval	95%
Z-Value	1.96
Expected Margin of Error (e)	5%
Expected frequency for key outcomes (p)	50%
q = (1-p)	50%
Required Sample Size if Total Population was unknown	384
Required Sample Size in final cleaned data	384
Expected Rejected Data Rate	10%
Sample Size	423
Design Effect	1
Final Sample Size	423

Random Sampling

Sample Frame	38
Confidence Interval	95%
Z-Value	1.96
Expected Margin of Error (e)	20%
Expected frequency for key outcomes (p)	50%
q = (1-p)	50%
Required Sample Size if Total Population was unknown	24
Required Sample Size in final cleaned data	15
Expected Rejected Data Rate	10%
Sample Size	16
Design Effect	1
Final Sample Size	16

MT-01: GENERAL PROFILE

A. Introductory Information

1	Date:
2	Water Channel ID or #:
3	Name of the enumerator?
4	Province?
5	District?
6	Tehsil?
7	Union Council?
8	Village?
9	Location of the farm OR Farm located in the?
	i Canal area
	ii Non-Canal area
10	Type of intervention made under OFWM?
	i Water channel
	ii Water Storage Tank
	If in Canal Area and Water Channel Constructed, then Continue; Otherwise go to Q.# 30
11	If in Canal Area: Name of the Canal?
	i Name of the Canal Branch?
	ii Name of the Distributary?
	iii Name of the Minor?
12	Location on the branch/distributary/minor?
	i Head
	ii Middle
	iii Tail
13	Is the Water Channel Lining made at your farm by OFWM Depart.?
	i Yes
	ii NO
14	If YES, when you have applied for it (Application date)? DD/MM/YYYY
15	If YES, when its survey and design were prepared (Feasibility date)? DD/MM/YYYY
16	If YES, when it was approved (Approval date)? DD/MM/YYYY
17	If YES, when its technical sanction was issued (Sanction date)? DD/MM/YYYY
18	If YES, when its actual construction began (Construction-Begin)? DD/MM/YYYY
19	If YES, when its construction completed (Construction-End)? DD/MM/YYYY
20	If YES, when its Final Completion Report Issued (FCR-Report)? DD/MM/YYYY
21	If FCR Issued, when the subsidy money paid to the farmer (Subsidy-Paid)? DD/MM/YYYY
22	How much time taken to pay the subsidy after FCR?
	i Within reasonable time
	ii Required a lot of time
23	Days taken (#)
24	How you assess survey and design process?
	i Fast track
	ii Lengthy
25	Indifferent/Could not explain clearly
26	If lengthy, how much period (days) it has taken?
27	Behavior of OFWM staff?
	i Friendly / Supportive
	ii Professional & interactive
	iii Indifferent
28	Does any body taken / demanded any money from you at any stage?
	i Yes
	ii NO
29	If YES, how much money you gave (Rs.)?
	Water Storage Tank (WST) Construction
30	Is the Water Storage Tank made at your farm by OFWM Department?
	i Yes
	ii NO
31	If YES, when you have applied for it (Application date)? DD/MM/YYYY
32	If YES, when its survey and design were prepared (Feasibility date)? DD/MM/YYYY
33	If YES, when it was approved (Approval date)? DD/MM/YYYY

MT-01: GENERAL PROFILE

34	If YES, when its technical sanction was issued (Sanction date)? DD/MM/YYYY
35	If YES, when its actual construction began (Construction-Begin)? DD/MM/YYYY
36	If YES, when its construction completed (Construction-End)? DD/MM/YYYY
37	If YES, when its Final Completion Report Issued (FCR-Report)? DD/MM/YYYY
38	If FCR Issued, when the subsidy money paid to the farmer (Subsidy-Paid)? DD/MM/YYYY
39	How much time taken to pay the subsidy after FCR?
	i Within reasonable time
	ii Required a lot of time
40	Days taken (#)
41	How you assess survey and design process?
	i Fast track
	ii Lengthy
	iii Indifferent/Could not explain clearly
42	If lengthy, how much period (days) it has taken?
43	Behavior of OFWM staff?
	i Friendly / Supportive
	ii Professional & interactive
	iii Indifferent
44	Does any body taken / demanded any money from you at any stage?
	i Yes
	ii NO
45	If YES, how much money you gave (Rs.)?
B. Farmer's Introduction	
46	Name of the Farmer?
47	Father Name?
48	Cellphone Numbers?
49	CNIC?
50	Gender?
	i Male
	ii Female
51	Age of the Farmer (Years)?
52	Education (Years of formal Schooling)?
53	Farming Experience (years)?
C. Farm Profile	
1. LAND HOLDING AND ITS COMPOSITION BY OWNERSHIP	
54	Area Owned (Acres) (Before Intervention)?
54	Area Owned (Acres) (After Intervention)?
55	Area rented in (Acres) (Before Intervention)?
55	Area rented in (Acres) (After Intervention)?
56	Annual rent paid (Rs/acre) (Before Intervention)?
56	Annual rent paid (Rs/acre) (After Intervention)?
57	Area rented out (Acres) (Before Intervention)?
57	Area rented out (Acres) (After Intervention)?
58	Annual rented obtained (Rs/acre) (Before Intervention)?
58	Annual rented obtained (Rs/acre) (After Intervention)?
59	Shared-in land (acres) (Before Intervention)?
59	Shared-in land (acres) (After Intervention)?
60	Value of output paid in 2020-21 (Rs.) (Before Intervention)?
60	Value of output paid (Rs.) (After Intervention)?
61	Shared-out land (acres) (Before Intervention)?
61	Shared-out land (acres) (After Intervention)?
62	Value of output obtained in 2020-21 (Rs.) (Before Intervention)?
62	Value of output obtained (Rs.) (After Intervention)?
63	Total operational land holding (Acres) (Before Intervention)?
63	Total operational land holding (Acres) (After Intervention) ?
64	Total number of parcels of the operational holding (#) (Before Intervention)?
64	Total number of parcels of the operational holding (#) (After Intervention)?
65	Tenaurial status (Before Intervention)?
	i Owner

MT-01: GENERAL PROFILE	
	ii Owner cum Tenant
	iii Tenant
65	Tenurial status (After Intervention)?
	i Owner
	ii Owner cum Tenant
	iii Tenant
2. LAND AND ITS COMPOSITION BY USAGE & SUITABILITY	
66	Total area cultivated (Acres) (Before Intervention)?
66	Total area currently cultivated (Acres) (After Intervention)?
67	Total area not cultivable due to permanent structures (ponds/wells/sheds/stores/paths) (Acres) (Before Intervention)?
67	Total area not cultivable due to permanent structures (ponds/wells/sheds/stores/paths) (Acres) (After Intervention)?
68	Total culturable wastelands (can be cultivated, but after some improvements) (Acres) (Before Intervention)?
68	Total culturable wastelands (can be cultivated, but after some improvements) (Acres) (After Intervention)?
69	Total area left fellow (Acres) (Before Intervention)?
69	Total area left fellow (Acres) (After Intervention)?
70	Total area planted in both rabi and kharif seasons (Acres) (Before Intervention)?
70	Total area planted in both rabi and kharif seasons (Acres) (After Intervention)?
71	Land type of major parcel?
	i Sandy/Raitli
	ii Loam/Mera
	iii Sandy loam/Halki Mera
	iv Clayee/Chikni or pacci
	v Clay loam/Heavy Mera
	vi Other
72	Any problem of major parcel (Before Intervention)?
	i Waterlogging
	ii Salinity
72	Any problem of major parcel (After Intervention)?
	i Waterlogging
	ii Salinity
If Waterlogging, then Continue; Otherwise go to Q.# 74	
73	If Waterlogged, its extent (Before Intervention)?
	i Low, became very wet in rainy season
	ii Medium, frequently wet
	iii High, all times wet
73	If Waterlogged, its extent (After Intervention)?
	i Low, became very wet in rainy season
	ii Medium, frequently wet
	iii High, all times wet
74	Area suffered from water logging (Acres)?
Salinity Prevalence	
75	If Saline, its current salinity extent (Before Intervention)?
	i Low
	ii Medium
	iii High
76	If Saline, its salinity extent (After Intervention)?
	i Low
	ii Medium
	iii High
77	Area suffered from salinity (Acres)?
78	Drainage status of major parcel (Before Intervention)?
	i Well drained
	ii Poorly drained
79	Drainage status of major parcel (After Intervention)?
	i Well drained

MT-01: GENERAL PROFILE		
	ii	Poorly drained
	80	Water table at present (Feet) (Before Intervention)?
	81	Water table (Feet) (After Intervention)?
3. Farming System / Environment		
		Farming System / Environment
	82	Your farming system/environment (Before Intervention)?
	i	Rainfed system
	ii	Irrigated system
	iii	Mix
	83	Your farming system/environment (After Intervention)?
	i	Rainfed system
	ii	Irrigated system
	iii	Mix
		If Irrigated, then Continue; Otherwise go to Q.# 84
	84	If Irrigated or Mix, type of water source?
	i	Perennial canal
	ii	Seasonal Canal
	iii	Tail Water Recovery Ditch (TWRD)
	iv	Tube well
	v	Dug well
	vi	Lift Pump
	vii	Stream
	viii	Spring
	ix	Nullah or Nallah
	x	Rodh Kohi
	xi	Other (e.g., Karez, etc.)
	85	If Irrigated/Mixed, then category of water channel to be improved?
	i	Regular (New)
	ii	20 Years Old (Rehabilitation)
	iii	Additional Lining
	iv	Other
	86	If Irrigated/Mixed, the type of lining of the Water Channel?
	i	Rectangular/ bricks
	ii	Pre cast parabolic segment (PCPS)
	iii	Steel Pipe
	iv	PVC 3"
	v	PVC 4"
	vi	PVC 6"
	vii	RCC pipe
	viii	PCC
	ix	HDPE (High Density Poly ethylene type of plastic used)
	x	Stone masonry
	xi	Geomembrane
	xii	Mix (Any combination)
	87	If Irrigated or Mix, irrigation source (Multiple choices allowed)?
	i	Canal
	ii	Tail Water Recovery Ditch (TWRD)
	iii	Tube well

MT-01: GENERAL PROFILE		
	iv	Lift pump
	v	Dug well
	vi	Stream
	vii	Spring
	viii	Nullah or Nallah
	ix	Rodh Kohi
	x	Other
88	If tube well/dug well water used, then quality of underground water?	
	i	Fit for irrigation
	ii	Unfit for irrigation
D. Water Channel Water Usages and its Maintenance		
89	Any practice of washing clothes on the banks of water channels (Before Intervention)?	
	i	Yes
	ii	NO
89	Any practice of washing clothes on the banks of water channels (After Intervention)?	
	i	Yes
	ii	NO
89	If YES, then what is the status of their number (After Intervention)?	
	i	Increased
	ii	Decreased
	iii	No change
	iv	Do not know
90	Any practice of bathing animals on the banks of water channels (Before Intervention)?	
	i	Yes
	ii	NO
90	Any practice of bathing animals on the banks of water channels (After Intervention)?	
	i	Yes
	ii	NO
90	If YES, then what is the status of their number (After Intervention)?	
	i	Increased
	ii	Decreased
	iii	No change
	iv	Do not know
91	Any practice of bringing animals at water channels for drinking water purpose (Before Intervention)?	
	i	Yes
	ii	NO
91	Any practice of bringing animals at water channels for drinking water purpose (After Intervention)?	
	i	Yes
	ii	NO
91	If YES, then what is the status of their number (After Intervention)?	
	i	Increased
	ii	Decreased
	iii	No change
	iv	Do not know
92	Any provision of culverts on the water channels for crossing of carts, vehicles, etc. (Before Intervention)?	
	i	Yes

MT-01: GENERAL PROFILE		
	ii	NO
	92	Any provision of culverts on the water channels for crossing of carts, vehicles, etc. (After Intervention)?
	i	Yes
	ii	NO
	92	If YES, then what is the status of their number (After Intervention)?
	i	Increased
	ii	Decreased
	iii	No change
	iv	Do not know
	93	Was there any theft of water (Before Intervention)?
	i	Yes
	ii	NO
	93	Is there any theft of water now (After Intervention)?
	i	Yes
	ii	NO
	93	If YES, then what is the status their number (After Intervention)?
	i	Increased
	ii	Decreased
	iii	No change
	iv	Do not know
	93	Any change in the flow of water noticed After Intervention?
	i	Increased
	ii	Decreased
	iii	No change
	iv	Do not know
	94	If INCREASED, the how much?
	i	5%
	ii	10%
	iii	15%
	iv	20%
	v	25%
	95	If DECREASED, the how much?
	i	5%
	ii	10%
	iii	15%
	iv	20%
	v	25%
	96	How the water channel cleanliness was maintained Before Intervention?
	i	Regularly cleaning weeds by the farmers located on it
	ii	Not regularly cleaned, only need basis
	iii	Other
	97	If Cleaned on need basis, cleanliness status (Before Intervention)?
	i	No vegetation/weeds on the days of irrigation
	ii	No rubbish/garbage throwing in water channel
	iii	Mix
	iv	Other
	97	Level of cleanliness of the water channel (After Intervention)?

MT-01: GENERAL PROFILE	
	i No vegetation/weeds on the days of irrigation
	ii No rubbish/garbage throwing in water channel
	iii Mix
	iv Other
E. Water Storage Tank (WST)	
98	Have you made any any arrangements like Water Storage Tank (WST)?
	i Yes
	ii NO
99	If YES, When?
	i Before OFWM Intervention
	ii With the Assistance of OFWM
100	If with the assistance of ONWM, then its construction shape?
	i Trapezoidal
	ii Rectangular
	iii Brick/Masonry
	iv Geomembrane
	v PCC
	vi Any other, specify
101	If Storage Tank made by OFWM, source of water (Before Intervention)?
	i Canal
	ii Tail Water Recovery Ditch (TWRD)
	iii Tube well
	iv Lift pump
	v Dug well
	vi Stream
	vii Spring
	viii Nullah or Nallah
	ix Rodh Kohi
	x Other, if any
101	If Water Storage Tank made, then source of water (After Intervention)?
	i Canal
	ii Tail Water Recovery Ditch (TWRD)
	iii Tube well
	iv Lift pump
	v Dug well
	vi Stream
	vii Spring
	viii Nullah or Nallah
	ix Rodh Kohi
	x Other, if any
102	If Storage Tank made, then water filling method (Before Intervention)?
	i Gravitational flow down
	ii Pumped up by tube well/water pumps
	iii Any other
102	If Storage tank, then water filling method (After Intervention)?
	i Gravitational flow down
	ii Pumped up by tube well/water pumps

MT-01: GENERAL PROFILE	
	iii Any other
103	If Pumped, type of pipes used for taking water to the tank (Before Intervention)?
	i Steel Pipes
	ii PVC Plastic Pipes
	iii Concrete Pipes
	iv High density polyethylene (HDPE) water pipes
	v Mix
	vi Any other
103	Type of pipe used for taking water to the tank (After Intervention)?
	i Steel Pipes
	ii PVC Plastic Pipes
	iii Concrete Pipes
	iv High density polyethylene (HDPE) water pipes
	v Mix
	vi Any other
104	If Pumped, then status of tube well pump (Before Intervention)?
	i Owned
	ii Shared
	iii Purchased
104	If Pumped, then status of tube well pump (After Intervention)?
	i Owned
	ii Shared
	iii Purchased
	If Shared in Q.#.90, then go to Q.#.93; & If Purchased in Q.#.90, then go to Q.#95; Otherwise Continue
105	If OWNED, then average pumping cost per hour (Before Intervention)?
105	If OWNED, then average pumping cost per hour (After Intervention)?
106	If OWNED, average time taken per irrigation per acre (hours) (Before Intervention)?
106	If OWNED, average time taken per irrigation per acre (hours) (After Intervention)?
107	If SHARED, then share percentage in pumping cost (Before Intervention)?
107	If SHARED, then average pumping cost per hour (After Intervention)?
108	If SHARED, average time taken per irrigation per acre (hours) (Before Intervention)?
108	If SHARED, average time taken per irrigation per acre (hours) (After Intervention)?
109	If PURCHASED, then average pumping cost per hour (Before Intervention)?
109	If PURCHASED, then average pumping cost per hour (After Intervention)?
110	If PURCHASED, average time taken per irrigation per acre (hours) (Before Intervention)?
110	If PURCHASED, average time taken per irrigation per acre (hours) (After Intervention)?
111	Were any trees cut down from the place of Water Storage Tank?
	i Yes
	ii No
	iii No tree present (or only shrubs)
112	If YES, then how many trees were cut down (#)?
113	Types of trees cut down?
	i Timber/Furniture purpose wood
	ii Firewood/Fuel purpose
	iii Shady trees
	iv Both/Mix
	v Any Other, specify

MT-01: GENERAL PROFILE		
	114	How many saplings were planted against each tree cut down (#)?
	115	Types of trees planted?
	i	Timber/Furniture purpose wood (#)
	ii	Firewood/Fuel purpose (#)
	iii	Shady trees (#)
	iv	Both/Mix (#)
	v	Any Other, specify (#)
	116	Number of survived trees?
		Types of trees survived?
	i	Timber/Furniture purpose wood (#)
	ii	Firewood/Fuel purpose (#)
	iii	Shady trees (#)
	iv	Both/Mix (#)
	v	Any Other, specify (#)
	117	Were ANY arrangements made to protect newly planted saplings?
	i	Yes
	ii	No
	118	If YES, types of protection arrangements made?
	i	Covered with thorny materials
	ii	A ring of bricks made around the trees
	iii	Both
	iv	Other, if any
	119	Prior to the construction of WST, was the soil properly compacted?
	i	Yes
	ii	No
	iii	Cannot say with certainty as I was not present
	iv	Any Other, specify
	120	Was the quality of the material used in construction was satisfactory?
	i	Yes
	ii	No
	iii	Cannot say with certainty as I was not present
	iv	Any Other, specify
	121	If Not Satisfactory, deficiency types noticed & in what perspectives?
	i	Improper compaction before plastering the floor
	ii	Improper cement-sand-bajri (small stones) ratio used in the floor
	iii	Improper cement-sand ratio used during plastering
	iv	Average quality bricks were used in the side walls
	v	Low skilled masonry work
	vi	Any other-1, specify
	122	Any difficulty in maintaining the WST after construction?
	i	Yes
	ii	No
	123	If Difficult to maintain WST, then how?
	i	Broken at many places to be repaired frequently
	ii	Cracks in the plaster at many places need to be repaired
	iii	Security/theft concerns as being away from home
	iv	Green algae/fungus development at the bottom of the tank

MT-01: GENERAL PROFILE	
	v Any Other, specify
124	Cropping intensity has increased on your farm after WST construction?
	i Yes
	ii No
125	If Yes, % of total farm area irrigated before construction of WST?
126	If Yes, % of total farm area irrigated after construction of WST?
127	If Yes, % farm area planted twice a year (rabi & kharif) after WST construction?
128	Do the crop production or yields increased after the WST construction?
	i Yes
	ii No
129	If YES, the approximate percentage of increase in crop production?
130	Do orchards production has increased after WST construction?
	i Yes
	ii No
131	If YES, the approximate percentage of increase in fruit production?
F. Labor Employment Patterns	
132	Have you hired any labor for farming (Before Intervention)?
	i Yes
	ii NO
132	Have you hired any labor for farming (After Intervention)?
	i Yes
	ii NO
133	If YES, then its type (Before Intervention)?
	i Permanent Hired Labour (PHL)
	ii Casual Hired Labor (CHL)
	iii Family labor on mutual exchange basis with other HH
133	If YES, then its type (After Intervention)?
	i Permanent Hired Labour (PHL)
	ii Casual Hired Labor (CHL)
	iii Family labor on mutual exchange basis with other HH
134	If PHL, then how many labourers (#) (Before Intervention)?
134	If PHL, then how many labourers (#) (After Rehabilitation)?
135	If PHL, average cost per month in monetary terms (cash + food + farm output) (Rs./month/person) (Before Intervention)?
135	If PHL, average cost per month in monetary terms (cash + commodity form) (Rs./month/person) (After Rehabilitation)?
136	If CHL, then daily wage rates paid (cash + food + food + farm output) (Rs.) (Before Intervention)?
	i Normal period
	ii Peak season (sowing & harvesting periods)
136	If CHL, then daily wage rates paid (cash + food + farm output) (Rs.) (After Rehabilitation)?
	i Normal period
	ii Peak season (sowing & harvesting periods)
137	Livestock currently present at your farm (Before Intervention)?
	i Adult buffaloes (#)
	ii Buffalo Young Stock (#)
	iii Adult cows/cattle (#)
	iv Cow/Cattle Young Stock (#)
	v Sheep (#)
	vi Goats (#)
	vii Chicken birds (#)
	viii Ducks (#)
	ix Donkeys/Mules (for carriage, pull cart purposes)

MT-01: GENERAL PROFILE	
	x Dogs (for watch/ward of the farm or house)
	xi Any Other, Specify
138	Livestock presence at your farm (After Intervention)?
i	Adult buffaloes (#)
ii	Buffalo Young Stock (#)
iii	Adult cows/cattle (#)
iv	Cow/Cattle Young Stock (#)
v	Sheep (#)
vi	Goats (#)
vii	Chicken birds (#)
viii	Ducks (#)
ix	Donkeys/Mules (for carriage, pull cart purposes)
x	Dogs (for watch/ward of the farm or house)
xi	Any Other, Specify
G. Family Size and Gender Role	
139	Family Size (#)
140	Adult males (#)?
141	Adult females (#)?
142	Children (#)?
1. FEMALE HOUSEHOLD HEAD CONSULTATION	
143	Does Female Household Head Consulted in matters like Before Intervention?
i	Household related matters
ii	Crops related matters
iii	Livestock related matters
iv	Both household and farming related matters
v	Other, if any
143	Does Female Household Head Consulted in (After Intervention)?
i	Household related matters
ii	Crops related matters
iii	Livestock related matters
iv	Both household and farming related matters
v	Other, if any
D. RAINFALL PATTERNS AND CLIMATE CHANGE	
1. RAINFALL OCCURENCE AND WATER AVAILABILITY	
144	Rainfall Occurrence Patterns in <i>Rabi</i> Season?
i	Insufficient rainfall at planting time causing low yields
ii	Insufficient rainfall at critical stages of crop growth (flowering, grain formation, grain maturity, etc.) resulting in low yields and/OR crop failures
iii	Heavy rainfalls at planting time making late plantation of rabi crops
iv	Heavy rainfall at critical stages of crop growth (flowering, grain formation, grain maturity, etc.) resulting in low yields and/OR crop failures
145	Rainfall Occurrence Patterns in <i>Kharif</i> Season?
i	Insufficient rainfall at planting time causing low yields
ii	Insufficient rainfall at critical stages of crop growth (flowering, grain formation, grain maturity, etc.) resulting in low yields and/OR crop failures
iii	Heavy rainfalls at planting time making late plantation of rabi crops
iv	Heavy rainfall at critical stages of crop growth (flowering, grain formation, grain maturity, etc.) resulting in low yields and/OR crop failures
146	Extent of water shortage faced in Rabi Season Before Intervention?
i	Low
ii	Medium
iii	High
146	Extent of water shortage faced in Rabi Season (After Intervention)?
i	Low
ii	Medium
iii	High
147	Extent of water shortage faced in Kharif Season Before Intervention?
i	Low
ii	Medium

MT-01: GENERAL PROFILE		
	iii	High
147	Extent of water shortage faced in Kharif Season (After Intervention)?	
	i	Low
	ii	Medium
	iii	High
2. CLIMATE CHANGE		
148	How rainfall pattern is shifting in <i>rabi</i> season due to climate change?	
	i	Towards early plantation
	ii	Towards late plantation
	iii	Towards early harvesting
	iv	Towards late harvesting
	v	Not clear & vary every year
	vi	Any other
149	How rainfall pattern is shifting in <i>Kharif</i> season due to climate change Before Intervention?	
	i	Towards early plantation
	ii	Towards late plantation
	iii	Towards early harvesting
	iv	Towards late harvesting
	v	Not clear & vary every year
	vi	Any other
150	In which season, more water stress is felt relatively more Before Intervention?	
	i	Rabi
	ii	Kharif
	iii	Both
E. WATER USERS' ASSOCIATION (FORMATION & WORKING)		
151	Does any Water Users Association Formed?	
	i	Yes
	ii	NO
152	If YES, Is it functional/operational?	
	i	Yes
	ii	NO
153	If NO, Any reason associated?	
	i	Farm lands are located much apart
	ii	Farmers Internal/social conflicts makes it difficult
	iii	Any Other, Specify
154	Total number of members in the Association (#)?	
155	Position you holds in the Association?	
	i	Chairman/Chair Person
	ii	Vice Chairman / Vice Chair Person
	iii	General Secretary
	iv	Treasurer/Finance Secretary
	v	Any other designation
	vi	Ordinary Member
	vii	Any other
156	Is any FEMALE also the member of the Water Users' Association?	
	i	Yes
	ii	NO
157	If YES, how many FEMALES (#)?	
158	What positions in the Association held by females?	
	i	Chairman / Chair Person
	ii	Vice Chairman / Vice Chair Person
	iii	General Secretary
	iv	Treasurer/Finance Secretary
	v	Any other designation
	vi	Ordinary Member
	vii	Any other
159	Total number of WUA's meetings taken place during past one year (#)?	
160	Frequency of organizing WUA meetings?	

MT-01: GENERAL PROFILE	
	i Weekly
	ii Fortnightly
	iii Monthly
	iv Need basis
	v Other
161	Level of attendance in the meetings?
	i Full
	ii Some absent
	iii Mix
162	Total number of farming related issues/problems/conflicts resolved by the WUA in the past one year (#)?
163	Total number of other issues resolved by WUA in the past one year (#)?
164	Financial Year?
165	Supervisor Confirmation?
166	Select Submission Status?
167	Comments of interviewer - (if any) (optional)?

Note:

This Monitoring Tool (MT) or Questionnaire is developed for all activities carried out under the project by the provincial on-farm water management departments for building the structures like water tanks and rehabilitation of water channels.

Since, at the time of conducting this baseline survey (Round-2), some official from the OFWM department shall accompany to visit to the farms on which some construction/rehabilitation work has been done, but his baseline information has not yet taken. Therefore, we have to gather information from that farmer for two scenarios: (1) current farming status (called as After Rehabilitation or AR); and (2) farming status before (called as Baseline). Hence, this Questionnaire is developed to capture both the scenarios.

To differentiate between the both in the questionnaire, the font colour for baseline information is black and for After Intervention it is blue.

So:

BL = Baseline in black font

AR = After Rehabilitation in blue font

MT-02: CROPPING PATTERNS AND YIELD		
A. Cropping Patterns		
		Total area planted (Acres)
	1	Wheat
	2	Barley
	3	Oats or Javi or Jontari
	4	Mustard/Canola
	5	Sunflower
	6	Sugarcane
	7	Pulses (Gram)
	8	Pulses (Lentil)
	9	Other pulses
	10	Berseem/Lucern
	11	Rice
	12	Maize
	13	Sorghum
	14	Millet
	15	Sugarcane
	16	Citrus (Kinnow, Malta, lemon, etc.)
	17	Lemon/ Lime
	18	Other rabi crop-1
	19	Other rabi crop-2
	20	Other Kharif crop-1
	21	Other Kharif crop-2
B. Average Yield Per Acre		
		Average Yield Obtained (40-kg Maunds/Acre)
	1	Wheat
	2	Barley
	3	Oats or Javi or Jontari
	4	Mustard/Canola
	5	Sunflower
	6	Sugarcane
	7	Pulses (Gram)
	8	Pulses (Lentil)
	9	Other pulses
	10	Berseem/Lucern
	11	Rice
	12	Maize
	13	Sorghum
	14	Millet
	15	Sugarcane
	16	Citrus (Kinnow, Malta, lemon, etc.)
	17	Lemon/ Lime
	18	Other rabi crop-1
	19	Other rabi crop-2
	20	Other Kharif crop-1
	21	Other Kharif crop-2

MT-02: CROPPING PATTERNS AND YIELD		
C. Total Production		
		Total Production Obtained (40-kg Maunds)
	1	Wheat
	2	Barley
	3	Oats or Javi or Jontari
	4	Mustard/Canola
	5	Sunflower
	6	Sugarcane
	7	Pulses (Gram)
	8	Pulses (Lentil)
	9	Other pulses
	10	Berseem/Lucern
	11	Rice
	12	Maize
	13	Sorghum
	14	Millet
	15	Sugarcane
	16	Citrus (Kinnow, Malta, lemon, etc.)
	17	Lemon/ Lime
	18	Other rabi crop-1
	19	Other rabi crop-2
	20	Other Kharif crop-1
	21	Other Kharif crop-2

MT-03: COST OF PRODUCTION (KHARIF-2020; RABI, 2020-21)		Before	After	Before	After
		Price per Unit (Rs.)	Price per Unit (Rs.)	Wheat	Wheat
				Quantities/O perations (#)	Quantities/O perations (#)
1	Land preparation:				
	1.1 Rotavator/disc plough				
	1.2 Ploughing				
	1.3 Ploughing & planking				
	1.4 Planking				
	1.5 Levelling (hrs)				
2	Seed and sowing operations:				
	2.1 Seed used (kgs)				
	2.2. Tractor drilling				
	2.3 Labour for seed broadcasting (m.hrs)				
	2.4 Ploughing in case of broadcasting				
	2.5 Planking in case of broadcasting				
	2.6 Nursery transplanting in rice only	xxxxxx		xxxxxx	xxxxxx
3	Bund making:				
	3.1 Manual (m.hrs)				
	3.2 tractor (hrs)				
4	Weedicides				
5	Irrigation: * (Nos)				
	5.1 Canal				
	5.2 Private tube well				
	5.3 Mixed				
6	Labour for irrigation and water course cleaning (man-days)				
	6.1 For irrigation				
	6.2 For water course cleaning				
7	Farm Yard Manure (50 %)				
8	Fertilizers: (bags/Acre of 8 Kanals)				
	8.1 DAP				
	8.2 Urea				
	8.3 SSP				
	8.4 NP (23-23)				
	8.5 CAN				
	8.6 SOP				
	8.7 Gypsum				
	8.8 Transport and application				
9	Mark up on investment on item 1to 8 excluding				
	item 5(1) @15 % per annum for 6 months				
10	Harvesting charges (40 kgs/acre)				
	Manual harvested				
	Machine/Combine Harvested				
11	Threshing:				
	11.1 Threshing charges				
	11.2 M.days				
12	Land rent for 6 months	1			
13	Land tax (if any charged by Revenue Department)	1			
14	Management charges for 6 months				
15	Total cost per acre				
16	Yield of main products (40-kg Maunds)				
18	Value of straw or byproduct per acre				
19	Cost of production at farm level: (Rs/40 kgs)				
20	Marketing cost (Rs/40 kgs)				
	20.1 Including land rent				
	20.2 Excluding land rent				

MT-03: COST OF PRODUCTION (KHARIF-2020; RABI, 2020-21)		Before	After	Before	After
		Barley	Barley	erseem/Luce	erseem/Luce
		Quantities/O perations (#)	Quantities/O perations (#)	Quantities/O perations (#)	Quantities/O perations (#)
1	Land preparation:				
	1.1 Rotavator/disc plough				
	1.2 Ploughing				
	1.3 Ploughing & planking				
	1.4 Planking				
	1.5 Levelling (hrs)				
2	Seed and sowing operations:				
	2.1 Seed used (kgs)				
	2.2. Tractor drilling				
	2.3 Labour for seed broadcasting (m.hrs)				
	2.4 Ploughing in case of broadcasting				
	2.5 Planking in case of broadcasting				
	2.6 Nursery transplanting in rice only	xxxxxx	xxxxxx	xxxxxx	xxxxxx
3	Bund making:				
	3.1 Manual (m.hrs)				
	3.2 tractor (hrs)				
4	Weedicides				
5	Irrigation: * (Nos)				
	5.1 Canal				
	5.2 Private tube well				
	5.3 Mixed				
6	Labour for irrigation and water course cleaning				
	6.1 For irrigation				
	6.2 For water course cleaning				
7	Farm Yard Manure (50 %)				
8	Fertilizers: (bags/Acre of 8 Kanals)				
	8.1 DAP				
	8.2 Urea				
	8.3 SSP				
	8.4 NP (23-23)				
	8.5 CAN				
	8.6 SOP				
	8.7 Gypsum				
	8.8 Transport and application				
9	Mark up on investment on item 1 to 8 excluding				
	item 5(1) @15 % per annum for 6 months				
10	Harvesting charges (40 kgs/acre)				
	Manual harvested				
	Machine/Combine Harvested				
11	Threshing:				
	11.1 Threshing charges				
	11.2 M.days				
12	Land rent for 6 months				
13	Land tax (if any charged by Revenue Department)				
14	Management charges for 6 months				
15	Total cost per acre				
16	Yield of main products (40-kg Maunds)				
18	Value of straw or byproduct per acre				
19	Cost of production at farm level: (Rs/40 kgs)				
20	Marketing cost (Rs/40 kgs)				
	20.1 Including land rent				
	20.2 Excluding land rent				

MT-03: COST OF PRODUCTION (KHARIF-2020; RABI, 2020-21)		Before	After	Before	After
		O-Rabi Foddi	O-Rabi Foddi	Rabi-Pulses	Rabi-Pulses
		Quantities/O perations (#)	Quantities/O perations (#)	Quantities/O perations (#)	Quantities/O perations (#)
1	Land preparation:				
	1.1 Rotavator/disc plough				
	1.2 Ploughing				
	1.3 Ploughing & planking				
	1.4 Planking				
	1.5 Levelling (hrs)				
2	Seed and sowing operations:				
	2.1 Seed used (kgs)				
	2.2. Tractor drilling				
	2.3 Labour for seed broadcasting (m.hrs)				
	2.4 Ploughing in case of broadcasting				
	2.5 Planking in case of broadcasting				
	2.6 Nursery transplanting in rice only	xxxxxx		xxxxxx	
3	Bund making:				
	3.1 Manual (m.hrs)				
	3.2 tractor (hrs)				
4	Weedicides				
5	Irrigation: * (Nos)				
	5.1 Canal				
	5.2 Private tube well				
	5.3 Mixed				
6	Labour for irrigation and water course cleaning				
	6.1 For irrigation				
	6.2 For water course cleaning				
7	Farm Yard Manure (50 %)				
8	Fertilizers: (bags/Acre of 8 Kanals)				
	8.1 DAP				
	8.2 Urea				
	8.3 SSP				
	8.4 NP (23-23)				
	8.5 CAN				
	8.6 SOP				
	8.7 Gypsum				
	8.8 Transport and application				
9	Mark up on investment on item 1to 8 excluding				
	item 5(1) @15 % per annum for 6 months				
10	Harvesting charges (40 kgs/acre)				
	Manual harvested				
	Machine/Combine Harvested				
11	Threshing:				
	11.1 Threshing charges				
	11.2 M.days				
12	Land rent for 6 months				
13	Land tax (if any charged by Revenue Department)				
14	Management charges for 6 months				
15	Total cost per acre				
16	Yield of main products (40-kg Maunds)				
18	Value of straw or byproduct per acre				
19	Cost of production at farm level: (Rs/40 kgs)				
20	Marketing cost (Rs/40 kgs)				
	20.1 Including land rent				
	20.2 Excluding land rent				

MT-03: COST OF PRODUCTION (KHARIF-2020; RABI, 2020-21)		Before	After	Before	After
		Mustard	Mustard	Sunflower	Sunflower
		Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)
1	Land preparation:				
	1.1 Rotavator/disc plough				
	1.2 Ploughing				
	1.3 Ploughing & planking				
	1.4 Planking				
	1.5 Levelling (hrs)				
2	Seed and sowing operations:				
	2.1 Seed used (kgs)				
	2.2. Tractor drilling				
	2.3 Labour for seed broadcasting (m.hrs)				
	2.4 Ploughing in case of broadcasting				
	2.5 Planking in case of broadcasting				
	2.6 Nursery transplanting in rice only	xxxxxx		xxxxxx	xxxxxx
3	Bund making:				
	3.1 Manual (m.hrs)				
	3.2 tractor (hrs)				
4	Weedicides				
5	Irrigation: * (Nos)				
	5.1 Canal				
	5.2 Private tube well				
	5.3 Mixed				
6	Labour for irrigation and water course cleaning				
	6.1 For irrigation				
	6.2 For water course cleaning				
7	Farm Yard Manure (50 %)				
8	Fertilizers: (bags/Acre of 8 Kanals)				
	8.1 DAP				
	8.2 Urea				
	8.3 SSP				
	8.4 NP (23-23)				
	8.5 CAN				
	8.6 SOP				
	8.7 Gypsum				
	8.8 Transport and application				
9	Mark up on investment on item 1 to 8 excluding				
	item 5(1) @15 % per annum for 6 months				
10	Harvesting charges (40 kgs/acre)				
	Manual harvested				
	Machine/Combine Harvested				
11	Threshing:				
	11.1 Threshing charges				
	11.2 M.days				
12	Land rent for 6 months				
13	Land tax (if any charged by Revenue Department)				
14	Management charges for 6 months				
15	Total cost per acre				
16	Yield of main products (40-kg Maunds)				
18	Value of straw or byproduct per acre				
19	Cost of production at farm level: (Rs/40 kgs)				
20	Marketing cost (Rs/40 kgs)				
	20.1 Including land rent				
	20.2 Excluding land rent				

MT-03: COST OF PRODUCTION (KHARIF-2020; RABI, 2020-21)		Before	After	Before	After
		Bas-Rice	Bas-Rice	IRRI Rice	IRRI Rice
		Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)
1	Land preparation:				
	1.1 Rotavator/disc plough				
	1.2 Ploughing				
	1.3 Ploughing & planking				
	1.4 Planking				
	1.5 Levelling (hrs)				
2	Seed and sowing operations:				
	2.1 Seed used (kgs)				
	2.2. Tractor drilling				
	2.3 Labour for seed broadcasting (m.hrs)				
	2.4 Ploughing in case of broadcasting				
	2.5 Planking in case of broadcasting				
	2.6 Nursery transplanting in rice only	xxxxxx	xxxxxx	xxxxxx	xxxxxx
3	Bund making:				
	3.1 Manual (m.hrs)				
	3.2 tractor (hrs)				
4	Weedicides				
5	Irrigation: * (Nos)				
	5.1 Canal				
	5.2 Private tube well				
	5.3 Mixed				
6	Labour for irrigation and water course cleaning				
	6.1 For irrigation				
	6.2 For water course cleaning				
7	Farm Yard Manure (50 %)				
8	Fertilizers: (bags/Acre of 8 Kanals)				
	8.1 DAP				
	8.2 Urea				
	8.3 SSP				
	8.4 NP (23-23)				
	8.5 CAN				
	8.6 SOP				
	8.7 Gypsum				
	8.8 Transport and application				
9	Mark up on investment on item 1 to 8 excluding				
	item 5(1) @15 % per annum for 6 months				
10	Harvesting charges (40 kgs/acre)				
	Manual harvested				
	Machine/Combine Harvested				
11	Threshing:				
	11.1 Threshing charges				
	11.2 M.days				
12	Land rent for 6 months				
13	Land tax (if any charged by Revenue Department)				
14	Management charges for 6 months				
15	Total cost per acre				
16	Yield of main products (40-kg Maunds)				
18	Value of straw or byproduct per acre				
19	Cost of production at farm level: (Rs/40 kgs)				
20	Marketing cost (Rs/40 kgs)				
	20.1 Including land rent				
	20.2 Excluding land rent				

MT-03: COST OF PRODUCTION (KHARIF-2020; RABI, 2020-21)		Before	After	Before	After
		Maize	Maize	Sorghum	Sorghum
		Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)
1	Land preparation:				
	1.1 Rotavator/disc plough				
	1.2 Ploughing				
	1.3 Ploughing & planking				
	1.4 Planking				
	1.5 Levelling (hrs)				
2	Seed and sowing operations:				
	2.1 Seed used (kgs)				
	2.2. Tractor drilling				
	2.3 Labour for seed broadcasting (m.hrs)				
	2.4 Ploughing in case of broadcasting				
	2.5 Planking in case of broadcasting				
	2.6 Nursery transplanting in rice only	xxxxxx	xxxxxx	xxxxxx	
3	Bund making:				
	3.1 Manual (m.hrs)				
	3.2 tractor (hrs)				
4	Weedicides				
5	Irrigation: * (Nos)				
	5.1 Canal				
	5.2 Private tube well				
	5.3 Mixed				
6	Labour for irrigation and water course cleaning				
	6.1 For irrigation				
	6.2 For water course cleaning				
7	Farm Yard Manure (50 %)				
8	Fertilizers: (bags/Acre of 8 Kanals)				
	8.1 DAP				
	8.2 Urea				
	8.3 SSP				
	8.4 NP (23-23)				
	8.5 CAN				
	8.6 SOP				
	8.7 Gypsum				
	8.8 Transport and application				
9	Mark up on investment on item 1 to 8 excluding				
	item 5(1) @15 % per annum for 6 months				
10	Harvesting charges (40 kgs/acre)				
	Manual harvested				
	Machine/Combine Harvested				
11	Threshing:				
	11.1 Threshing charges				
	11.2 M.days				
12	Land rent for 6 months				
13	Land tax (if any charged by Revenue Department)				
14	Management charges for 6 months				
15	Total cost per acre				
16	Yield of main products (40-kg Maunds)				
18	Value of straw or byproduct per acre				
19	Cost of production at farm level: (Rs/40 kgs)				
20	Marketing cost (Rs/40 kgs)				
	20.1 Including land rent				
	20.2 Excluding land rent				

MT-03: COST OF PRODUCTION (KHARIF-2020; RABI, 2020-21)		Before	After	Before	After
		Millet	Millet	Guarseed	Guarseed
		Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)
1	Land preparation:				
	1.1 Rotavator/disc plough				
	1.2 Ploughing				
	1.3 Ploughing & planking				
	1.4 Planking				
	1.5 Levelling (hrs)				
2	Seed and sowing operations:				
	2.1 Seed used (kgs)				
	2.2. Tractor drilling				
	2.3 Labour for seed broadcasting (m.hrs)				
	2.4 Ploughing in case of broadcasting				
	2.5 Planking in case of broadcasting				
	2.6 Nursery transplanting in rice only	xxxxxx		xxxxxx	
3	Bund making:				
	3.1 Manual (m.hrs)				
	3.2 tractor (hrs)				
4	Weedicides				
5	Irrigation: * (Nos)				
	5.1 Canal				
	5.2 Private tube well				
	5.3 Mixed				
6	Labour for irrigation and water course cleaning				
	6.1 For irrigation				
	6.2 For water course cleaning				
7	Farm Yard Manure (50 %)				
8	Fertilizers: (bags/Acre of 8 Kanals)				
	8.1 DAP				
	8.2 Urea				
	8.3 SSP				
	8.4 NP (23-23)				
	8.5 CAN				
	8.6 SOP				
	8.7 Gypsum				
	8.8 Transport and application				
9	Mark up on investment on item 1 to 8 excluding				
	item 5(1) @15 % per annum for 6 months				
10	Harvesting charges (40 kgs/acre)				
	Manual harvested				
	Machine/Combine Harvested				
11	Threshing:				
	11.1 Threshing charges				
	11.2 M.days				
12	Land rent for 6 months				
13	Land tax (if any charged by Revenue Department)				
14	Management charges for 6 months				
15	Total cost per acre				
16	Yield of main products (40-kg Maunds)				
18	Value of straw or byproduct per acre				
19	Cost of production at farm level: (Rs/40 kgs)				
20	Marketing cost (Rs/40 kgs)				
	20.1 Including land rent				
	20.2 Excluding land rent				

MT-03: COST OF PRODUCTION (KHARIF-2020; RABI, 2020-21)		Before	After	Before	After
		O-R-Fodder	O-R-Fodder	O-K-Fodder	O-K-Fodder
		Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)
1	Land preparation:				
	1.1 Rotavator/disc plough				
	1.2 Ploughing				
	1.3 Ploughing & planking				
	1.4 Planking				
	1.5 Levelling (hrs)				
2	Seed and sowing operations:				
	2.1 Seed used (kgs)				
	2.2. Tractor drilling				
	2.3 Labour for seed broadcasting (m.hrs)				
	2.4 Ploughing in case of broadcasting				
	2.5 Planking in case of broadcasting				
	2.6 Nursery transplanting in rice only	xxxxxx	xxxxxx	xxxxxx	xxxxxx
3	Bund making:				
	3.1 Manual (m.hrs)				
	3.2 tractor (hrs)				
4	Weedicides				
5	Irrigation: * (Nos)				
	5.1 Canal				
	5.2 Private tube well				
	5.3 Mixed				
6	Labour for irrigation and water course cleaning				
	6.1 For irrigation				
	6.2 For water course cleaning				
7	Farm Yard Manure (50 %)				
8	Fertilizers: (bags/Acre of 8 Kanals)				
	8.1 DAP				
	8.2 Urea				
	8.3 SSP				
	8.4 NP (23-23)				
	8.5 CAN				
	8.6 SOP				
	8.7 Gypsum				
	8.8 Transport and application				
9	Mark up on investment on item 1 to 8 excluding				
	item 5(1) @15 % per annum for 6 months				
10	Harvesting charges (40 kgs/acre)				
	Manual harvested				
	Machine/Combine Harvested				
11	Threshing:				
	11.1 Threshing charges				
	11.2 M.days				
12	Land rent for 6 months				
13	Land tax (if any charged by Revenue Department)				
14	Management charges for 6 months				
15	Total cost per acre				
16	Yield of main products (40-kg Maunds)				
18	Value of straw or byproduct per acre				
19	Cost of production at farm level: (Rs/40 kgs)				
20	Marketing cost (Rs/40 kgs)				
	20.1 Including land rent				
	20.2 Excluding land rent				

MT-03: COST OF PRODUCTION (KHARIF-2020; RABI, 2020-21)		Before	After	Before	After
		O-R-Crop-1	O-R-Crop-1	O-R-Crop-2	O-R-Crop-2
		Quantities/O perations (#)	Quantities/O perations (#)	Quantities/O perations (#)	Quantities/O perations (#)
1	Land preparation:				
	1.1 Rotavator/disc plough				
	1.2 Ploughing				
	1.3 Ploughing & planking				
	1.4 Planking				
	1.5 Levelling (hrs)				
2	Seed and sowing operations:				
	2.1 Seed used (kgs)				
	2.2. Tractor drilling				
	2.3 Labour for seed broadcasting (m.hrs)				
	2.4 Ploughing in case of broadcasting				
	2.5 Planking in case of broadcasting				
	2.6 Nursery transplanting in rice only	xxxxxx	xxxxxx	xxxxxx	xxxxxx
3	Bund making:				
	3.1 Manual (m.hrs)				
	3.2 tractor (hrs)				
4	Weedicides				
5	Irrigation: * (Nos)				
	5.1 Canal				
	5.2 Private tube well				
	5.3 Mixed				
6	Labour for irrigation and water course cleaning				
	6.1 For irrigation				
	6.2 For water course cleaning				
7	Farm Yard Manure (50 %)				
8	Fertilizers: (bags/Acre of 8 Kanals)				
	8.1 DAP				
	8.2 Urea				
	8.3 SSP				
	8.4 NP (23-23)				
	8.5 CAN				
	8.6 SOP				
	8.7 Gypsum				
	8.8 Transport and application				
9	Mark up on investment on item 1 to 8 excluding				
	item 5(1) @15 % per annum for 6 months				
10	Harvesting charges (40 kgs/acre)				
	Manual harvested				
	Machine/Combine Harvested				
11	Threshing:				
	11.1 Threshing charges				
	11.2 M.days				
12	Land rent for 6 months				
13	Land tax (if any charged by Revenue Department)				
14	Management charges for 6 months				
15	Total cost per acre				
16	Yield of main products (40-kg Maunds)				
18	Value of straw or byproduct per acre				
19	Cost of production at farm level: (Rs/40 kgs)				
20	Marketing cost (Rs/40 kgs)				
	20.1 Including land rent				
	20.2 Excluding land rent				

MT-03: COST OF PRODUCTION (KHARIF-2020; RABI, 2020-21)		Before	After	Before	After
		O-K-Crop-1	O-K-Crop-1	O-K-Crop-2	O-K-Crop-2
		Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)	Quantities/Operations (#)
1	Land preparation:				
	1.1 Rotavator/disc plough				
	1.2 Ploughing				
	1.3 Ploughing & planking				
	1.4 Planking				
	1.5 Levelling (hrs)				
2	Seed and sowing operations:				
	2.1 Seed used (kgs)				
	2.2. Tractor drilling				
	2.3 Labour for seed broadcasting (m.hrs)				
	2.4 Ploughing in case of broadcasting				
	2.5 Planking in case of broadcasting				
	2.6 Nursery transplanting in rice only	xxxxxx	xxxxxx	xxxxxx	xxxxxx
3	Bund making:				
	3.1 Manual (m.hrs)				
	3.2 tractor (hrs)				
4	Weedicides				
5	Irrigation: * (Nos)				
	5.1 Canal				
	5.2 Private tube well				
	5.3 Mixed				
6	Labour for irrigation and water course cleaning				
	6.1 For irrigation				
	6.2 For water course cleaning				
7	Farm Yard Manure (50 %)				
8	Fertilizers: (bags/Acre of 8 Kanals)				
	8.1 DAP				
	8.2 Urea				
	8.3 SSP				
	8.4 NP (23-23)				
	8.5 CAN				
	8.6 SOP				
	8.7 Gypsum				
	8.8 Transport and application				
9	Mark up on investment on item 1 to 8 excluding				
	item 5(1) @15 % per annum for 6 months				
10	Harvesting charges (40 kgs/acre)				
	Manual harvested				
	Machine/Combine Harvested				
11	Threshing:				
	11.1 Threshing charges				
	11.2 M.days				
12	Land rent for 6 months				
13	Land tax (if any charged by Revenue Department)				
14	Management charges for 6 months				
15	Total cost per acre				
16	Yield of main products (40-kg Maunds)				
18	Value of straw or byproduct per acre				
19	Cost of production at farm level: (Rs/40 kgs)				
20	Marketing cost (Rs/40 kgs)				
	20.1 Including land rent				
	20.2 Excluding land rent				

MT-04: WATER FLOW MEASUREMENT		
1.IDENTIFICATION		
DB.#	Q.#	Field Name
	1	Watercourse ID: _____
2.WATERCOURSE IMPROVEMENT STATUS		
	2	State of Watercourse Improvement?
	i	Improved
	ii	UnImproved
	3	Lining Length of WC (Meter)?
	4	Total Length of WC (Meter)?
Station-1: PYGMY CURRENT METER READINGS NEAR WATERCOURSE OUTLET (At about 10 meters away from Mogha)		
	5	Cross-section width from edge of Water Course (inches)
Station-1: Observation-1		
	6	Depth-1 (inches)
	7	Pygmy current meter revolution counts in 40 seconds (Depth-1)
	8	Depth-2 (inches)
	9	Pygmy current meter revolution counts in 40 seconds (Depth-2)
	10	Depth-3 (inches)
	11	Pygmy current meter revolution counts in 40 seconds (Depth-3)
	12	Enter cross section of WC after observation-1 (feet)
Station-1: Observation-2		
	13	Depth-1 (inches)
	14	Pygmy current meter revolution counts in 40 seconds (Depth-1)
	15	Depth-2 (inches)
	16	Pygmy current meter revolution counts in 40 seconds (Depth-2)
	17	Depth-3 (inches)
	18	Pygmy current meter revolution counts in 40 seconds (Depth-3)
	19	Enter cross section of WC after observation-2 (feet)
Station-1: Observation-3		
	20	Depth-1 (inches)
	21	Pygmy current meter revolution counts in 40 seconds (Depth-1)
	22	Depth-2 (inches)
	23	Pygmy current meter revolution counts in 40 seconds (Depth-2)
	24	Depth-3 (inches)
	25	Pygmy current meter revolution counts in 40 seconds (Depth-3)
	26	Sketch of watercourse cross section area
	27	Comments of interviewer - (if any) (optional)
STATION-2: PYGMY CURRENT METER READINGS CLOSE TO THE END OF LINING PART AND AT MID POINT OF MIDDLE REACH OF THE WATERCOURSE		
	28	Cross-section width from edge of WC (inches)

MT-04: WATER FLOW MEASUREMENT

Station-2: Observation-1

	29	Depth-1 (inches)
	30	Pygmy current meter revolution counts in 40 seconds (Depth-1)
	31	Depth-2 (inches)
	32	Pygmy current meter revolution counts in 40 seconds (Depth-2)
	33	Depth-3 (inches)
	34	Pygmy current meter revolution counts in 40 seconds (Depth-3)
	35	Enter cross section of WC after observation-1 (feet)

Station-2: Observation-2

	36	Depth-1 (inches)
	37	Pygmy current meter revolution counts in 40 seconds (Depth-1)
	38	Depth-2 (inches)
	39	Pygmy current meter revolution counts in 40 seconds (Depth-2)
	40	Depth-3 (inches)
	41	Pygmy current meter revolution counts in 40 seconds (Depth-3)
	42	Enter cross section of WC after observation-2 (feet)

Station-2: Observation-3

	43	Depth-1 (inches)
	44	Pygmy current meter revolution counts in 40 seconds (Depth-1)
	46	Depth-2 (inches)
	47	Pygmy current meter revolution counts in 40 seconds (Depth-2)
	48	Depth-3 (inches)
	49	Pygmy current meter revolution counts in 40 seconds (Depth-3)
	50	Sketch of WC cross section area

STATION-3: PYGMY CURRENT METER READINGS AT MID POINT OF TAIL REACH OF THE WATERCOURSE (About 75% length of the watercourse)

	51	Cross-section width from edge of WC (inches)
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Station-3: Observation-1

	52	Depth-1 (inches)
	53	Pygmy current meter revolution counts in 40 seconds (Depth-1)
	54	Depth-2 (inches)
	55	Pygmy current meter revolution counts in 40 seconds (Depth-2)
	56	Depth-3 (inches)
	57	Pygmy current meter revolution counts in 40 seconds (Depth-3)
	58	Enter cross section of WC after observation-1 (feet)

Station-3: Observation-2

	59	Depth-1 (inches)
	60	Pygmy current meter revolution counts in 40 seconds (Depth-1)
	61	Depth-2 (inches)
	62	Pygmy current meter revolution counts in 40 seconds (Depth-2)

MT-04: WATER FLOW MEASUREMENT		
	63	Depth-3 (inches)
	64	Pygmy current meter revolution counts in 40 seconds (Depth-3)
	65	Enter cross section of WC after observation-2 (feet)
Station-3: Observation-3		
	66	Depth-1 (inches)
	67	Pygmy current meter revolution counts in 40 seconds (Depth-1)
	68	Depth-2 (inches)
	69	Pygmy current meter revolution counts in 40 seconds (Depth-2)
	70	Depth-3 (inches)
	71	Pygmy current meter revolution counts in 40 seconds (Depth-3)
	72	Sketch of WC cross section area
		If Pygmy Meter is not available, then what are Farmers' Perceptions about Water Flow?
	73	Any increase in the flow of water noticed After Rehabilitation?
	i	Yes
	ii	NO
	74	If YES, How much increase?
	i	5%
	ii	10%
	iii	15%
	iv	20%
	v	25%
	75	Comments of interviewer - (if any) (optional)

MT-05: MONITORING OF WATER STRUCTURE		
1. IDENTIFICATION		
DB.#	Q.#	Field Name
	1	Status of Water Storage tank (WST) Construction?
	i	Technical Sanction(TS) Issued
	ii	Final Completion Report (FCR) Issued
2. SPOT CHECK		
	2	Coordinates at mogha point?
	3	Take Picture of Water Storage tank (WST)?
	4	Shape of the water storage tank?
	i	Square
	ii	Rectangular
	iii	Trapezoidal
	5	Construction type of the water storage tank?
	i	Brick/Masonry
	ii	Geomembrane
	iii	PCC
	iv	Any other, specify
	6	Type of water storage tank?
	i	Trapezoidal
	ii	Rectangular
	iii	Brick/Masonry
	iv	Geomembrane
	v	PCC
	vi	Any other, specify
	7	Length-1 (Feet)?
	8	Length-2 (Feet)?
	9	Width-1 (Feet)
	10	Width-2 (Feet)
	11	Depth (Feet)
	12	The farmer completed the WST using his/her own funds before subsidy?
	i	Yes
	ii	No
	13	What benefits you can expect from rehabilitation of Water Tank?
	i	Reduce ground water consumption
	ii	Reduce water bills
	iii	Extended water supply
	iv	Improved water quality/less salty water
	v	Reduction in soil erosion
	vi	Better control on water supply
	vii	Any other, specify

MT-05: MONITORING OF WATER STRUCTURE		
	14	The WST was completed as per approved standards and specifications?
	i	Yes
	ii	No
	15	Excavation was done as per standard engineering practices?
	i	Yes
	ii	No
	16	The NWM Consultants inspected the excavation and quality of geo-membrane and certified as satisfactory?
	i	Yes
	ii	No
	15	Before filling the WST, the OFWM staff prepared the completion report?
	i	Yes
	ii	No
	16	Any variations in specifications and material used?
	i	Yes
	ii	No
	17	Subsidy was paid as per cost estimates based on geo-membrane design?
	i	Yes
	ii	No
	18	Does the water depth in Water Storage Tank exceed 5 feet?
	i	Yes
	ii	No
If "Yes" in Q.#4.9 then continue with Q# 4.9.1		Otherwise goto Q.#4.10
	19	Depth of water?
	20	Is the geo-membrane thickness minimum 0.5 mm?
	i	Yes
	ii	No
	21	Do all joints welded through fusion welding?
	i	Yes
	ii	No
If yes in Q#4.11 then continue with Q#4.11.1		Otherwise goto Q.#5.4
	22	Is the testing of Joints welded parts done before filling the water storage tank?
	i	Yes
	ii	No
	23	Financial Year
	24	Supervisor Confirmation?
	25	Select Submission Status
	26	Comments of interviewer - (if any) (optional)

MT-6: FOOD SECURITY		
A. Food Cooking / Consumption Patterns		
	1	Wheat/wheat flour (# of times per week)
	2	Rice (# of times per week)
	3	Maize/maize flour (# of times per week)
	4	Sorghum/Millet flour (# of times per week)
	5	Pulses (# of times per week)
	6	Vegetables (# of times per week)
	7	Others, if any
B. Total Monthly Consumption Needs of the Household		
	8	Wheat/wheat flour (Kilogram)
	9	Basmati rice (Kilogram)
	10	Other rice (Kilogram)
	11	Maize (Kilogram)
	12	Sorghum/Millet (Kilogram)
	13	Beef (Kilogram)
	14	Mutton (Kilogram)
	15	Chicken (Kilogram)
	16	Gram pulse (Kilogram)
	17	Lentil pulse (Kilogram)
	18	Mash/Mung pulse (Kilogram)
	19	Any other pulse (Kilogram)
	20	Sugar, Shakkar, Gur (Kilogram)
	21	Milk (Liters)
	22	Fruits (Kilogram)
	23	Vegetables (Kilogram)
	24	Others-1, if any
25	Others-2, if any	
C. Quantities Bought Last Month for Home Consumption		
	26	Wheat/wheat flour (Kilogram)
	27	Basmati rice (Kilogram)
	28	Other rice (Kilogram)
	29	Maize (Kilogram)
	30	Sorghum/Millet (Kilogram)
	31	Beef (Kilogram)
	32	Mutton (Kilogram)
	33	Chicken (Kilogram)
	34	Gram pulse (Kilogram)
	35	Lentil pulse (Kilogram)
	36	Mash/Mung pulse (Kilogram)
	37	Any other pulse (Kilogram)
	38	Sugar, Shakkar, Gur (Kilogram)
	39	Milk (Liters)
	40	Fruits (Kilogram)
	41	Vegetables (Kilogram)
	42	Others-1, if any
	43	Others-2, if any

MT-07: INPUT-OUTPUT PRICES		
DB.#	Q.#	Field Name
Inputs Prices		
	1	Urea Price per Bag?
	2	DAP Price per Bag?
	3	Potash Fertilizer Price per Bag?
	4	SSP Fertilizer Price per Bag?
	5	Nitrophos (23/23) Fertilizer Price per Bag?
	6	Ammonium Nitrate Fertilizer Price per Bag?
	7	Ammonium Sulphate Fertilizer Price per Bag?
	8	FYM Price per Donkey Cart Load?
	9	Approximate Weight (Donkey Cart Load)
	10	FYM Trolley Price?
	11	Approximate Weight (Trolley)?
	12	Water Charges taken by Irrigation Department (Rs./Acre) (<i>Rabi</i>)?
	13	Water Charges taken by Irrigation Department (Rs./Acre) (<i>Kharif</i>)?
	14	Tubewell water irrigation charges in the village (Rs./Hour)?
	15	Manual harvesting of wheat (Rs./acre)?
	16	Harvesting charges with reaper (Rs./Acre)?
	17	Harvesting charges with combine harvesters (Rs./Acre)?
	18	Threshing charges (Rs./Hour)?
	19	Quantity Threshed in one hour (40-kg Mds)?
	20	Tractor charges - cultivator ploughing (Rs./Acre)?
	21	Tractor charges - rotavator ploughing (Rs./Acre)?
	22	Laser land levelling charges (Rs./Hour)?
	23	Tractor charges - wheat seed drill sowing (Rs./Hour)?
	24	Male labor wage rate (normal) (After Rehabilitation)?
	25	Male labor wage rate (peak season at sowing/harvesting times)?
	26	Female labor wage rate (normal)?
	27	Female labor wage rate (peak season at sowing/harvesting times)
	28	PHL Male labor (all benefits included) (Rs./month)
	29	PHL Female labor (all benefits included) (Rs./month)?
	30	CHL Male labor (all benefits included) (Rs./month)
	31	CHL Female labor (all benefits included) (Rs./month)
	32	Seed of Wheat (Kg)
	33	Seed of Rice (Kg)?
	34	Seed of Cotton (Kg)?
	35	Seed of Sugarcane (Kg)?
	36	Seed of Sunflower (Kg)?
	37	Seed of Rapeseed/Mustard (Kg)?
	38	Seed of Onion (Kg)?

MT-07: INPUT-OUTPUT PRICES		
DB.#	Q.#	Field Name
	39	Seed of Tomato (Kg)?
	40	Seed of Chilli (Kg)?
	41	Seed of Okra (Kg)?
	42	100 plants nursery of Onion (Kg)?
	43	100 plants nursery of tomato (Rs./bunch)?
	44	100 plants nursery of chilli (Rs./bunch)?
	45	100 plants nursery of Brinjal (Egg Plant) (Rs./Bunch)?
	46	One kanal nursery of rice (Egg Plant) (Rs./Bunch)?
	47	Supervisor confirmation?
	48	Select submission status?
	49	Comments of interviewer - (if any) (optional)?