



FEDERAL PROJECT MANAGEMENT UNIT
FEDERAL WATER MANAGEMENT CELL
MINISTRY OF NATIONAL
FOOD SECURITY & RESEARCH
ISLAMABAD - PAKISTAN

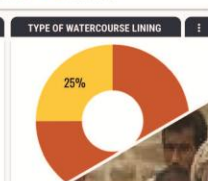
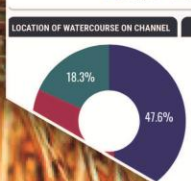
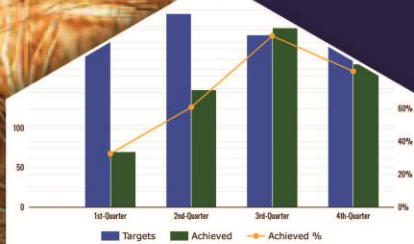
NATIONAL PROGRAM FOR IMPROVEMENT OF WATERCOURSES IN PAKISTAN PHASE-II: (NPIWC-II)

MONITORING, EVALUATION
AND IMPACT EVALUATION
CONSULTANTS



MONTHLY MONITORING REPORT

FEB 2021



A Joint Venture of
G3 Engineering Lead Firm
Consultants (Pvt.) Ltd.





Federal Project Management Unit (FPMU)
Federal Water Management Cell (FWMC)
Ministry of National Food Security & Research, Islamabad

Monitoring, Evaluation and Impact Evaluation (ME&IE) Consultants
For
National Program for Improvement of Watercourses in Pakistan Phase-II (NPIWC-II)

MONTHLY MONITORING REPORT

FEBRUARY 2021

CONTENTS

ACRONYMS	iv
EXECUTIVE SUMMARY	vi
1. INTRODUCTION TO NPIWC-II	1
1.1 PROJECT PROFILE	1
1.2 PROJECT DESCRIPTION.....	1
1.2.1. Project Development Objectives	1
1.2.2. Project Objectives – General & Quantitative	1
1.2.3. Project Beneficiaries	2
1.2.4. Project Components	2
1.2.5. Project Targets	2
2. ME&IE CONSULTANTS FOR NPIWC-II	3
2.1 SCOPE OF THE SERVICES	3
2.2 MONITORING STRATEGY	3
2.3 FRAMEWORK AND RESULTS-BASED MONITORING (RBM) INDICATORS	6
3. MONTHLY MONITORING REPORT	7
3.1 INTRODUCTION.....	7
3.2 OBJECTIVE OF MONTHLY MONITORING REPORT	7
3.3 REPORTING PERIOD	7
4. ACTIVITIES COMPLETED DURING THE REPORTING PERIOD	8
4.1 FIRST MONTHLY MONITORING REPORT	8
4.2 ESTABLISHMENT/RENOVATION OF ME&IE CONSULTANTS OFFICES	8
4.2.1 Project National Office Islamabad	8
4.2.2 Zonal Office - Punjab.....	8
4.2.3 Zonal Office -Khyber Pakhtunkhwa & Gilgit Baltistan.....	8
4.2.4 Zonal Office -Balochistan	8
4.2.5 Establishment of Field Offices.....	8

4.3	MEETINGS AND VISITS OF ME&IE CONSULTANTS - PUNJAB ZONE	8
4.3.1	1 st Meeting of Core team with DGA OFWM Punjab	8
4.3.2	2 nd Meeting of core team with DGA OFWM Punjab	9
4.4	MEETINGS AND VISITS OF ME&IE CONSULTANTS – KP & GB ZONE	10
4.4.1	1 st Meeting with DD OFWM Swabi	10
4.4.2	2 nd Meeting in DD Office OFWM Swabi	10
4.4.3	Zoom Meeting of ME&IE Consultants.....	10
4.4.4	4 th Meeting in DD Office OFWM Swabi.....	10
4.4.5	5 th Meeting in DG OFWM Peshawar	10
4.4.6	Field Visit(s) – KP and GB Zone	10
4.5	MEETINGS AND VISITS OF ME&IE CONSULTANTS – BALOCHISTAN ZONE.....	11
4.5.1	1 st Meeting with DD OFWM, Agriculture Officer OFWM Balochistan, Quetta.	11
4.5.2	2 nd Meeting between ME&IE Consultants Balochistan zone.	11
4.5.3	3 rd Meeting with Agriculture Officer OFWM Balochistan, Quetta.....	12
4.5.4	Zoom Meeting of Team Leader with Core team ME&IE Consultants.	12
4.6	DETAIL OF COLLECTIVE MEETINGS OF ME&IE CONSULTANTS	12
4.6.1	1 st Zoom Meeting of Team Leader with Core team ME&IE Consultants.	12
4.7	FINALIZATION OF MONITORING TOOLS	12
4.8	DEVELOPMENT OF ANDROID BASED APPLICATION	13
4.9	WEBSITE DEVELOPMENT OF NPIWC-II.....	13
4.10	DESIGNING OF DASHBOARD OF PROJECT INTERVENTIONS	13
4.11	MIS DASHBOARD PROCESS MONITORING INPUT TOOLS	13
5.	WORK PLAN-ACTIVITIES OF FIRST QUARTER	14
5.1	PRE- FIELD ACTIVITIES	14
5.2	FIELD ACTIVITIES	14
5.3	ICT ASSIGNMENT	14
5.4	COORDINATION	14
5.5	MATRIX OF RESPONSIBILITIES.....	14
5.6	DELIVERABLES	14
6.	ISSUES NEED TO BE ADDRESSED	15

LIST OF TABLES

Table-1.1:	Project Targets (in numbers)	2
Table-2.1:	Monitoring Strategy for ME&IE Activities.....	4

LIST OF FIGURES

Figure-4.1:	Meeting of core team with DGA OFWM Punjab Lahore	9
Figure-4.2:	Meeting of core team with DGA OFWM Punjab Lahore	9
Figure-4.3:	Meeting of core team with DGA OFWM Punjab Lahore	9
Figure-4.4:	Meeting of core team with DGA OFWM Punjab Lahore	9
Figure-4.5:	DTL Meeting with WMO District Swabi	10
Figure-4.6:	Visit of Scheme Tube well Water Storage Tank at village Ambar District Swabi	11
Figure-4.7:	Visit of Scheme-Watercourse at Wazir Abad District Swabi	11

LIST OF ANNEXES

ANNEX-A:	TENTATIVE WORK PLAN	18
ANNEX-B:	MATRIX OF RESPONSIBILITIES	20
ANNEX-C:	MONITORING LOG-FRAME	22
ANNEX-D:	DELIVERABLES/REPORTING REQUIREMENTS	28
ANNEX-E:	Monitoring Tools.....	30
ANNEX-F:	Dashboard Process Monitoring Input Forms.....	84

ACRONYMS

ADA	Assistant Director Agriculture
AES	Agriculture Extension Services
AF	Acre-Feet
AJK	Azad Jammu & Kashmir
AWPB	Annual Work Plan and Budget
AWPs	Annual Work Plans
BCR	Benefit Cost Ratio
CFT	Cubic Feet
CMS	Content Management System
CSRD	Center for Social Research and Development
DAES	Director Agriculture Extension Services
DDA	Deputy Director Agriculture
DGA	Director General Agriculture
DTL	Deputy Team Leader
EAs	Executing Agencies
EIRR	Economic Internal Rate of Return
FCR	Financial Completion Report
FCRs	Final Completion Reports
FMFSR	Framework for Federal Financial Management System
FOs	Farmers Organizations
FPMU	Federal Project Management Unit
FWMC	Federal Water Management Cell
GAP	Gender Action Plan
GB	Gilgit Baltistan
G3EC	G3 Engineering Consultants
GIS	Geographic Information System
HEIS	High Efficiency Irrigation System
IAS	Implementing Agencies
ICR	Interim Completion Report
ICT	Islamabad Capital Territory
IRR	Internal Rate of Return
ICT	Information & Communication Technology
JV	Joint Venture
KP	Khyber Pakhtunkhwa
LLL	Laser Land Leveler

LPS	Liter Per Second
M&E	Monitoring and Evaluation
MAF	Million Acre Feet
ME&IE	Monitoring, Evaluation and Impact Evaluation
MIS	Management Information System
MNFSR	Ministry of National Food Security and Research
MMR	Monthly Monitoring Report
MT	Monitoring Template
MTE	Mid-Term Evaluation
NESPAK	National Engineering Services Pakistan
NPC	National Project Coordinator
NPIWC	National Program for Improvement of Watercourses
NPV	Net Present Value
NWMC	National Water Management Consultants
OFWM	On Farm Water Management
PC-1	Planning Commission-(Form-One)
PDO	Project Development Objectives
PIC	Project Implementation Committee
PIES	Project Impact Evaluation Study
PQC	Pre-Qualification Committee
RBM	Results-Based Management
RFT	Running Feet
RWD	Responsive Web Design
SFT	Square Feet
SOPs	Standardized Operating Procedures
SPSS	Statistical Package for Social Sciences (Software)
SSCs	Supply and Service Companies
TABs	Tablets
TL	Team Leader
TOR	Terms of Reference
TPV	Third Party Validation
TWRD	Tail-Water Recovery Ditch
WG	Women Group
WST	Water Storage Tank
WUAs	Water Users Associations

EXECUTIVE SUMMARY

The report in hand, “Monthly Monitoring Report for the month of February 2021” is comprising of six sections.

Section-1 describes the project introduction in detail. 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.

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

- i) C1: Organization of Water Users Associations
- ii) C2: Watercourse Improvements: 47,278 Nos.
- iii) C3: Construction of Water Storage Tanks: 14,932 Nos.
- iv) C4: Provision of Laser Land Leveling Units: 11,610 Nos.

Section-2 describes Scope of Work of the ME&IE Consultants for the project. Since the ME&IE Consultants are going to monitor implementation of all criteria set, procedures defined and timeline agreed for implementation of various components, all these are reproduced in this report as ready reference to devise / design M&E strategy, methodology, procedures for monitoring and impact assessments of the project interventions.

The monitoring strategy planned to be followed by ME&IE Consultants is briefly described in the Table-2.1. The strategy aims to be finalized and implemented in close coordination with the client and active participation of the beneficiaries as well as the project stakeholders.

Section-3 covers the details about Monthly Monitoring Report. This second Monthly Monitoring Report (MMR) covers the period from February 01, 2021 to February 28, 2021.

Section-4 of this report covers the activities completed during the reporting period are summarized below:

- The First Monthly Monitoring Report, December 21, 2020 to January 31, 2021 was submitted to the Client within stipulated time on February 10, 2021.
- Renovation of ME&IE Consultants Offices
- Renovation of Field Teams Offices & Teams Composition.
- Meetings and Visits of ME&IE Consultants
- Finalization of Monitoring Tools
- Development of Android Based Application
- Website Development of NPIWC-II
- Designing of Dashboard of Project Interventions
- MIS Dashboard Process Monitoring Input Tools

Section-5 of this report covers the detail of ME&IE Consultants activities initiating during the First Quarter 2021 (January 1, 2021 to March 31, 2021) are listed below. Time span detail is mentioned in the Tentative Work Plan. **Annex-A.**

- Pre- Field Activities
- Field Activities
- ICT Assignment
- Coordination
- Deliverables

Section-6: Due to non-availability of data and resources/funds from Client, ME&IE Consultants has been facing constraints for timely initiating the activities.

1. INTRODUCTION TO NPIWC-II

1.1 PROJECT PROFILE

Project Name	National Program for Improvement of Watercourses in Pakistan Phase-II (NPIWC-II)
Project Areas	Punjab, KP, Balochistan and Gilgit Baltistan, Azad Jammu & Kashmir and Islamabad Capital Territory (ICT)
Sponsoring Agency	Ministry of National Food Security & Research
Executing Agencies (EAs)	1. Federal Project Management Unit (FPMU), 2. DGA OFWM Punjab 3. DGA OFWM KP 4. DGA OFWM Balochistan 5. DG Irrigation and Small Dams, AJ&K 6. Director WM, GB 7. Director Agriculture Extension Services (AES), ICT
Project Period	5 Year (2019-2024)
Total Project Cost	154,542.355 million (Umbrella PC-1)

1.2 PROJECT DESCRIPTION

1.2.1. Project Development Objectives

The Project Development Objectives (PDO) are to improve irrigation water management at tertiary and field levels in Pakistan.

1.2.2. Project Objectives – General & Quantitative

1) General Objectives:

The Project aims to replicate the success achieved during the NPIWC Phase-I and further improve the findings of the Project Impact Evaluation Study (PIES). The broad objectives of the project are as under:

- i) Social mobilization through capacity building of WUAs/ FOs,
- ii) Minimization of conveyance and field application losses,
- iii) Reduction in Water Logging and salinity,

- iv) Equity in water distribution,
- v) Reduction in water disputes/thefts/litigation,
- vi) Motivation/participation of farmers,
- vii) Poverty reduction through employment generation,
- viii) Increase in crops yield/sufficiency in food.

2) Quantitative Objectives:

The quantitative objectives of the Project are as under:

Project outputs

- i) Mobilization through capacity building of Water Users Associations/Farmers Organizations in improved water management techniques and their registration under On-Farm Water Management and Water User Associations Ordinance [Act] 1981 and organization of 47,278 WUAs.
- ii) Reconstruction/renovation and remodeling of 47,278 watercourses, involving complete earthen renovation, partial lining of critical reaches (50% of the total watercourse length as decided in the high-level meeting), and installation of water control structures. It is expected to save around 5.82 MAF per annum (approx. saving of 123 acre-feet (AF) per watercourse per annum).
- iii) Construction of 14,932 water storage tanks with 60% subsidy.
- iv) Provision of 11,610 Laser Land Levelers at 50% cost sharing, with the expectation to save about 50% irrigation water for wheat and about 68% of irrigation water for paddy.

Project impacts

- v) Reduction in Water Logging and salinity in project areas to the extent of 10%.
- vi) Cropping intensity is expected to increase by 5-20%.
- vii) Crop's yield is estimated to increase by 10-15%.
- viii) Equity in water distribution increased by about 30%.
- ix) Reduction in water disputes/thefts and litigation amongst the Farmers over water distribution by about 80%.
- x) Help poverty reduction through generation of employment.

- xi) Self-sufficiency in food through utilization of water saved for edible oil seed production.

Project indirect benefits to industry/economic activities

- xii) Cement industry, bricks Killen, Precast Structures Industry and other related industries' production will pick up.

Awareness support to farmers

- xiii) Motivating farmers through an awareness campaign for watercourse improvement.
xiv) Providing technical material to farmers for optimal utilization of water resources in the shape of technical manual and operational guidelines.

1.2.3. Project Beneficiaries

Majority of the direct project beneficiaries constitute the number of farmers (owners as well as tenants) growing crops and orchards on the watercourses improved under NPIWC-II. Assuming 35 farmers on each watercourse, the total number of the farmers benefiting from the activity comes to 1.655 million. The same number will benefit due to Water Users' Associations (WUAs) in terms of cooperative management of irrigation water. Moreover, 14,932 will directly benefit from Water Storage Tanks and 11,620 as recipients of Laser Land Leveling Units. Thus, total gross direct beneficiaries are expected to be around 3.336 million households. However, net beneficiaries are expected to be 1.668 million.

Taking family size at five, total net population benefitting is expected to be 8.34 million people.

1.2.4. Project Components

The NPIWC-II comprises four components.

- 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 Leveling units to the farmers.

All the project activities are planned to be implemented on a cost sharing basis.

1.2.5. Project Targets

Project aims at achieving the targets (Table-1.1) for 5 years starting from year 2019-20 to 2023-24. The targets for each province/Zone (excluding Sindh) are given in Table-1.1.

Table-1.1: Project Targets (in numbers)

Sr. No.	Intervention	Punjab	KP	Balochistan	GB	AJK	ICT	Total
1	Reconstruction of Watercourses (more than 20 years old/Additional lining 50 %)	7,500	3,000	3,589	-	-	-	14,089
	New Watercourses (Unimproved)	2,500	10,000	16,800	1,165	2,500	224	33,189
	Total Watercourses	10,000	13,000	20,389	2,500	1,165	224	47,278
2	Water Storage Tanks	3,000	5,000	5,507	825	600	-	14,932
3	Laser Land Leveling Units	9,500	600	1,500	5	5	-	11,610

2. ME&IE CONSULTANTS FOR NPIWC-II

A Joint Venture of G3 Engineering Consultants (Pvt.) Ltd., Ease-Pak Engineering services (Pvt.) Ltd., Centre for Social Research and Development (CSR D) and ADA Consultants Inc. Canada has been selected through a competitive bidding process as ME&IE Consultants. An Agreement was signed by the Joint Venture and the NPC FPMU-FWMC NPIWC-II on October 26, 2020. The consultants were mobilized on November 20, 2020.

Since the ME&IE Consultants are going to monitor implementation of all criteria set, procedures defined and timeline agreed for implementation of various components, all these are reproduced in this report as ready reference to devise / design M&E strategy, methodology, procedures for monitoring and impact assessments of the project interventions.

2.1 SCOPE OF THE SERVICES

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

- i) Undertake baseline, midline and endline surveys for the project activities/interventions.
- ii) Develop monitoring strategy, framework and Result-Based Monitoring (RBM) indicators.
- iii) Preparation of monthly, quarterly and annual monitoring & evaluation reports.
- iv) Assessing the water saving per annum on watercourses, water storage tanks and field levels.
- v) Assessing the improvement in water availability due to the provision of conveyance system.
- vi) Assessing the economic benefits to the agriculture in terms of changes in yields, irrigated area, cropping pattern, cropping intensity, farm income and employment in command area of watercourses and water storage tanks.
- vii) Assessing the extent of community mobilization, financial and administrative sustainability of water users' associations and ensuring the maintenance of watercourses, water storage tanks and laser land Levelers.
- viii) Economic impact of project interventions.
- ix) Carry out the impact evaluation of the project intervention on the economy and stakeholders.

- x) Develop a website containing information on facilities and services, applications, procedures, watercourses, water storage tanks and laser Levelers database, etc. (while the project staff will maintain the website).
- xi) Provide technical support for the development of a custom-designed mobile application (Android Based) to capture on-site project progress and geo-tagged photos. It should be synchronized with the central MIS/GIS database and application for instant reporting and feedback to the management. The said requirement is based on the following functional features:
 - xii) Development of a GIS database with all spatial layers related to activities being undertaken under the project
 - xiii) Give technical assistance for up-dation/up-gradation of water management GIS database.

The ME&IE Consultants services period comprises over four years (2020-21 to 2023-24).

2.2 MONITORING STRATEGY

The monitoring strategy planned to be followed by ME&IE Consultants is briefly described in the following Table-2.1. However, detailed methodology and procedures to carry out the Monitoring, Evaluations and Impact Evaluations of the project interventions are explained in Chapter 6 of Inception Report. The strategy aims to be finalized and implemented in close coordination with the client and active participation of the beneficiaries as well as the project stakeholders.

Table-2.1: Monitoring Strategy for ME&IE Activities

Sr. No.	Monitoring Activity	ME&IE Team Responsible	Monitoring Strategy
1	Base line, midline and endline surveys	Team Leader, Socio-Economic Expert, Agricultural Economist and Deputy Team Leader of respective province/unit.	<ul style="list-style-type: none"> 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 endline study will assess the impact of the project interventions.
2	Reporting	All core team members	<p>Following periodic reports will be prepared and submitted:</p> <ul style="list-style-type: none"> Draft Inception Report 45 days after the agreement, Final Inception Report one week after the issuance of comments by the client on the draft, Monthly Monitoring Report on 10th of following month, Quarterly Monitoring Report on 10th of the first month of the following quarter, Annual Monitoring and Evaluation Report during first month of the following year, Baseline Survey Reports (in three phases), First Phase Baseline Survey report will be submitted within the four months after the start of the assignment i.e., Submission of final inception report/Beginning of field activities. Impact Survey Reports (in phases) – two months after the data collection completion for the impact phase, Midline report in the middle of the assignment, Endline Report at the end of Endline Survey, Draft Assignment completion Report at completion of the physical works, Final Assignment Completion Report at completion of works and financial transactions. It will also include the full economic benefit of the project (NPIWC-II) on agriculture sector as well as on the GDP of Pakistan, Special Reports, as and when asked by the client.
3	Water saving assessment	Irrigation Agronomist, Field Team/ Engineers	<p>Water Saving on Watercourses:</p> <ul style="list-style-type: none"> Water flow will be measured on sample watercourses selected for the baseline and impact surveys The flow will be measured at four points of the selected watercourses: close to water outlet, head reach, middle reach and tail reach. The measurements will be done through current meters. Based on water savings on sample watercourses, total water savings will be estimated for all project watercourses. The savings will be reported per watercourse, per annum and aggregate for the project in LPS and Acre feet.

Sr. No.	Monitoring Activity	ME&IE Team Responsible	Monitoring Strategy
			<p>Water Savings on WSTs</p> <ul style="list-style-type: none"> Since WSTs will be filled and emptied on a continuous basis, the water savings will be assessed on the basis of water pumped from the tank to irrigate the fields. The assessment will be done either by readings on the pump gauge or periodic interviewing the farmer. Based on water savings on sample WSTs, total water savings will be estimated for all project WSTs. The savings will be reported per WST, per annum and aggregate for the project in LPS and in Acre feet. <p>Water savings due to Laser Land Leveling</p> <ul style="list-style-type: none"> Water savings at field level will be assessed through farmers' interviews. The impact survey form will include questions to be asked from the farmers who got their land levelled: <ul style="list-style-type: none"> In how much time an acre was irrigated before watercourse improvement and land leveling In how much time an acre is irrigated after watercourse improvement with land leveling <p>The difference will be water saving due to laser land leveling</p>
			Based on water savings on sample LLL units, total water savings will be estimated for all project LLL units. The savings will be reported per LLL unit, per annum and aggregate for the project in LPS and in Acre feet.
4	Community mobilization	Social and Gender Specialist and Socio-Economic Expert	<p>The extent of community mobilization will be assessed by investigating whether:</p> <ul style="list-style-type: none"> WUAs is functional Holds regular meetings and keep record of them Makes decisions democratically The participation in the organization is voluntary It is financially and administratively sustainable Takes steps and ensures maintenance of watercourses, WSTs and laser land leveler
5	Economic benefits assessment for agriculture	Team Leader, Socio- Economist and Agricultural Economist	<ul style="list-style-type: none"> As indicated at serial No. 1, Agriculture data will be collected before (baseline) and after (impact) the watercourse improvement and WSTs construction. In both the surveys same forms will be used and same sampled farmers will be interviewed Data on variables such as crop yields, irrigated area, cropping pattern, cropping intensity, farm income and employment will be collected and analyzed The difference between before and after situations minus natural growth will be assumed as economic benefits to the agriculture
6	Impact evaluation-on the economy	Team Leader, Agricultural Economist and Socio-Economic Expert	<ul style="list-style-type: none"> The results of the baseline and impact surveys will be used to quantify impact on the economy Additional food produced due to the project will be estimated. It is benefit towards food security Project costs and benefits will be compared in economic and financial terms to carry out economic and financial analysis. Parameters like IRR, NPV and BCR will be estimated.

Sr. No.	Monitoring Activity	ME&IE Team Responsible	Monitoring Strategy
7	Impact evaluation-on the stakeholders	Team Leader, Agricultural Economist and Socio-Economic Expert	<ul style="list-style-type: none"> Analysis as in serial 6 will be carried out with reference to various stakeholders, like community, government, farmers, etc.
8	Spot checking	Team Leader, Deputy Team Leaders & Field teams/Engineers.	During the field visits for WUAs baselines impacts of Watercourses, WSTs and laser units, the interventions will be spot checked for quality of construction, material, functioning and beneficiaries' satisfaction etc.
9	Process monitoring	Field Teams of Agriculture Deptt., Project Consultants, ME&IE Consultants & ICT/Technology Specialist	<ul style="list-style-type: none"> The process data for all the interventions will be fed to the MIS/GIS database. Client's field staff and field teams of consultants will furnish data of their activities. The ME&IE will assist in developing mobile application for this purpose From this data reports will be generated for process monitoring All interventions will be fully (100%) covered.
10	Project website and MIS/GIS dashboard development	ICT / Technology Specialist (Including all other core team staff will also coordinate in completing data for the MIS/GIS	<ul style="list-style-type: none"> The State-of-the-art MIS / Progress Monitoring Model will be developed for NPIWC-II. Customized forms will be developed to collect data from the implementing teams on-site for progress monitoring These forms will be made available to the teams on smart phones through an android application The teams will be adequately trained to use the application Data on physical and financial stages with dates will be fed to the system for process monitoring GIS coordinates for watercourses, WSTs, laser units (if available) and WUAs offices will be uploaded to the system and could be viewed / reached by the management online The system will be maintained on GOOGLE server so that it is accessible by the management from anywhere in Pakistan and abroad Custom reports will be possible as the user demands / desires The results could be displayed on small as well as large screens.
11	Development of Android based application	ICT / Technology Specialist	All the data collection forms / tools will be executed through customized developed Android based applications accessible with smart phones / TABs.

2.3 FRAMEWORK AND RESULTS-BASED MONITORING (RBM) INDICATORS

The framework and Results-Based Monitoring (RBM) Indicators are identified in Table-2.2 below. The indicators will be further enhanced and refined in consultation with the client as well as stakeholders. They will also get improved as the project implementation progresses as in the light of real and on the ground situations.

The draft log-frame of the project inputs, outputs, outcomes and impacts with ME&IE methodologies is placed at **Annex-C**.

3. MONTHLY MONITORING REPORT

3.1 INTRODUCTION

Monthly Monitoring Report (MMR) explains the understanding towards all activities to be carried out as per TORs of ME&IE assignment and their completion within stipulated time frame.

3.2 OBJECTIVE OF MONTHLY MONITORING REPORT

The Main objective of Monthly Monitoring Report is to update the Client about the activities carrying out by the ME&IE Consultants during the reporting period. Reporting is an integral part of monitoring and evaluation framework.

3.3 REPORTING PERIOD

This Second Monthly Monitoring Report (MMR) covers the period from February 01, 2021 to February 28, 2021.

The Second Monthly Monitoring Report (MMR) has prepared under the guidance and supervision of Mr. Saif Ullah Ejaz Chaudhry, Director G3 Engineering Consultants authorized representative of ME&IE Consultants. The following core team of NPIWC-II participated in the preparation of this Report:

1. Dr. Muhammad Abdul Quddus, Team leader
2. Dr. Sarwar Zahid, DTL (Islamabad) ICT&AJK
3. Mr. Muhammad Yousaf Bhatti, DTL (Lahore) Punjab
4. Dr. Humayun Khan DTL (Peshawar) KP&GB
5. Mr. Rizwan Ahmad, DTL (Quetta) Balochistan
6. Dr. Fateh Muhammad Chaudhry, Irrigation Agronomist
7. Mrs. Munaza Bashir Tarar, Social & Gender Specialist
8. Mr. Waseem Ahmad Masood, FM Specialist
9. Mr. Rizwan Saleem, ICT/Technology Specialist

The Report In-hand provides the progress made in various activities relating to the accomplishment of Monitoring activities of project interventions e.g. development of monitoring tools for field activities. This report also describes all activities to be carried out as per quarterly work plan.

4. ACTIVITIES COMPLETED DURING THE REPORTING PERIOD

The ME&IE Consultants were mobilized on November 20, 2020. The detail of activities carried out by the ME&IE Consultants during the reporting period are:

4.1 FIRST MONTHLY MONITORING REPORT

The First Monthly Monitoring Report, December 21, 2020 to January 31, 2021 was submitted to the Client within stipulated time on February 10, 2021. The Report described the achievement during the period under discussions and also gave a work plan for the first quarter (Jan-Mar 2021).

4.2 ESTABLISHMENT/RENOVATION OF ME&IE CONSULTANTS OFFICES

The renovation of National office Islamabad, all zonal offices and field offices are near to be completed and expected to be functional within couple of weeks after completing approvals process from Client.

4.2.1 Project National Office Islamabad

The renovation of ME&IE Consultants National office has been near to be completed and expected to be functional within couple of weeks.
Address: House No. 6-A, F-6/4, Embassy Road, Islamabad.

4.2.2 Zonal Office - Punjab

The renovation of ME&IE Consultants Punjab Zonal office has been near to be completed and expected to be functional within couple of weeks after completing approvals process from Client.
Address: First Floor, Orchard Heights, Arena Commercial, Bahria Orchard, Raiwind Road, Lahore.

4.2.3 Zonal Office -Khyber Pakhtunkhwa & Gilgit Baltistan

The renovation of ME&IE Consultants Khyber Pakhtunkhwa & Gilgit Baltistan Zonal office has been near to be completed and expected to be functional within couple of weeks after completing approvals process from Client.
Address: House # 358, Khyber Colony # 2, Tahkal Payan University Road, Peshawar.

4.2.4 Zonal Office -Balochistan

The renovation of ME&IE Consultants Balochistan Zonal office has been near to be completed and expected to be functional within couple of weeks after completing approvals process from Client.
Address: Bungalow # 543/03 Chiltan Road Quetta Cantt, Quetta.

4.2.5 Establishment of Field Offices

The process for establishment of Field Offices will be completed at the end of next month.

4.3 MEETINGS AND VISITS OF ME&IE CONSULTANTS - PUNJAB ZONE

4.3.1 1st Meeting of Core team with DGA OFWM Punjab

Date	February 12, 2020 at 4:00PM
Venue	Office of DGA OFWM Punjab, Directorate General Agriculture Punjab, Davis Road Lahore
Participants	
i.	Mr. Hafiz Qaisar Yasin Deputy Director (Headquarters) OFWM, Lahore
ii.	Mr. Tahir Mehmood, Assistant Director (Technical) OFWM, Lahore
iii.	Dr. Muhammad Abdul Quddus, Team Leader ME&IE Consultants (NPIWC-II)
iv.	Mr. Muhammad Yousaf Bhatti, Deputy Team, Leader (Punjab Zone) ME&IE Consultants (NPIWC-II)
v.	Mr. Waseem Ahmad Masood Ch. Financial management Specialist ME&IE Consultants (NPIWC-II)
Meeting Agenda/Points discussed:	
The meeting with Director General Agricultural (OFWM), Lahore and his designated officers was held on February 12, 2021 at 4.00 p.m. in the office of DGA (OFWM). The aim was to explore the in depth mechanism of working on different interventions of this Project. So that ME&IE Consultants may design monitoring tools in accordance with this said mechanism.	
The meeting was supposed to be chaired by Mr. Malik Muhammad Akram, Director General Agriculture (OFWM) but he was unable to attend, as he was occupied in another official meeting. However, in the said meeting general issues relevant to the working process of project's interventions were discussed in detailed. The	

meeting ended with Thanks and assuring cooperation to each other in future.



Figure-4.1: Meeting of core team with DGA OFWM Punjab Lahore



Figure-4.2: Meeting of core team with DGA OFWM Punjab Lahore

4.3.2 2nd Meeting of core team with DGA OFWM Punjab

Date	February 23, 2021 at 3.00 pm
Venue	Office of DGA OFWM Punjab, Directorate General Agriculture Punjab, Davis Road Lahore
Participants	
i.	Malik Muhammad Akram, Director General Agriculture (OFWM)
ii.	Dr. Maqsood Ahmad, Director, Water Management Training Institute, Lahore
iii.	Hafiz Qaisar Yasin, Deputy Director (Headquarters) OFWM, Lahore
iv.	Mr. Tahir Mehmood, Assistant Director (Technical) OFWM, Lahore
v.	Dr. Muhammad Abdul Quddus, Team Leader ME&IE Consultants (NPIWC- II)
vi.	Mr. Muhammad Yousaf Bhatti, Deputy Team leader (Punjab Zone) ME&IE Consultants (NPIWC-II)
vii.	Mr. Waseem Ahmad Masood Ch. Financial Management Specialist, ME&IE Consultants (NPIWC-II)
viii.	Mr. Rizwan Saleem, ICT/Technology Specialist ME&IE Consultants NPIWC-II

ix. Mr. Muhammad Tariq Khan, Deputy Team Leader, Punjab Zone, NWM Consultants (NPIWC-II)

Meeting Agenda/Points discussed:

Another meeting with Director General Agriculture (OFWM) was held in his office on February 23, 2021 at 3.00 pm.

The meeting started with the recitation of the Holy Quran. Mr. Muhammad Tariq Khan, Deputy Team Leader, Punjab Zone, NWM Consultants presented the current status of the activities of NWM Consultants in the Punjab Zone.

After the presentation given by NWM Consultants (Deputy Team Leader NWMC), DTL of ME&IE Consultants, Punjab Zone, Lahore presented the current status of the project activities. Different options of data sharing and reporting systems were discussed. The Director General Agriculture (OFWM) asked DTL (NWMC) to share all the basic data with ME&IE Consultants in order to facilitate them in the field activities. Meeting ended with the assurance to Continue cooperation with all of the stakeholders in future.



Figure-4.3: Meeting of core team with DGA OFWM Punjab Lahore



Figure-4.4: Meeting of core team with DGA OFWM Punjab Lahore

4.4 MEETINGS AND VISITS OF ME&IE CONSULTANTS – KP & GB ZONE

4.4.1 1st Meeting with DD OFWM Swabi

Date	February 1, 2021
Venue	Office of DD OFWM Swabi
Participants	
i.	District Director OFWM Swabi
ii.	Dr. Humayun Khan, DTL KP & GB Zone
Meeting Agenda/Points discussed:	
The 1st Introductory meeting was held with District Director OFWM Swabi. Due to load shedding could not receive any data.	

4.4.2 2nd Meeting in DD Office OFWM Swabi

Date	February 2, 2021
Venue	Office of DD OFWM Swabi
Participants	
i.	District Director OFWM Swabi
ii.	Mr. Qayash Ahmad, WMO District Swabi
iii.	Dr. Humayun Khan, DTL KP & GB Zone
Meeting Agenda/Points discussed:	
Acquired the basic data of Water Course Improvement executed under NPIWC – II, from Qayash Ahmad, WMO, District Swabi.	



Figure-4.5: DTL Meeting with WMO District Swabi

4.4.3 Zoom Meeting of ME&IE Consultants

Date	February 2, 2021
Venue	Zoom Meeting
Participants	
i.	ME&IE consultant NPIWC- II
Meeting Agenda/Points discussed:	
Joined Zoom meeting of ME&IE consultant NPIWC- II	

4.4.4 4th Meeting in DD Office OFWM Swabi

Date	February 16, 2021
Venue	Office of DD OFWM Swabi
Participants	
i.	Mr. Munir Iqbal Site Engineer OFWM Swabi
ii.	Dr. Humayun Khan, DTL KP & GB Zone
Meeting Agenda/Points discussed:	
Visit to office of the OFWM Swabi and meeting with Munir Iqbal, Site Engineer.	

4.4.5 5th Meeting in DG OFWM Peshawar

Date	February 25, 2021
Venue	Office of DG OFWM Peshawar
Participants	
iii.	Staff DG OFWM office Peshawar
iv.	Dr. Humayun Khan, DTL KP & GB Zone
Meeting Agenda/Points discussed:	
Visited office of the DG OFWM Peshawar and inquired about the female participation in OFWM activities. The staff reported that: Due to cultural constraint most of the female involvement in farm activities are restricted to the house boundaries. However, in southern districts of the KP some of the farm households allow their female for crop cutting, cleaning, livestock grazing etc. They also reported that even majority of the farm households do not allow their females to cast their votes in the election	

4.4.6 Field Visit(s) – KP and GB Zone

1) Field Visit – Village Ambar, District Swabi:

The Deputy Team Leader visited schemes of Swabi with staff of OFWM as per detail given below:

Field Visit - 1	Description
Scheme name	Water Storage Tank
Cost of Construction	Rs. 4,20,000
Village name	Ambar
Date of visit	15-02-2021
ME&IE consultant staff	Dr. Humayun khan DTL
OFWM staff	Mr. Munir Iqbal Site Engineer
Beneficiary	Haider Zaman
Year	2020
Current status	Completed
Source of irrigation	Solar Tube well
Command Area	About 20 acres
Beneficiary Feedback	

Cropped area	Increased
Farming efficiency	Increased
Cropping intensity	Increased
Crop yield	Increased
Water losses	Reduced about 30%
Water saving	About 30 %
Time saving	Two to three hours



Figure-4.6: Visit of Scheme Tube well Water Storage Tank at village Ambar District Swabi

2) Field Visit – village Wazir Abad, district Swabi:

The Deputy Team Leader visited schemes of Swabi with staff of OFWM as per detail given below:

Field Visit - 1	Description
Scheme name	37375/R
Cost of Construction	Rs. 4,80,000
Village name	Wazir Abad
Date of visit	22-02-2021
ME&IE consultant staff	Dr. Humayun khan DTL
OFWM staff	Mr. Munir Iqbal Site Engineer
Beneficiary	Tarif Fazal
Year	2020
Current status	Completed
Source of irrigation	Canal
Command Area	About 33 acres
Beneficiary Feedback	
Cropped area	Increased
Farming efficiency	Increased
Cropping intensity	Increased
Crop yield	Increased
Water losses	Reduced about 50%
Water saving	About 50 %
Time saving	Two to three hours per turn



Figure-4.7: Visit of Scheme-Watercourse at Wazir Abad District Swabi

4.5 MEETINGS AND VISITS OF ME&IE CONSULTANTS – BALOCHISTAN ZONE

4.5.1 1st Meeting with DD OFWM, Agriculture Officer OFWM Balochistan, Quetta.

Date	February 03, 2021
Venue	Office of DG Agriculture, OFWM Balochistan, Directorate General Agriculture Balochistan, Saria Road, Quetta
Participants	
i. Mr. Behram Malghani, Agriculture Officer, OFWM	
ii. Mr. Qaseem Agha, Deputy Director, OFWM	
iii. Mr. Rizwan Ahmed, Dy Team Leader, ME&IE Consultants, Balochistan	
Meeting Agenda/Points discussed:	
<ul style="list-style-type: none"> Discussed / briefed the role of ME&IE Consultants Discussed / requested for data regarding Social and Gender Component. Discussed and took information regarding women participation in Agriculture Sector. 	
Meeting Outcomes:	
<ul style="list-style-type: none"> Data/information received regarding women participation orally. 	

4.5.2 2nd Meeting between ME&IE Consultants Balochistan Zone

Date	February 09, 2021
Venue	Office of Project Consultants, NPIWC-II, Balochistan, Arbab Karam Khan Road, Khair Bakhsh Marri Street, Quetta
Participants	
i. Mr. Khalid Mehmood, Dy, Team Leader, Project Consultants, Balochistan	
ii. Mr. Subhan, Field Engineer, Project Consultants, Loralai Zone, Balochistan	

iii. Mr. Rizwan Ahmed, Dy Team Leader, ME&IE Consultants, Balochistan

Meeting Agenda/Points discussed:

- Discussed the ongoing project activities at both side
- Dy. TL, Project Consultants shared information regarding hiring of field staff and selected field offices to be established as per plan.
- Discussed the completed schemes (2019-20)
- Requested the data of schemes completed in all respect (file work) to make plan for ME&IE visits.

Meeting Outcomes:

- Project Consultants provided the data/information which they had checked and found completed in all respects.

4.5.3 3rd Meeting with Agriculture Officer OFWM Balochistan, Quetta.

Date	February 11, 2021
Venue	Office of DG Agriculture, OFWM Balochistan, Directorate General Agriculture Balochistan, Sariab Road, Quetta
Participants	
i.	Mr. Behram Malghani, Agriculture Officer, OFWM
ii.	Mr. Rizwan Ahmed, Dy Team Leader, ME&IE Consultants, Balochistan
Meeting Agenda/Points discussed:	
<ul style="list-style-type: none"> Discussed / briefed the ongoing project activities of ME&IE Consultants. 	
Meeting Outcomes:	
<ul style="list-style-type: none"> The aim of visit was to collect the required official data regarding ME&IE activities, but due to non-availability of Technical Staff data could not be obtained. 	

4.5.4 Zoom Meeting of Team Leader with Core team ME&IE Consultants.

Date	February 2, 2021
Venue	Zoom Meeting
Participants	
i.	ME&IE consultant NPIWC-II
Meeting Agenda/Points discussed:	
A meeting attended on Zoom which was conducted by Team Leader ME&IE Consultants with all Deputy Team Leaders and Core Team Member on February 02, 2021 regarding progress up-dation for MMR.	

4.6 DETAIL OF COLLECTIVE MEETINGS OF ME&IE CONSULTANTS

4.6.1 1st Zoom Meeting of Team Leader with Core team ME&IE Consultants.

Date	February 2, 2021
Venue	Zoom Meeting
Participants	
i.	Core team of ME&IE Consultant of NPIWC-II project
Meeting Agenda/Points discussed:	
A meeting was conducted through Zoom by the Team Leader ME&IE Consultants with all Deputy Team Leaders and Core Team Member on February 02, 2021 regarding progress up-dation for MMR.	

4.7 FINALIZATION OF MONITORING TOOLS

The monitoring Tools has been finalized for pre-testing and their refinement.

WUA/Watercourse Improvement		
Performa (WC)	Title	MT Numbers
WC-1	Watercourse Identification	MT-1
WC-2	Brief Profile of Sampled Watercourse	MT-2
WC-3	List of Watercourse Shareholders	MT-3
WC-4	List of Watercourse Beneficiaries/Farmers	MT-4
WC-5	Questionnaire for Social & Gender	MT-5
WC-6	Beneficiary/Farmer Feedback & Environment	MT-6
WC-7	Questionnaire for Farming/Beneficiary of Household	MT-7
WC-8	Spot Check of Watercourse Improvement	MT-8
WC-9	Water Flow in Sampled Watercourse (Before Improvement/After Improvement)	MT-9

Water Storage Tank		
Performa (WST)	Title	MT Numbers
WST-1	Water Storage Tank (WST) Identification	MT-1
WST-2	Spot Check of Water Storage Tank (WST)	MT-2
WST-3	Beneficiaries Feedback For Water Storage Tanks	MT-3

Service provider feedback and follow up for Laser unit (After one year of delivery)		
Performa (LLL)	Title	MT Numbers
LLL-1	Laser Land Leveler Identification	MT-1
LLL-2	Check List For Training of Service Provider / Operator of Laser Land Leveler	MT-2
LLL-3	Service Provider Feedback and Follow Up For Laser Units	MT-3
LLL-4	Beneficiary Feedback of Users of Laser Land Leveler	MT-4

The Monitoring Tools Forms are placed at **Annex-E**.

4.8 DEVELOPMENT OF ANDROID BASED APPLICATION

The development of Android based application has been started in the second week of February 2021 and tentatively will be completed by the end of first week of March 2021.

4.9 WEBSITE DEVELOPMENT OF NPIWC-II

The development of Website of NPIWC-II has been started in the first week of February 2021 and tentatively will be completed at the end of March 2021.

4.10 DESIGNING OF DASHBOARD OF PROJECT INTERVENTIONS

The designing/development of MIS/GIS system followed the software engineering methods. Thus, user requirements elicitation, requirements analysis,

system design, system implementation and maintenance were done in a circular fashion. Thereafter, evaluation will be done to test the efficacy, effectiveness, and efficiency of the management information system in the real environment. In the system development, both structured system analysis, design, object-oriented analysis, and design approaches will be used.

An established Management Information System will enable Federal and Provincial PMUs to demonstrate to key stakeholders whether the project is achieving the stated goals, outcomes, and outputs in accordance with targeted time frame.

The GIS based MIS will provide the means of:

- Comprehensively tracking the project inputs and outputs, using mainly the set of key performance indicators outlined under each component at frequent intervals;
- Monitoring of project outcome indicators;
- Robustly analyzing the relevant ME&IE data;
- Reporting progress on an open-access and regular basis, to support knowledge sharing, greater transparency, and improved project governance.

The initial steps towards the development of MIS dashboard have been initiated in accordance with the ICT assignment TORs. MIS architecture design and database structural design are under process, meanwhile the UI (User Interface) design flows are also under creation. The MIS main structure of database is linked with the component's processes. As the processes will be finalized / communicated by Project Consultants' it will be integrated in the database structural design and the localization of these processes as per the zonal/unit based will also be integrated.

4.11 MIS DASHBOARD PROCESS MONITORING INPUT TOOLS

To monitor and track the project's component wise progress, ME&IE Consultants' developed data input tool placed at **Annex-F**, which will be later configured with Android application.

5. WORK PLAN-ACTIVITIES OF FIRST QUARTER

The ME&IE activities initiating during the First Quarter 2021 (January 1, 2021 to March 31, 2021) are listed below. Time span detail is mentioned in the Tentative Work Plan. **Annex-A.**

5.1 PRE- FIELD ACTIVITIES

- i) Finalization and submission of Final Inception Report to the Client at the end of January 2021.
- ii) Meetings with Stakeholders.
- iii) Renovation of National office Islamabad and Zonal offices.
- iv) Operational of National office Islamabad and Zonal offices.
- v) Procurement of office Furniture, Equipment, Computer, Tabs/Smart Phone, Pygmy Current Meter and Vehicles, etc.
- vi) Acquiring the buildings for field offices. Renovation/furnishing of buildings for field offices.
- vii) Establishment/operational of field offices.
- viii) Preparation of 3-months plan.

5.2 FIELD ACTIVITIES

- i) Mobilization of field teams.
- ii) Training sessions of field teams and key staff on Monitoring Tools & Android application.
- iii) Pre-testing of Monitoring Tools.
- iv) Refinement of Monitoring Tools.
- v) Training on Measurement of water flow (Pygmy Current Meter).
- vi) Determination of Sample size on District/Tehsil level.
- vii) Sampling and data collection methodology, Approval from Client.
- viii) Baseline Survey.

5.3 ICT ASSIGNMENT

- i) Mobilization of field teams.
- ii) Development of Android based Mobile Application.

- iii) Testing of Monitoring tools on Android based system.
- iv) Data collection of interventions in MIS/GIS database.
- v) Designing of dashboard of Project Interventions.

5.4 COORDINATION

- vi) Meeting of DTLs with respective DTL of PC.
- vii) Meeting of DTLs with respective DGs.
- viii) Field visit/meeting with senior field engineer.
- ix) Field visit/meeting with DA, DDA and ADA.

5.5 MATRIX OF RESPONSIBILITIES

Matrix of Responsibilities is placed at **Annex-B.**

5.6 DELIVERABLES

The detail of deliverables of ME&IE Consultants with the timelines are as under:

Document	Status
Draft Inception Report	Submitted
Final Inception Report	Submitted
Monthly Monitoring Report (First)	Submitted
Monthly Monitoring Report (Second)	Report to be submitted on March 10, 2021
Quarterly Monitoring Report	To be submitted on Stipulated time.

Deliverables/Reporting Requirements is placed at **Annex-D.**

6. ISSUES NEED TO BE ADDRESSED

The ME&IE Consultants has been facing following constraints for timely initiating the activities:




- Non-availability of Primary data from Client
- Non-availability of data from NWMC (NESPAK)
- Non-availability of data from Provincial Agriculture departments.
- Non-availability of resources/funds from Client.

ANNEXES A to F

ANNEX-A: TENTATIVE WORK PLAN

ANNEX-A: TENTATIVE WORK PLAN

TENTATIVE WORK PLAN ME & IE CONSULTANTS - NPIWC-II

LEGEND	
ACTIVITY STARTS	
ACTIVITY ENDS	
ACTIVITY SPAN	

NO.	ACTIVITIES	3 Months - Year 2021 (Weeks)															
		January				February				March							
		WK-1	WK-2	WK-3	WK-4	WK-1	WK-2	WK-3	WK-4	WK-1	WK-2	WK-3	WK-4	WK-1	WK-2	WK-3	WK-4
1	Pre-field Activities:																
	1.1 Incorporating the comments in Final Inception Report.																
	1.2 Meetings With stakeholders (DGs OFWM,NPC & PC).																
	1.3 Renovation of National office Islamabad and Zonal offices.																
	1.4 Operational of National office Islamabad and Zonal offices.																
	1.5 Procurement of office Furniture, Equipment, Computer, Tabs/Smart Phone, Pygmy Current Meter and Vehicles, etc.																
	1.6 Acquiring the buildings for field offices.																
	1.7 Renovation/furnishing of buildings for field offices.																
	1.8 Establishment/operational of field offices.																
	1.9 Preparation of 3-months plan.																
2	Field Activities:																
	2.1 Mobilization of field teams.																
	2.2 Training sessions of field teams and key staff on Monitoring Tools & Android application.																
	2.3 Pre-testing of Monitoring Tools.																
	2.4 Refinement of Monitoring Tools.																
	2.5 Training on Measurement of water flow (Pygmy Current Meter).																
	2.6 Determination of Sample size on District/Tehsil level.																
	2.7 Sampling and data collection methodology, Approval from Client.																
	2.8 Baseline Survey.																
3	ICT Assignment:																
	3.1 Development of web site of NPIWC-II.																
	3.2 Development of Android based Mobile Application.																
	3.3 Testing of Monitoring tools on Android based system.																
	3.4 Data collection of interventions in MIS/GIS database.																
	3.5 Designing of dashboard of Project Interventions.																
4	Coordination																
	4.1 Meeting of DTLs with respective DTL of PC.																
	4.2 Meeting of DTLs with respective DGs.																
	4.3 Field visit/meeting with senior field engineer.																
	4.4 Field visit/meeting with DA, DDA and ADA.																
5	Deliverables:																
	5.1 Final Inception Report.																
	5.2 Monthly Monitoring Report.																
	5.3 Quarterly Monitoring Report.																

ANNEX-B: MATRIX OF RESPONSIBILITIES

MATRIX OF RESPONSIBILITIES

LEGEND	
●	Primary Responsibility
⊙	Secondary Responsibility
○	Assistance

SR. NO.	DELIVERABLE / ACTIVITIES	NPC-FPMU	Agriculture Dept. (LOEWMI)	Project Consultants	ME&IE Consultants
1	Provision of Pre-requisite data of project components for starting of Field Activities: <ul style="list-style-type: none"> • Organization of Water Users Associations, • Watercourses Improvement, • Water Storage Tanks, • Laser Land Levelers, 	○	●	-	-
2	Certification of operational documents of the project, <ul style="list-style-type: none"> • Design, cost estimates, completion reports of watercourses, • Design, cost estimates, completion reports of water storage tanks, 	○	⊙	●	-
3	Undertake baseline, midline and endline surveys of the project activities/interventions in all the project areas.	-	-	-	●
4	Develop monitoring strategy, framework and Result Based Monitoring (RBM) indicators,	-	-	-	●
5	Assessing the water saving per annum on watercourse and water storage tanks as well as aggregate due to the project interventions.	-	-	-	●
6	Assessing the improvement in water availability due to provision of conveyance system.	-	-	-	●
7	Assessing the economic benefits to the agriculture in terms of increase in yield, irrigated area, cropping pattern, cropping intensity, farm income and employment in command area of watercourses and water storage tanks.	-	-	-	●
8	Assessing the extent of community mobilization, financial and administrative sustainability of Water Users' Associations and ensuring the maintenance of watercourses, water storage tanks and laser land levelers.	-	-	-	●
9	Economic Impact of project interventions.	-	-	-	●
10	Carryout impact evaluation of the project investment on the economy and stakeholders.	-	-	-	●
11	Preparation of Monthly, Quarterly and Annual Monitoring, Evaluation and Validation Reports of the project activities.	-	-	-	●
12	Develop a website containing information of facilities and services, applications, procedures, watercourses, water storage tanks, and laser levelers database etc. (Maintaining website should be the responsibility of project staff).	-	-	-	●
13	Provide technical support for the development of a custom-designed mobile application (Android) to capture on-site project progress, geo tagged photos; should be synchronized with the central MIS/GIS database and application for instant reporting and feedback to the	-	-	-	●

ANNEX-C: MONITORING LOG-FRAME

Annex-C: Monitoring Log-frame

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
C1: Organization of Water Users' Associations (WUAs)	Reactivation of existing / organization of water users' associations. Ensuring one on each target watercourse. Total WUAs ensured 47,278.	a) Community mobilization at 47,278 watercourses	a) Total 47,278 WUAs reactivated / established/registered	a) Right of way of 47,278 watercourses available b) Skilled and unskilled labour required for watercourse improvement available c) Construction material for civil works of watercourses procured d) Alternate arrangement for water conveyance during construction made e) Watercourse improved	a) Disputes among the water users settled b) Farmers' branched improved c) Water allocation made amicably d) Maintenance of watercourses, WST and laser units done e) Cooperation among farmers increased	a) 47,278 watercourses improved and 15 percentage points conveyance losses reduced b) Litigation among farmers reduced	a) The functioning of the WUAs will be established through sample interview surveys of WUAs members twice during the project period
C2: Watercourses Improvements	Improvement of 47,278 watercourses on	a) Establishment of 47,278 Water users'	a) 47,278 WCAs established;	a) Conveyance losses for improved	a) Increase in cropping intensity on	a) Increase in farm income;	a) The water flow measurements will be carried

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
	cost sharing basis: 40% farmers in terms of labour, and 60% funded by project.	associations (WUAs); b) Registration of 47,278 WUAs; c) Improvement and realignment of earthen section of 47,278 watercourses; d) Lining of up to 50% length of 47,278 watercourse either by: • Precast concrete parabolic lining (PCPL) segments, or • Rectangular brick masonry, or any other method as approved by the project	b) 47,278 WCAs registered; c) 47,278 watercourses improved and lined;	watercourses decreased by about 15 percentage points. b) 1.654 million households benefited from the activity; c) 11.347 million acres served with improved watercourses	improved watercourses by 5-24%; b) Increase in crop yields. c) Increase in irrigated area d) Increase in agriculture output per unit of water by about 37%	b) Increase in employment for farm labour; c) Reduction in poverty; d) Enhanced food security for the country.	out at before and after watercourse improvement on 2-5% sample basis; b) Agriculture survey before and after watercourse improvement on 2-5% sample basis; c) The survey will determine: • Cropping pattern before and after the improvement; • Cropping intensities before and after improvement; • Before and after crop yields;

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
							<ul style="list-style-type: none"> • Before and after employment; d) The difference between before and after will be considered the result of the intervention after netting out the contribution of the growth pattern of the crop sector otherwise.
C3: Construction of Water Storage Tanks (WSTs)	a) Construction of 14,932 water storage tanks	a) 14,932 small farmers mobilized to construct water storage tanks for irrigation b) They agree to contribute 40% of the cost	a) 14,932 WSTs constructed b) 14,932 WSTs operated and maintained	a) Water which was otherwise largely going to be wasted is saved b) Irrigation provided at critical stages of the crops c) Flexibility achieved for irrigation	a) More area irrigated b) Increased cropping intensities	a) Increased crop yields b) Increased total crop output quantum c) Increased farm income d) Increased farm employment	a) 2-5% sample of WSTs will be surveyed b) A data collection form will be designed to measure water saving due to WSTs c) The forms used for baseline and

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
		c) Agree to first construct the tank with his/her own funds and then received subsidy at 40% on issuance of FCR					impact surveys in case of watercourses will also be used for WSTs d) Same data analysis will be carried out here as in case of watercourses.
C4: Provision of Land Leveling Units	a) Provision of 11,610 laser land leveling units to farmers and service providers on a cost sharing basis: 50% by farmer / service provider and 50% by the project.	a) 11,610 laser units provided to farmers / service providers; b) Farmers trained in using the units.	a) 11,610 farmers / service providers received PLL units; b) Farmers / service providers received training in using the units.	a) Land levelled on Farmers' / service providers' farms; b) Land levelled on fellow farmers on rent; c) Total 3.483million acres levelled by 11,610 units.	a) Water application efficiency increased at field level; b) Even germination of seed. c) Field application losses reduced by 10 percentage points d) Water productivity increased by 24%	e) Increased area under irrigated crops; f) Enhanced crop yields g) Increased farm income	a) The land levelling is expected to save irrigation water and result in better and even germination of seeds which can enhance crop yields. The crop yields thus affected will be reflected in agriculture sample surveys. b) 2-4% sample units will be visited by

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
							<p>ME&IE Consultants teams after one years of delivery</p> <p>c) The unit will be verified</p> <p>d) Area treated during the year will be collected</p> <p>e) Farmers' feedback collected on quality of the unit, quality of the after-sale service, etc.</p>

ANNEX-D: DELIVERABLES/REPORTING REQUIREMENTS

ANNEX-D: DELIVERABLES/REPORTING REQUIREMENTS

Deliverables/Reporting Requirements

Sr. No.	Document	Copies	Due
1	Draft Inception Report	8	45 days after the effectiveness of the Consulting services Agreement.
2	Final Inception Report	15	One week after the issuance of comments by the Client on Draft Inception Report
3	Monthly Monitoring Report	10	10 th of the following month
4	Baseline Survey Report	10	4 months after start of the assignment
5	Midline Survey Report	10	In the middle of the assignment
6	Endline Survey Report	10	At the end of the endline survey
7	Quarterly Monitoring and Evaluation Report	10	10 th of the first month of following quarter
8	Annual Monitoring and Evaluation Report	10	During first month of following year
9	Draft Assignment Completion Report	5	At completion of physical works / activities
10	Final Completion Report	25	At completion of works as well as financial transactions
11	Special Reports	10	As and when required

ANNEX-E: Monitoring Tools

WC Monitoring Tool-1

WATERCOURSE IDENTIFICATION

1. IDENTIFICATION		
DB.#	Q.#	Field Name
	1.1	Province/ Unit
	1.2	Division
	1.3	District
	1.4	Tehsil
	1.5	Field Team
	1.6	Union Council
	1.7	Village
	1.8.1	NA Constituency
	1.8.2	PP Constituency
	1.9	Watercourse Name
	1.10	Watercourse Location
	1	Canal Area
	2	Non-Canal Area
If 'Canal area' in Q.# 1.10 then Continue with Q.# 1.11		Otherwise continue with Q# 1.15
	1.11	Canal
	1.12	Branch
	1.13	Distributary
	1.14	Minor
	1.15	Type Of Water Source
	1	Perennial Canal
	2	Annual Canal
	3	Tube Well
	1.16	Category Of Watercourse To Be Improved
	1	Regular (New)
	2	20 Years Old
	3	Additional Lining
	1.17	Type Of Watercourse
	1	Rectangular/ Bricks
	2	Parabolic
	3	Pvc 3"
	4	Pvc 4"

	5	Rcc Pipe
	6	Stone Masonry
	1.18	Location Of Watercourse On The Minor/Canal
	1	Head
	2	Middle
	3	Tail
	1.19	Financial Year
	1.20	Comments

WC Monitoring Tool-2

BRIEF PROFILE OF SAMPLED WATERCOURSE

1. IDENTIFICATION		
DB.#	Q.#	Field Name
	1.1	Province/ Unit
	1.2	Division
	1.3	District
	1.4	Tehsil
	1.5	Field Team
	1.6	Union Council
	1.7	Village
	1.8	Name of Chairman
	1.9	Contact # of Chairman
	1.10	NA Constituency
	1.11	PP Constituency
	1.12	Watercourse Name
	1.13	Watercourse Location
	1	Canal Area
	2	Non-Canal Area
If 'Canal area' in Q.# 1.11 then Continue with Q.# 1.12		Otherwise continue with Q# 1.16
	1.12	Canal
	1.13	Branch
	1.14	Distributary
	1.15	Minor
	1.16	Type of Water Source
	1	Perennial Canal
	2	Annual Canal
	3	Tube Well
	1.17	Category Of Watercourse To Be Improved
	1	Regular (New)
	2	20 Years Old
	3	Additional Lining
	1.18	Type Of Watercourse
	1	Rectangular/ Bricks

	2	Parabolic
	3	Pvc 3"
	4	Pvc 4"
	5	Rcc Pipe
	6	Stone Masonry
	1.19	Location Of Watercourse On The Minor/Canal
	1	Head
	2	Middle
	3	Tail
	1.20	Financial Year
	1.21	Designed Discharge (LPS)
	1.22	Additional discharge?
	1	Yes
	2	No
If 'Yes' in Q#-1.22 then Continue with Q#-1.23		Otherwise goto to Q#1.24
	1.23	Additional discharge source
	1.24	Quality of Ground water
	1	Sweet
	2	Brackish
	1.25	Total culturable Command Area (CCA) (Acres)
	1.26	Total Water User's Nos.
	1.27	Status of watercourse to be improved
	1	Technical Sanction(TS) Issued
	2	Intermediate Completion Report (ICR-1) Issued
	3	Intermediate Completion Report (ICR-2) Issued
	4	Final Completion Report(FCR) Issued
	1.28	Coordinates & picture at Mogha
If Q#-1.27 is at Technical sanction Continue with Q#-1.30		Otherwise goto to Q#1.29
	1.29	Coordinates & picture of Kacha and Lining of work course at lining end
	1.30	Coordinates & pictures at Kacha end
	1.31	Sanctioned lining length of watercourse
	1.32	Date of Technical Sanction(TS)
	1.33	Sanctioned Cost (rupees)
	2	COMMENTS OF INTERVIEWER

WC Monitoring Tool-3

LIST OF WATERCOURSE SHAREHOLDERS

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	Watercourse ID: _____
2.SHAREHOLDERS LIST		
	2.1	Name of Shareholder
	2.2	Gender
	1	Male
	2	Female
	2.3	Father Name
	2.4	Area Owned (Acres)
	2.5	Area Rented In (Acres)
	2.6	Area Rented out (Acres)
	2.7	Total Area operated (Acres)
	2.8	Status in association
	1	Chairman
	2	Treasurer
	3	Secretary
	4	Member
	5	Not Member
	2.9	Location on WC
	1	Head
	2	Middle
	3	Tail
	3	COMMENTS OF INTERVIEWER

WC Monitoring Tool-4

LIST OF WATERCOURSE BENEFICIARIES/FARMERS

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	Watercourse ID:
2. BENEFICIARY/FARMER LIST		
	2.1	Name of Share Croppers / Harries / Tenant / etc.
	2.2	Father Name
	2.3	Gender
	1	Male
	2	Female
	2.4	Total area operated in (Acres)
	2.5	Location on watercourse(WC)
	1	Head
	2	Middle
	3	Tail
	3	COMMENTS OF INTERVIEWER

WC Monitoring Tool-5

QUESTIONNAIRE FOR SOCIAL & GENDER

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	Watercourse ID: _____
	1.2	Name of Respondent
	1.3	Age (Years) (till to date)
	1.4	Level of Education
	1	Illiterate
	2	Primary
	3	Middle
	4	Matric
	5	Intermediate
	6	Graduate and above
	7	Madrassa Education
	8	Literate
	1.5	Occupation
	1	Housekeeping
	2	Agriculture
	3	Labor
	4	Govt./Private job
	5	Business
	6	If any other, Specify? _____
2.SOCIAL INFORMATION		
Land, Cultivation and Irrigation Information		
	2.1	Are you currently married?
	1	Yes
	2	No
	2.2	Do you own a piece of agricultural land?
	1	Yes
	2	No
	3	Do not Know
	2.3	How many acres?
	2.4	How much land is as tenancy? (Acres)
	2.5	Who cultivates your land?

	1	I myself
	2	My father
	3	My brother
	4	My husband
	5	Hari / Tenant
	6	Do not know
	2.6	Do your family/husband own a piece of agri. land or work as tenant?
	1	Owner Land
	2	Worked as tenant
	3	Both owner and tenant
	4	Do not Know
	2.7	Do you participate in farming activities?
	1	Yes
	2	No
	2.8	Do you people face problem regarding the irrigation water?
	1	Yes
	2	No
	3	Never asked
	2.9	Are you consulted in making farming decisions regarding your land?
	1	Always
	2	Rarely
	3	Never
	2.10	Are you consulted in spending income at your household?
	1	Always
	2	Rarely
	3	Never
	2.11	Are you consulted in making household decisions?
	1	Always
	2	Rarely
	3	Never
	2.12	What household activities are performed by you?
	1	Cooking
	2	Looking after elders
	3	Washing clothes and dishes
	4	Cleaning of house
	5	Caring of Children

	6	Bringing drinking water
	7	Bringing fire wood
	8	If any other, Specify? _____
	2.13	Have you heard about NPIWC-II Project?
	1	Yes
	2	No
	2.14	Do You know about WUA
	1	Yes
	2	No
	2.15	Are you member of WUA
	1	Yes
	2	No
	2.16	Do you participate in WUA meetings?
	1	Always
	2	Never
	3	Never called
	2.17	Do you wash clothes at washing pad at watercourse?
	1	Yes
	2	No
	2.18	Are Culverts sufficient for crossing at watercourse?
	1	Yes
	2	No
	3	COMMENTS OF INTERVIEWER

WC Monitoring Tool-6

BENEFICIARY/FARMER FEEDBACK & ENVIRONMENT

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	Watercourse ID: _____
	1.4	Status of watercourse to be improved
	1	Technical Sanction(TS) Issued
	2	Intermediate Completion Report(ICR-1) Issued
	3	Intermediate Completion Report(ICR-2) Issued
	4	Final Completion Report(FCR) Issued
If only "Technical Sanction Issued", Cover this section till Q 3.11		
If the answer in q 1.4 comes from 2 to 3 then fill from Q 3.12 to Q 3.23		
If the answer in q 1.4 comes from FCR then fill from Q 4.1 till End		
Farmers Feedback: Part A, Water User Association		
	2.1	Do you know about Water User's Association (WUA)?
	1	Yes
	2	No
	3	No Response
If "Yes" in Q.#2.1 then continue with Q#2.2		otherwise goto Q#2.15
	2.2	Are you a member of Water User's Association(WUA)?
	1	Yes
	2	No
	3	Don't know
If "Yes" in Q.#2.2 then continue with Q#2.3		otherwise goto Q#2.18
	2.3	Was your participation voluntary?
	1	Yes
	2	No
	3	No Response
	2.4	Who motivated you to be a member?
	1	Fellow farmers
	2	Big Landlord
	3	OFWM field team
	4	Any other (Specify)
	2.5	Did you pay any membership fee to become member of WUA?
	1	Yes

	2	No
	3	No Response
	2.6	Do all the WUA members are water user's?
	1	Yes
	2	No
	2.7	Do WUA holds regular meetings of the association?
	1	Yes
	2	No
	3	To some Extent
	2.8	Do you participate in the WUA meetings?
	1	Always
	2	Occasionally
	3	Never
	2.9	Do you know that the minutes are recorded and got approved in next meeting?
	1	Always
	2	Occasionally
	3	Never
	2.10	Do Decisions make democratically?
	1	Yes
	2	No
	3	To some Extent
	2.11	Do Majority of the members participate in the meetings?
	1	Yes
	2	No
	3	To some Extent
	2.12	What is the frequency of WUA meetings?
	1	Every month
	2	Quarterly
	3	Once a year
	4	As per need arises
	2.13	Do you aware about functions and responsibilities of the Association?
	1	Labour Arrangement
	2	Resolve Disputes
	3	WCs Maintenance
	4	Funding for Accounts
	2.14	Do you think WUA helps in solving your farming problems?

	1	Always
	2	To some Extent
	3	Never
Farmer Feedback: Watercourse		
	2.15	Do you Know that your watercourse is going to be newly lined/ additionally lined/reconstructed?
	1	Yes
	2	No
	3	Don't know
<i>If "Yes" in Q.#2.15 then continue with Q#2.16</i>		<i>Otherwise goto Q#2.18</i>
	2.16	Do you know that the lining will be up to 50% of the watercourse length?
	1	Yes
	2	No
	3	Don't know
	2.17	Do you think that watercourse lining up to 50% will benefit you?
	1	Yes
	2	No
	3	Don't know
3. Feedback: Environment Baseline		
	3.1	Will there be land required for the improvement / alignment of watercourse?
	1	Yes
	0	No
	3.2	Are the clothes washed on this watercourse?
	1	Yes
	0	No
<i>If "Yes" in Q.#3.2 then continue with Q#3.3</i>		<i>Otherwise goto Q#3.4</i>
	3.3	How many places and at what locations?
	3.3.1	How many at Head?
	3.3.2	How many at Middle?
	3.3.3	How many at Tail?
	3.4	Do washing bays required on this watercourse?
	1	Yes
	0	No
<i>If "Yes" in Q.#3.4 then continue with Q#3.5</i>		<i>Otherwise goto Q#3.6</i>
	3.5	How many places and at what locations?
	3.5.1	How many at Head?
	3.5.2	How many at Middle?

	3.5.3	How many at Tail?
	3.6	Will any trees be cut down on this watercourse?
	1	Yes
	0	No
If "Yes" in Q.#3.6 then continue with Q#3.7		Otherwise goto Q#3.8
	3.7	Number of Trees to be Cut Down?
	3.8	Will temporary diversion channel be needed?
	1	Yes
	0	No
	3.9	How the solid waste material will be disposed of?
	1	Used in filling small depressions
	2	Used for dressing Inspection Path / Non Inspection Path
	3	Left unattended
	4	If any other, Specify
	3.10	Will there be disruption to local routes?
	1	Yes
	0	No
	3.11	Will the local labour be hired for works on this watercourse?
	1	Yes
	0	No
Farmer's Feedback: DURING CONSTRUCTION		
	3.12	Do you know that this watercourse is being lined up to 50 percent?
	1	Yes
	0	No
	3.13	Was the land required for WC alignment provided by the land owners voluntarily?
	1	Yes
	0	No
	3.14	Are washing bays under construction as per technical sanction?
	1	Yes
	0	No
	3.15	How many places and at what locations?
	3.15.1	How many at Head?
	3.15.2	How many at Middle?
	3.15.3	How many at Tail?
	3.16	Were any trees cut down during watercourse improvement work?
	1	Yes

	0	No
	2	Number of Trees Cut Down?
If "Yes" in Q.#3.16 then continue with Q#3.17		Otherwise goto Q#3.19
	3.17	How many saplings have been planned to be planted against each tree cut down?
	3.18	Do the arrangements made for the protection of newly planted saplings?
	1	Yes
	0	No
	3.19	Were temporary diversion channel(s), if any, made?
	1	Yes
	0	No
If "Yes" in Q.#3.19 then continue with Q#3.20		Otherwise goto Q#3.21
	3.20	How the solid waste material was disposed of?
	1	Used in filling small depressions
	2	Used for dressing Inspection Path / Non Inspection Path
	3	Lefty unattended
	4	If any, Specify
	3.21	Was the disruption of local routes occurring?
	1	Yes
	0	No
If "Yes" in Q.#3.21 then continue with Q#3.22		Otherwise goto Q#3.23
	3.22	Were measures taken to restore the local routes properly?
	1	Yes
	0	No
	3.23	Was local labor hired for improvement works of the watercourse?
	1	Yes
	0	No
Beneficiary/Farmer Feedback: Part C		
4.VISIT AFTER CONSTRUCTION		
	4.1	Do you know that watercourse was lined up to 50%?
	1	Yes
	2	No
	3	NA
If "Yes" in Q.#4.1 then continue with Q#4.2		otherwise skip the questionnaire
	4.2	Did you ever visit watercourse site as it was being improved?
	1	Yes
	2	No

	3	NA
	4.3	Were disputes resolved during construction of the watercourse?
	1	Yes
	2	No
	3	To some Extent
	4.4	Were there issues relating to controlled structures/ nacca fixing were resolved?
	1	Yes
	2	No
	3	To some Extent
	4.5	Have you heard about the quality of work?
	1	Yes
	2	No
	3	NA
If "Yes" in Q.#4.5 then continue with Q#4.6		Otherwise goto Q#4.8
	4.6	Do you think work quality was?
	1	Good
	2	Average
	3	Not good
	4	Don't know
If "Not Good" in Q.#4.6 then continue with Q#4.7		Otherwise goto Q#4.8
	4.7	If work quality is not good, then of which?
	1	Bricks
	2	RCC/PVC pipe
	3	Cement
	4	Slab
	5	Control structure/Nacca
	6	Workmanship
	7	Any other (Specify)
	4.8	Do you know that before the lining work was started, the watercourse was earthen, improved/renovated?
	1	Yes
	2	No
	3	Don't know
If "Yes" in Q.#4.8 then continue with Q#4.9		Otherwise goto Q#4.10
	4.9	How much in your view watercourse length was earthen improved / renovated?
	1	Entire length
	2	Only Lining part
	3	Do not know

Labour		
	4.10	Arranged skilled and unskilled labour for earthen improvement of the watercourse
	1	Yes
	2	No
	3	To some Extent
	4.11	Arranged skilled and unskilled labour for watercourse lining/ alignment
	1	Yes
	2	No
	3	To some Extent
	4.12	Did you participate in earthen improvement activity?
	1	Yes
	2	No
	3	To some Extent
If "Yes" in Q.#4.12 then continue with Q#4.13		Otherwise goto Q#4.14
	4.13	In what form?
	1	Contributed labour
	2	Contributed in kind/money
	4.14	Do you think that irrigation water availability has increased after the watercourse improvement at your farm?
	1	Yes
	2	No
	3	Don't know
If "Yes" in Q.#4.14 then continue with Q#4.15		Otherwise goto Q#4.16
	4.15	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%
	4.16	Did WUA Resolve disputes arising during construction of watercourse?
	1	Yes
	2	No
	3	To some Extent
	4.17	Did WUA Resolve issues relating to controlled structures/Nacca fixing?
	1	Yes
	2	No
	3	To some Extent
	4.18	The improved watercourse is properly maintained
	1	Yes

	2	No
	3	To some Extent
Environment		
	4.19	Were the washing bays constructed/completed?
	1	Yes
	0	No
	4.20	How many places, and at what locations?
	4.20.1	How many at Head?
	4.20.2	How many at Middle?
	4.20.3	How many at Tail?
	4.21	How many saplings were planted against each tree cut down?
	4.21.1	Number of Survived Trees?
	4.22	Were the arrangements made for the protection of newly planted saplings?
	4.23	Were temporary diversion channel(s) restored?
	1	Yes
	0	No
	4.24	How the solid waste material was disposed of?
	1	Used in filling small depressions
	2	Used for dressing Inspection Path / Non Inspection Path
	3	Left unattended
	4	If any other, Specify
	4.25	Was the disruption of local routes occurring?
	1	Yes
	0	No
	4.26	Were measures taken to restore the local routes properly?
	1	Yes
	0	No
	4.11	Were the local labor hired for works on this watercourse?
	1	Yes
	0	No
	5	COMMENTS OF INTERVIEWER

WC Monitoring Tool-7

QUESTIONNAIRE FOR FARMING/BENEFICIARY OF HOUSEHOLD

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	Watercourse ID: _____
2.PROFILE OF BENEFICIARY		
	2.1	Name
	2.2	Father's Name
	2.3	District
	2.4	Tehsil
	2.5	Field Team
	2.6	Village
	2.7	Location of farm on water course
	1	Head
	2	Middle
	3	Tail
3. FARM SIZE AND TEANURIAL STATUS		
	3.1	Area Owned (Acres)
	3.2	Area Rented-In (Acres)
	3.3	Area Rented-Out (Acres)
	3.4	Total Farm Area (Acres)
	3.6	Area not Cultivated
	3.7	Area Cultivated
	3.8	Area under water logging and salinity
	3.9	Reason for water logging
	1	Katcha WC
	2	Others
	3.5	Tenurial status
	1	Owner
	2	Owner cum Tenant
	3	Tenant

4. SOURCES OF IRRIGATION WATER		
	4.1	Main Sources
	1	Canal
	2	Tube well
	3	Canal+TW
	4	Others
	4.2	Status of tube well water used
	1	Owned
	2	Purchased
	4.3	Cost of tube well water per hour Rs.
	4.4	Share of irrigation water %age
	4.4.1	Water used for Kharif crops?
	1	Canal
	2	Tube well
	3	Others
	4.4.2	Water used for Rabi crops
	1	Canal
	2	Tube well
	3	Others
5. FAMILY AND PERMANENT HIRED LABOR		
	5.1	Family Members
	5.5.1	Member full time available for farming
	1	Male
	2	Female
	5.5.2	Member part time available for farming
	1	Male
	2	Female
	5.5.3	Permanent hired labor (PHL)
	1	Male
	2	Female

Name of Crop	Area (acres)	Land Preparation			Laser Land Leveling			Seed Bed Preparation		
		Acres	Hr/ Acre	Rate/hr	Acres	Hr/ Acre	Rate/hr	Acres	Hr/ Acre	Rate/hr
Kharif Crops										
1 Rice (Fine)										
2 Rice (Coarse)										
3 Cotton (American)										
4 Cotton (Desi)										
5 Sugarcane (New)										
6 Sugarcane (Ratoon)										
7 Sugar Beet										
8 Maize										
9 Tobacco										
10 Kharif fodder										
11 Other Kharif Crops (Name)										
Rabi Crops										
12 Wheat										
13 Sunflower										
14 Rapeseed, mustard, canola										
15 Other Edible Oils Seed										
16 Rabi fodder										
17 Other Rabi crops (Name)										
Orchards										
18 Mango										
19 Dates										
20 Apple										
21 Lemon										
22 Citrus										
23 Guava										
24 Other (Name)										
Vegetables										
25 Tomato										
26 Potato										
27 Peas										
28 Carrot										
29 Radish										
30 Cucumber										
31 Onion										
32 Lady Finger/ Okra										
33 Chillies										
34 Other (Names)										

Name of Crop		Seed Bed Treatment										Seed Treatment cost		
		Use of Seed		Seedling cost/acre		Sowing (CHL)		Plantation (CHL)		Transplantation		Cost. Per acre	Labour Cost	
		Kg/ acre	Rs/ Kg	Home Grown	Bought	Male	Female	Male	Female	Male	Female		Male	Female
	Kharif Crops													
1	Rice (Fine)													
2	Rice (Coarse)													
3	Cotton (American)													
4	Cotton (Desi)													
5	Sugarcane (New)													
6	Sugarcane (Ratoon)													
7	Sugar Beet													
8	Maize													
9	Tobacco													
10	Kharif fodder													
11	Other Kharif Crops (Name)													
	Rabi Crops													
12	Wheat													
13	Sunflower													
14	Rapeseed, mustard, canola													
15	Other Edible Oils Seed													
16	Rabi fodder													
17	Other Rabi crops (Name)													
	Orchards													
18	Mango													
19	Dates													
20	Apple													
21	Lemon													
22	Citrus													
23	Guava													
24	Other (Name)													
	Vegetables													
25	Tomato													
26	Potato													
27	Peas													
28	Carrot													
29	Radish													
30	Cucumber													
31	Onion													
32	Lady Finger/ Okra													
33	Chillies													
34	Other (Names)													

Name of Crop	Use of Fertilizers (No. of Bags)/Acre											
	Urea		DAP		Potash (SOP)		NP (23-23)		Other Name		Cost of Hired Labour	
	Qty Bags	Price per Bag	Qty Bags	Price per Bag	Qty Bags	Price per Bag	Qty Bags	Price per Bag	Qty Bags	Price per Bag	Male	Female
Kharif Crops												
1 Rice (Fine)												
2 Rice (Coarse)												
3 Cotton (American)												
4 Cotton (Desi)												
5 Sugarcane (New)												
6 Sugarcane (Ratoon)												
7 Sugar Beet												
8 Maize												
9 Tobacco												
10 Kharif fodder												
11 Other Kharif Crops (Name)												
Rabi Crops												
12 Wheat												
13 Sunflower												
14 Rapeseed, mustard, canola												
15 Other Edible Oils Seed												
16 Rabi fodder												
17 Other Rabi crops (Name)												
Orchards												
18 Mango												
19 Dates												
20 Apple												
21 Lemon												
22 Citrus												
23 Guava												
24 Other (Name)												
Vegetables												
25 Tomato												
26 Potato												
27 Peas												
28 Carrot												
29 Radish												
30 Cucumber												
31 Onion												
32 Lady Finger/ Okra												
33 Chillies												
34 Other (Names)												

Name of Crop		FYM					Sprays				Canal irrigation Per Acre	
		Area treated	No. of Trolleys	Cost per	Labour Cost		No. of spray	Cost of Sprays	Cost of Hired Labour		No. of irrigation per acre	Abyana & taxes per crop
					Male	Female			Male	Female		
	Kharif Crops											
1	Rice (Fine)											
2	Rice (Coarse)											
3	Cotton (American)											
4	Cotton (Desi)											
5	Sugarcane (New)											
6	Sugarcane (Ratoon)											
7	Sugar Beet											
8	Maize											
9	Tobacco											
10	Kharif fodder											
11	Other Kharif Crops (Name)											
	Rabi Crops											
12	Wheat											
13	Sunflower											
14	Rapeseed, mustard, canola											
15	Other Edible Oils Seed											
16	Rabi fodder											
17	Other Rabi crops (Name)											
	Orchards											
18	Mango											
19	Dates											
20	Apple											
21	Lemon											
22	Citrus											
23	Guava											
24	Other (Name)											
	Vegetables											
25	Tomato											
26	Potato											
27	Peas											
28	Carrot											
29	Radish											
30	Cucumber											
31	Onion											
32	Lady Finger/ Okra											
33	Chillies											
34	Other (Names)											

Name of Crop	Tube well irrigation			Picking of cotton/orchard/Vegetables			Number of hoeing/thinning		
	Hour/Acre	Cost/hour	Area Irrigated	Number of Picking	CHL Rs.		Number	CHL Rs.	
					Male	Female		Male	Female
Kharif Crops									
1 Rice (Fine)									
2 Rice (Coarse)									
3 Cotton (American)									
4 Cotton (Desi)									
5 Sugarcane (New)									
6 Sugarcane (Ratoon)									
7 Sugar Beet									
8 Maize									
9 Tobacco									
10 Kharif fodder									
11 Other Kharif Crops (Name)									
Rabi Crops									
12 Wheat									
13 Sunflower									
14 Rapeseed, mustard, canola									
15 Other Edible Oils Seed									
16 Rabi fodder									
17 Other Rabi crops (Name)									
Orchards									
18 Mango									
19 Dates									
20 Apple									
21 Lemon									
22 Citrus									
23 Guava									
24 Other (Name)									
Vegetables									
25 Tomato									
26 Potato									
27 Peas									
28 Carrot									
29 Radish									
30 Cucumber									
31 Onion									
32 Lady Finger/ Okra									
33 Chillies									
34 Other (Names)									

Name of Crop	Mulching/ Pruning/ Stalking			harvesting/ picking						
	Number	CHL Rs.		Harvest Material Cost (Wheat and Rice)	CHL Rs.		Cost of Labour for Harvest ing in rs	Cost of Threshi ng	CHL Rs.	
		Male	Female		Male	Female			Male	Female
Kharif Crops										
1 Rice (Fine)										
2 Rice (Coarse)										
3 Cotton (American)										
4 Cotton (Desi)										
5 Sugarcane (New)										
6 Sugarcane (Ratoon)										
7 Sugar Beet										
8 Maize										
9 Tobacco										
10 Kharif fodder										
11 Other Kharif Crops (Name)										
Rabi Crops										
12 Wheat										
13 Sunflower										
14 Rapeseed, mustard, canola										
15 Other Edible Oils Seed										
16 Rabi fodder										
17 Other Rabi crops (Name)										
Orchards										
18 Mango										
19 Dates										
20 Apple										
21 Lemon										
22 Citrus										
23 Guava										
24 Other (Name)										
Vegetables										
25 Tomato										
26 Potato										
27 Peas										
28 Carrot										
29 Radish										
30 Cucumber										
31 Onion										
32 Lady Finger/ Okra										
33 Chillies										
34 Other (Names)										

	Name of Crop	Area (acres)	Yield		Prices		In case sold as such Rs. /Acre for fruit plants only
			Product (40 Kgs)	By-product (40 Kgs)	Product Price per 40 Kg (Rs.)	By-Product (Rs. /40 Kg)	
	Kharif Crops						
1	Rice (Fine)						
2	Rice (Coarse)						
3	Cotton (American)						
4	Cotton (Desi)						
5	Sugarcane (New)						
6	Sugarcane (Ratoon)						
7	Sugar Beet						
8	Maize						
9	Tobacco						
10	Kharif fodder						
11	Other Kharif Crops (Name)						
	Rabi Crops						
12	Wheat						
13	Sunflower						
14	Rapeseed, mustard, canola						
15	Other Edible Oils Seed						
16	Rabi fodder						
17	Other Rabi crops (Name)						
	Orchards						
18	Mango						
19	Dates						
20	Apple						
21	Lemon						
22	Citrus						
23	Guava						
24	Other (Name)						
	Vegetables						
25	Tomato						
26	Potato						
27	Peas						
28	Carrot						
29	Radish						
30	Cucumber						
31	Onion						
32	Lady Finger/ Okra						
33	Chilies						
34	Other (Names)						

7. BENEFICIARY'S PERCEPTION ABOUT WATER SAVING		
DB#	Q#	Field Name
		Watercourse ID: _____
	1.1	Do you think use of labour force increased on from after improvement of water course?
	1	Yes
	2	No
If "Yes" in Q.#9.1 then continue with Q#9.2		Otherwise goto Q#9.3
	1.2	How much (%)
	1.3	Are you satisfied with the equity in distribution of water?
	1	Yes
	2	No
	1.4	How much your land was irrigated before lining in one go?
	1.5	After lining, how much your land irrigates in one go?
	1.6	During the season have you faced any problem regarding water theft/ dispute or litigation?
	1	Yes
	2	No
If "Yes" in Q.#9.6 then continue with Q#9.7		Otherwise goto Q#9.8
	1	Yes
	2	No
	1.7	During and after water course improvement on OFWM staff has guided about economically use of water?
	1	Yes
	2	No
	1.8	Have OFWM staff provided you any literature about economically use of water?
	1	Yes
	2	No
	1.9	General remarks of beneficiaries about watercourse improvement intervention

WC Monitoring Tool-8

SPOT CHECK OF WATERCOURSE IMPROVEMENT

1. IDENTIFICATION		
DB.#	Q.#	Field Name
	1.1	Watercourse ID. _____
2. Rectangular/ Bricks Watercourse		
	2.1	Removal of vegetation from watercourse properly
	1	Yes
	2	No
	2.2	Aligning according to design
	1	Yes
	2	No
	2.3	Proper compaction of soil
	1	Yes
	2	No
	2.4	Actual discharge (as per Irrigation Department) (LPS)
	2.5	Is water supply
	1	Adequate
	2	Not-adequate
If 'Adequate' in Q.# 2.5 then continue with Q.# 2.7		Otherwise continue with Q# 2.6
	2.6	Not adequate, Is there any additional water supply (via. Tube Well / lift machine) at watercourse?
	1	Yes
	2	No
	2.7	Type of Mogha/ outlet
	1	Open-type
	2	Closed
	3	Closed-pipe
	4	Closed-pump
	2.8	Lining length is as per design
	1	Yes
	2	No
	2.9	Thickness of wall is as per design
	1	Yes
	2	No
	2.10	Depth of watercourse is as per design
	1	Yes

	2	No
	2.11	Width of watercourse is as per design
	1	Yes
	2	No
	2.12	Thickness of plaster at wall is adequate
	1	Yes
	2	No
	2.13	Thickness of bed is adequate
	1	Yes
	2	No
	2.14	Thickness of mortar at wall is adequate
	1	Yes
	2	No
	2.15	Free board height is as per design
	1	Yes
	2	No
	2.16	Back collar mortar is adequate
	1	Yes
	2	No
	2.17	Quality of Plaster
	1	Good
	2	Satisfactory
	3	Not satisfactory
	2.18	Back filling of the lining portion
	1	Good
	2	Satisfactory
	3	Not satisfactory
	2.19	Rehabilitation of Katcha / earthen portion of watercourse
	1	Full length improved
	2	Only lined portion
Structures Fixing		
	2.20	Controlled Structures for Branch Watercourse
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	2.21	Pacca Naccas in improved area
	1	Number installed as per design

	2	Installed less than as per design
	3	None installed
	2.22	Pacca Naccas in Katcha area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	2.23	Culverts in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	2.24	Box Culverts in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	2.25	Pipe Culverts in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	2.26	Siphon in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	2.27	Drop Structure in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	2.28	Wallow/Bufaloes bath in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	2.29	Wash bay in improved watercourse
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
3. Parabolic Watercourse		
	3.1	Removal of vegetation from watercourse properly
	1	Yes

	2	No
	3.2	Is designed discharge (as per Irrigation Department)? _____ LPS
	3.3	Is water supply?
	1	Adequate
	2	Not adequate
If 'Adequate' in Q.# 3.3 then continue with Q.# 3.5		Otherwise continue with Q.# 3.4
	3.4	If Not adequate, Is there any additional water supply (via. Tube Well / lift machine) at watercourse?
	1	Yes
	2	No
	3.5	Type of Mogha / outlet
	1	Open
	2	Closed
	3	Closed-Pipe
	4	Closed Pump
	3.6	Lining length is as per design
	1	Yes
	2	No
	3.7	Total length is as per design
	1	Yes
	2	No
	3.8	Quality of pre-cast parabolic segments
	1	Good
	2	Poor
	3.9	Filling of joints of the parabolic segments
	1	Good
	2	Poor
	3.10	Slope of the parabolic segments
	1	As per Design
	2	Not as per Design
	3.11	Back filling of pre-cast parabolic slabs
	1	Proper
	2	Not proper
Structures Fixing		
	3.12	Controlled Structures for Branch Watercourse
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed

	3.13	Pacca Naccas in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	3.14	Pacca Naccas in Katcha area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	3.15	Culverts in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	3.16	Box Culverts in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	3.17	Pipe Culverts in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	3.18	Siphon in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	3.19	Drop Structure in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	3.20	Wallow/Bufaloes bath in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	3.21	Wash bay in improved watercourse
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
4. PVC and RCC Pipeline Watercourse		
	4.1	Excavation of trenches for water supply pipelines are as per specifications

	1	Yes
	2	No
	4.2	Actual discharge (as per Irrigation Department) _____ LPS
	4.3	Is water supply?
	1	Adequate
	2	Not adequate
If 'Adequate' in Q.# 4.3 then continue with Q.# 4.5		Otherwise continue with Q.# 4.4
	4.4	Is additional discharge (via. Tube Well / lift machine) at watercourse?
	1	Yes
	2	No
	4.5	Type of Mogha / outlet
	1	Open
	2	Closed
	3	Closed-Pipe
	4	Closed-Pump
	4.6	What kind of pipeline has been used?
	1	RCC Pipe
	2	PVC Pipe
	3	G-I Pipe
	4.7	Pipeline length is as per design
	1	Yes
	2	No
	4.8	Bends as per design
	1	Yes
	2	No
	4.9	Sockets are as per design
	1	Yes
	2	No
	4.10	Air Valve are as per design
	1	Yes
	2	No
	4.11	Reducers are as per design
	1	Yes
	2	No
	4.12	Flunges are as per design
	1	Yes
	2	No

	4.13	Tee are as per design
	1	Yes
	2	No
	4.14	Non-Return Valves are as per design
	1	Yes
	2	No
	4.15	Cost Iron Sluice Valve are as per design
	1	Yes
	2	No
	4.16	Quality of Pipeline
		1-Good
		2-Satisfactory
		3-Not satisfactory
Structures Fixing		
	4.17	Controlled Structures for Branch Watercourse
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	4.18	Pacca Naccas in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	4.19	Pacca Naccas in Katcha area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	4.20	Culverts in improved area
	1	Number installed as per design
	2	Installed less than as per design
	3	None installed
	5	COMMENTS OF INTERVIEWER

WC Monitoring Tool-9

WATER FLOW IN SAMPLED WATERCOURSE (Before Improvement/After Improvement)

1.IDENTIFICATION		
DB#	Q#	Field Name
	1.1	Watercourse ID: _____
2.WATERCOURSE IMPROVEMENT STATUS		
	2.1	Total Watercourse Length in Meter
	2.2	Stage of Watercourse Improvement
	1	Improved
	2	Unimproved
If 'Improved' in Q.# 2.2 then continue with Q.# 2.3		Otherwise continue with section 3.1
	2.3	If watercourse is improved or TS issued, then length of lining part in Meters?
3.PYGMY CURRENT METER (PCM) Readings for Determination of Velocity		
Station-1: PYGMY CURRENT METER READINGS NEAR WATERCOURSE OUTLET (At about 10 meters away from Mogha)		
	3.1	Station-1: X-Section Width from Edge of WC (inches)
Station-1:WC Depth (inches)		
		Station-1: Observation-1
	3.2	Station-1: Observation-1 - Depth-1 (inches)
	3.3	Station-1: Observation-1 - Pygmy Current meter revolution counts in 40 seconds (Depth-1)
	3.4	Station-1: Observation-1 - Depth-2 (inches)
	3.5	Station-1: Observation-1 - Pygmy Current meter revolution counts in 40 seconds (Depth-2)
	3.6	Station-1: Observation-1 - Depth-3 (inches)
	3.7	Station-1: Observation-1 - Pygmy Current meter revolution counts in 40 seconds (Depth-3)
	3.8	Station-1: Enter Cross Section of Watercourse After Observation-1 (feet)
		Station-1: Observation-2
	3.9	Station-1: Observation-2 - Depth-1 (inches)
	3.10	Station-1: Observation-2 - Pygmy Current meter revolution counts in 40 seconds (Depth-1)
	3.11	Station-1: Observation-2 - Depth-2 (inches)
	3.12	Station-1: Observation-2 - Pygmy Current meter revolution counts in 40 seconds (Depth-2)
	3.13	Station-1: Observation-2 - Depth-3 (inches)
	3.14	Station-1: Observation-2 - Pygmy Current meter revolution counts in 40 seconds (Depth-3)
	3.15	Station-1: Enter Cross Section of Watercourse After Observation-2 (feet)

		Station-1: Observation-3
	3.16	Station-1: Observation-3 - Depth-1 (inches)
	3.17	Station-1: Observation-3 - Pygmy Current meter revolution counts in 40 seconds (Depth-1)
	3.18	Station-1: Observation-3 - Depth-2 (inches)
	3.19	Station-1: Observation-3 - Pygmy Current meter revolution counts in 40 seconds (Depth-2)
	3.20	Station-1: Observation-3 - Depth-3 (inches)
	3.21	Station-1: Observation-3 - Pygmy Current meter revolution counts in 40 seconds (Depth-3)
	3.22	Station-1: Sketch of Watercourse Cross Section Area
	3.23	Comments of Interviewer
STATION-2: PYGMY CURRENT METER READINGS CLOSE TO THE END OF LINING PART AND AT MID POINT OF MIDDLE REACH OF THE WATERCOURSE		
	3.24	Station-2: X-Section Width from Edge of WC (inches)
Station-2: WC Depth (inches)		
		Station-2: Observation-1
	3.25	Station-2: Observation-1 - Depth-1 (inches)
	3.26	Station-2: Observation-1 - Pygmy Current meter revolution counts in 40 seconds (Depth-1)
	3.27	Station-2: Observation-1 - Depth-2 (inches)
	3.28	Station-2: Observation-1 - Pygmy Current meter revolution counts in 40 seconds (Depth-2)
	3.29	Station-2: Observation-1 - Depth-3 (inches)
	3.30	Station-2: Observation-1 - Pygmy Current meter revolution counts in 40 seconds (Depth-3)
	3.31	Station-2: Enter Cross Section of Watercourse After Observation-1 (feet)
		Station-2: Observation-2
	3.32	Station-2: Observation-2 - Depth-1 (inches)
	3.33	Station-2: Observation-2 - Pygmy Current meter revolution counts in 40 seconds (Depth-1)
	3.34	Station-2: Observation-2 - Depth-2 (inches)
	3.35	Station-2: Observation-2 - Pygmy Current meter revolution counts in 40 seconds (Depth-2)
	3.36	Station-2: Observation-2 - Depth-3 (inches)
	3.37	Station-2: Observation-2 - Pygmy Current meter revolution counts in 40 seconds (Depth-3)
	3.38	Station-2: Enter Cross Section of Watercourse After Observation-2 (feet)
		Station-2: Observation-3
	3.39	Station-2: Observation-3 - Depth-1 (inches)
	3.40	Station-2: Observation-3 - Pygmy Current meter revolution counts in 40 seconds (Depth-1)
	3.41	Station-2: Observation-3 - Depth-2 (inches)
	3.42	Station-2: Observation-3 - Pygmy Current meter revolution counts in 40 seconds (Depth-2)

	3.43	Station-2: Observation-3 - Depth-3 (inches)
	3.44	Station-2: Observation-3 - Pygmy Current meter revolution counts in 40 seconds (Depth-3)
	3.45	Station-2: Sketch of Watercourse Cross Section Area
	3.46	Comments of Interviewer
STATION-3: PYGMY CURRENT METER READINGS AT MID POINT OF TAIL REACH OF THE WATERCOURSE (At about 75% length of the watercourse)		
	3.47	Station-3: X-Section Width from Edge of WC (inches)
Station-3: WC Depth (inches)		
		Station-3: Observation-1
	3.48	Station-3: Observation-1 - Depth-1 (inches)
	3.49	Station-3: Observation-1 - Pygmy Current meter revolution counts in 40 seconds (Depth-1)
	3.50	Station-3: Observation-1 - Depth-2 (inches)
	3.51	Station-3: Observation-1 - Pygmy Current meter revolution counts in 40 seconds (Depth-2)
	3.52	Station-3: Observation-1 - Depth-3 (inches)
	3.53	Station-3: Observation-1 - Pygmy Current meter revolution counts in 40 seconds (Depth-3)
	3.54	Station-3: Enter Cross Section of Watercourse After Observation-1 (feet)
		Station-3: Observation-2
	3.55	Station-3: Observation-2 - Depth-1 (inches)
	3.56	Station-3: Observation-2 - Pygmy Current meter revolution counts in 40 seconds (Depth-1)
	3.57	Station-3: Observation-2 - Depth-2 (inches)
	3.58	Station-3: Observation-2 - Pygmy Current meter revolution counts in 40 seconds (Depth-2)
	3.59	Station-3: Observation-2 - Depth-3 (inches)
	3.60	Station-3: Observation-2 - Pygmy Current meter revolution counts in 40 seconds (Depth-3)
	3.61	Station-3: Enter Cross Section of Watercourse After Observation-2 (feet)
		Station-3: Observation-3
	3.62	Station-3: Observation-3 - Depth-1 (inches)
	3.63	Station-3: Observation-3 - Pygmy Current meter revolution counts in 40 seconds (Depth-1)
	3.64	Station-3: Observation-3 - Depth-2 (inches)
	3.65	Station-3: Observation-3 - Pygmy Current meter revolution counts in 40 seconds (Depth-2)
	3.66	Station-3: Observation-3 - Depth-3 (inches)
	3.67	Station-3: Observation-3 - Pygmy Current meter revolution counts in 40 seconds (Depth-3)
	3.68	Station-3: Sketch of Watercourse Cross Section Area
	3.69	COMMENTS OF INTERVIEWER

WST Monitoring Tool-1

WATER STORAGE TANK (WST) IDENTIFICATION

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	Province / Unit
	1.2	Division
	1.3	District
	1.4	Tehsil
	1.5	Field Team
	1.6	Union Council
	1.7	Village
	1.8.1	NA Constituency
	1.8.2	PP Constituency
	1.9	Name of Farmer
	1.10	Gender
	1	Male
	2	Female
	1.11	Name of Father
	1.12	CNIC
	1.13	Cell #
	1.14	Sources of Irrigation System
	1	Canal Water
	2	Rainfall
	3	Tail Water Recovery Ditch (TWRD)
	4	Stream
	5	Naala
	6	Spring
	7	Tube well
	8	Dug well
	1.15	Area Operated (Acres)
	1.16	Land Topography
	1	Even
	2	Uneven
	1.17	Financial Year
	1.18	Comments

WST Monitoring Tool-2

SPOT CHECK OF WATER STORAGE TANK (WST)

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	WST ID _____
	1.2	Coordinates
2.SPOT CHECK		
	2.1	Shape of water storage tank
	2.2	Dimensions (Feet)
	1	Length 1
	2	Length 2
	3	Width 1
	4	Width 2
	5	Depth
	2.3	The farmer completed the WST using his/her own funds before subsidy
	1	Yes
	0	No
	2.4	The WST was completed as per approved standards and specifications
	1	Yes
	0	No
	2.5	Excavation was done as per standard engineering practices
	1	Yes
	0	No
	2.6	The NWM Consultants inspected the excavation
	1	Yes
	0	No
	2.7	Is the geo-membrane thickness minimum 0.5 mm
	1	Yes
	0	No
	2.8	The NWM Consultants inspected the excavation and quality of geo-membrane and certified as satisfactory
	1	Yes
	0	No
	2.9	Before filling the WST, the OFWM staff prepared the completion report
	1	Yes
	0	No
	2.10	Any variations in specifications and material used

	1	Yes
	0	No
If yes in Q# 2.10 then continue with Q# 2.11		Otherwise go to Q# 2.12
	2.11	If yes in above, the subsidy was paid as per cost estimates based on geo-membrane design
	1	Yes
	0	No
	2.12	Does the water depth in WST exceed 5 feet?
	1	Yes
	0	No
	2.13	Do all joints weld through fusion welding or other similar techniques?
	1	Yes
	0	No
If yes in Q# 2.13 then continue with Q# 2.14		Otherwise go to End
	2.14	Is the testing of Joints welded parts done before filling the water storage tank?
	1	Yes
	0	No

WST Monitoring Tool-3

BENEFICIARIES' FEEDBACK FOR WATER STORAGE TANKS

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	WST ID _____
2. BENEFICIARY FEEDBACK		
	2.1	Name of Beneficiary / Owner
	2.2	How was your application attended by OFWM staff?
	1	Promptly
	2	Took a lot of time
	2.3	How you assess survey and design process?
	1	Fast track
	2	Lengthy
	2.4	Behavior of OFWM staff
	1	Friendly / Supportive
	2	Indifferent
	2.5	The subsidy was paid
	1	Within reasonable time
	2	Required a lot of time
	2.6	How do you feel about the maintenance of WST?
	1	Easy
	2	Difficult
	2.7	Cropping intensity has increased on your farm after WST
	1	Yes
	0	No
	3	To Some Extent
	2.8	Crops / orchards yield has increased after WST
	1	Yes
	0	No
	3	To Some Extent
	2.9	Your area under cultivation has increased after WST construction
	1	Yes
	2	No Change
	2.10	Number of irrigation/ acres has increased after WST construction
	1	Yes
	2	No Change

LLL Monitoring Tool-1

LASER LAND LEVELER IDENTIFICATION

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	Province/Unit
	1.2	District
	1.3	Tehsil
	1.4	Union Council
	1.5	Village
	1.6	NA Constituency
	1.7	PP Constituency
	1.8	Name of Service Provider
	1.9	Father's Name
	1.10	Gender
	1	Male
	2	Female
	1.11	CNIC
	1.12	Cell Number
	1.13	Financial Year
	1.14	Comments

LLL Monitoring Tool-2

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

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	LLL ID: _____
2.AVAILABILITY OF FACILITIES FOR CAPACITY BUILDING		
2.1.Audio-Visual Aids for Training		
	2.1.1	Blackboard
	1	Yes
	2	No
	2.1.2	Flip Charts
	1	Yes
	2	No
	2.1.3	Overhead Projector
	1	Yes
	2	No
	2.1.4	Multimedia
	1	Yes
	2	No
	1.1.5	White Board
	1	Yes
	2	No
	2.1.6	Any other
	1	Yes
	2	No
	2.2	Refreshments Provided to the Participants
	1	Yes
	2	No
	2.3	Necessary Stationery for the trainees
	1	Yes
	2	No
	2.4	Handouts provided to the trainees
	1	Yes
	2	No
	2.5	Copies of the curriculum provided to the trainees

	1	Yes
	2	No
	2.6	Field visit during training
	1	Yes
	2	No
	2.7	No. of Participants
	2.8	Training period days
3.OTHER ASSESSMENT ITEMS		
3.1.Coverage		
	3.1.1	Extent of coverage of the curriculum
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.1.2	Depth of trainer's knowledge
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.1.3	Other related topics covered
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
3.2.Effectiveness of the Speakers/Trainers		
	3.2.1	How subject matter was introduced?
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.2.2	Use of Participatory Approach
	1	Excellent
	2	Very Good

	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.2.3	Clarity/command on the subject
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.2.4	Style of delivery
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.2.5	Reference to handouts/training material
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.2.6	Confidence of the trainer
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.2.7	Use of Audio-Visual Aids
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.2.8	Handouts Provided
	1	Excellent
	2	Very Good
	3	Good

	4	Satisfactory
	5	Not Satisfactory
	3.2.9	Level of Interest Maintained
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.2.10	Managed Session within Time Limit
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.2.11	Effective Reply to Questions
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.2.12	Explained with examples
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
3.3.Group Discussion		
	3.3.1	Level of Participation of Trainees
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.3.2	Question Answer session Held
	1	Excellent
	2	Very Good
	3	Good

	4	Satisfactory
	5	Not Satisfactory
	3.3.3	Quality of Group Discussions
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
3.4.Training Environment		
	3.4.1	Seating Arrangement
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.4.2	Comfort of Participants
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.4.3	General Discipline
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.4.4	Participation Environment/Encouragement
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.4.5	General Treatment Extended by TAT Staff
	1	Excellent
	2	Very Good
	3	Good

	4	Satisfactory
	5	Not Satisfactory
3.5.Participants/Trainees		
	3.5.1	Enthusiasm
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.5.2	Level of Participation/Involvement
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.5.3	Regularity/Attendance
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	3.6	Overall Assessment of the Training Process
	1	Excellent
	2	Very Good
	3	Good
	4	Satisfactory
	5	Not Satisfactory
	4	COMMENTS OF INTERVIEWER

LLL Monitoring Tool-3

SERVICE PROVIDER FEEDBACK AND FOLLOW UP FOR LASER UNITS

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	LLL ID: _____
2. LASER LAND LEVELING UNIT SUPPLY COMPANY		
	2.1	Company
	2.2	Make & Model
	2.3	Date of delivery
	2.4	Delivery of the unit
	1	Timely
	2	Delayed
	3	No comments
	2.5	Quality / durability of the unit
	1	Good
	2	Satisfactory
	3	Unsatisfactory
	2.6	After sale service of the SSC
	1	Good
	2	Poor
	3	Very Poor
	2.7	Complaints attended by the SSC
	1	Promptly
	2	Not Promptly
	3	No Response
	2.8	Rates charged by the SSC to provide the after-sale service
	1	Costly
	2	Normal
	3	Not applicable
	2.9	Availability of spares
	1	Timely Available
	2	Takes long time
	3	Not available easily
	2.10	Prices charged by the SSC for the spares
	1	Costly
	2	Normal

	3	Do not know
	2.11	Spares are available
	1	Only with the SSC
	2	From open market
	3	I did not need yet
	2.12	SSC provider training in operation of the unit
	1	Yes
	2	No
	2.13	SSC provider training in maintenance and trouble shooting
	1	Yes
	2	No
	2.14	SSC provider operational manual
	1	Yes
	2	No
	2.15	General remarks services provider about LLL unit
3.MONITORING CHECKLIST		
	3.1	The unit is in physical possession of the service provider
	1	Yes
	2	No
<i>If "Yes" in Q.#3.1 then continue with Q#3.2</i>		<i>Otherwise goto Q#3.3</i>
	3.2	The unit has been
	1	Sold
	2	Stolen
	3	Working in field
	4	Hesitate to give status
	3.3	Took the Snap of the unit with date
	1	Yes
	2	No
	3.4	The service provider uses the unit for purpose
	1	Agricultural
	2	Other
	3.5	Do you have one trained operator for your equipment?
	1	Yes
	2	No
<i>If "Yes" in Q.#3.5 then continue with Q.#3.6</i>		<i>Otherwise goto Q#4.1.1</i>
	3.6	If Yes what is the monthly salary of the operator?
	3.7	The operator has been trained by

	1	OFWM
	2	Any Other
4.LAND LEVELING ACTIVITIES DETAILS		
4.1.Kharif		
	4.1.1	Own land leveled in acres
	4.1.2	Land leveled on rent in acres
	4.1.3	Number of farmers served
	4.1.4	Unit Rate in Rupees per hour
	4.1.5	Unit Rate in Rupees per acre
	4.1.6	Cost in Rupees per hour (Excluding operated cost)
	4.1.7	Cost in Rupees per acre (Excluding operated cost)
4.2.Rabi		
	4.2.1	Own land leveled in acres
	4.2.2	Land leveled on rent in acres
	4.2.3	Number of farmers served
	4.2.4	Unit Rate in Rupees per hour
	4.2.5	Unit Rate in Rupees per acre
	4.2.6	Cost in Rupees per hour (Excluding operated cost)
	4.2.7	Cost in Rupees per acre (Excluding operated cost)
	4.3	Farmers recently served in the vicinity
	4.3.1	Name
	4.3.2	Father Name
	4.3.3	Village
	4.3.4	Cell Number
	5	COMMENTS OF INTERVIEWER

LLL Monitoring Tool-4

BENEFICIARY FEEDBACK OF USERS OF LASER LAND LEVELER

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	LLL ID: _____
	1.2	Farm Area in Acres
	1.3	Cultivated Area in Acres
	1.4	Area Levelled in Acres
	1.5	Time consumed in hours
	1.6	Rate per acre
	1.7	Rate Per hour
2.BENEFICARY (USER) FEEDBACK		
Time saving in water application (Hrs)		
	2.1	Fallow Land Before Leveling
	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)		
	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		
	4.1	Seed Germination is better than before
	1	Yes
	2	No
	3	No Change
	4.2	Labor saving in crop operation like hoeing, spread of fertilizer, spray, harvesting etc.
	1	Yes
	2	No
	3	No Change
	5	COMMENTS OF INTERVIEWER

ANNEX-F: Dashboard Process Monitoring Input Forms

Watercourse Monitoring Tool-1 (DPMIF)

WATERCOURSE IMPROVEMENT

Fill by OFWM - Field Team

1. IDENTIFICATION		
DB.#	Q.#	Field Name
	1.1	Province/ Unit
	1.2	Division
	1.3	District
	1.4	Tehsil
	1.5	Admin Division
	1.6	Admin District
	1.7	Admin Tehsil
	1.8	Field Team
	1.9	Union Council
	1.10	Village
	1.11	NA Constituency
	1.12	PP Constituency
	1.13	Watercourse Name
	1.14	Source of irrigation
	a	Canal Area
	b	Non-Canal Area
If 'Canal area' in Q.# 1.14 then Continue with Q.# 1.15		Otherwise continue with Q# 1.19
	1.15	Canal
	1.16	Branch
	1.17	Distributary
	1.18	Minor
	1.19	Type of Water Source?
	a	Perennial Canal
	b	Annual Canal
	c	Tube Well
	1.20	Watercourse Improvement Category?
	a	Regular (New)
	b	20 Years Old
	c	Additional Lining
	1.21	Type of Watercourse?
	a	Parabolic

	b	Rectangular/ Bricks
	c	PVC
	d	RCC
	e	Stone Masonry
	1.22	Location Of Watercourse on the Canal/Branch/Distributary/Minor?
	a	Head
	b	Middle
	c	Tail
	1.23	Financial Year
	1.24	Comments

Watercourse Monitoring Tool-2 (DPMIF)

Watercourse Profile Information

Fill by OFWM - Field Team

DB.#	Q.#	Field Name
	1.1	Province/ Unit
	1.2	Division
	1.3	District
	1.4	Tehsil
	1.5	Watercourse ID
	1.6	Coordinate - Latitude _____ Longitude _____
	1.7	Picture of Watercourse - Before Lining
	1.8	Name of Water User's Association Chairman
	1.9	Total Number of Water Users
	1.10	Total Number of Shareholder
	1.11	Male - Water User's Association Members
	1.12	Female - Water User's Association Members
	1.13	Total Water User's Association Members
	1.14	Culturable Command Area (CCA) - (Acres)
	1.15	Total Length of Watercourse - (Meters)
	1.16	Sanctioned Length of Watercourse - (Meters)
	1.17	Comments (if any) (optional)

Watercourse Monitoring Tool-3 (DPMIF)

Watercourse Reference Documents

Fill by OFWM - District Team

DB.#	Q.#	Field Name
	1.1	Province/ Unit
	1.2	Division
	1.3	District
	1.4	Tehsil
	1.5	Watercourse ID
	1.6	Certificate of Watercourse not Improved Before (In case of Regular Watercourse)
	1.7	Certificate of Previously improved watercourse (In case of Additional Watercourse)
	1.8	Certificate issued by the designed district officer that no pending recovery on watercourse (In case of Regular Watercourse)
	1.9	Certificate issued by the designed district officer that old watercourse has been repaired/maintained (In case of Additional Watercourse)
	1.10	Share Holder's Application
	1.11	Tehsil
	1.12	List of Shareholder's with Land Holding
	1.13	Agreement Bond on Judicial Paper
	1.14	List of Executive Committee
	1.15	WUA Particulars
	1.16	Application for Registration of WUA
	1.17	Registration Certificate of WUA
	1.18	Bank Receipt Deposit of 15% of Total Watercourse Cost (Farmer Share 50% Prior to Certification on ICR-I and Remaining 50% prior to ICR-II)
	1.19	Sanctioned Discharge
	1.20	Basic Data Sheet
	1.21	Topo Map
	1.22	Profile Map
	1.23	Technical Sanction of Cost Estimate
	1.24	Voucher of Approved by Concerned/Designed District officer for Release of 1st Installment
	1.25	Voucher of Approved by Concerned/Designed District officer for Release of 2nd Installment
	1.26	Voucher of Approved by Concerned/Designed District officer for Release of 3rd Installment
	2.0	Comments (if any) (optional)

Watercourse Monitoring Tool-4 (DPMIF)

Watercourse Payment Details Fill by OFWM - Directorate Team

DB.#	Q.#	Field Name
	1.1	Province/ Unit
	1.2	Division
	1.3	District
	1.4	Tehsil
	1.5	Watercourse ID
	1.6	Sanctioned Amount of T.S - (Rs.)(PKR)
	1.7	Issuance Date of T.S.
	1.8	Revised Sanctioned Amount of T.S - (Rs.)(PKR)
	1.9	Issuance Date of Revised T.S.
	1.10	Amount of 1st Milestone Released (ICR-I) - (Rs.)(PKR)
	1.11	Released date of 1st Milestone (ICR-I)
	1.12	Amount of 2nd Milestone Released (ICR-II) - (Rs.)(PKR)
	1.13	Released date of 2nd Milestone (ICR-II)
	1.14	Amount of 3rd Milestone Amount (Remaining Payment on the issuance of FCR)
	1.15	Released date of 3rd Milestone Amount (Remaining Payment on the issuance of FCR)
	1.16	Financial Year
	2.0	Comments (if any) (optional)

Watercourse Monitoring Tool-5 (DPMIF)

Watercourse Consultant Form

Fill by PC - Field Team

DB.#	Q.#	Field Name
	1.1	Province/ Unit
	1.2	Division
	1.3	District
	1.4	Tehsil
	1.5	Watercourse ID
Intermediate Completion Reports (ICRs)		
	2.1	Date of ICR-I Certificate
	2.2	Picture of ICR-I Certificate
	2.3	Date of ICR-II Certificate
	2.4	Picture of ICR-II Certificate
FCR Detail Data		
	3.1	Watercourse Commencement Date
	3.2	Watercourse Completion Date
	3.3	Date of Watercourse Verification Visit
	3.4	Date of FCR Issued by PC
	3.5	Picture of FCR Issued by PC-Page-1
	3.6	Picture of FCR Issued by PC-Page-2
	3.7	Coordinate - Latitude _____ Longitude _____
	3.8	Picture of Improved Watercourse
	3.9	Water User's Association Registration No.
	3.10	Designed Discharge (LPS)
	3.11	Type of Watercourse?
	a	Rectangular/ Bricks
	b	Parabolic
	c	PVC 3"
	d	PVC 4"
	e	RCC
	f	Stone Masonry
	3.12	No. of lined Section
	a	Lined Section-1
	b	Lined Section-2
	c	Lined Section-3

	d	Lined Section-4
	e	Lined Section-5
	3.13	Bed Width (Meters)
	3.14	Depth (Meters)
	3.15	Slide Slope
Unit Volume/Length		
	4.1	Brick Work (Cft/ft)
	4.2	Concrete Work (Cft/ft)
	4.3	Stone Masonry (Cft/ft)
Total Volume		
	5.1	Brick Work (Cft)
	5.2	Concrete Work (Cft)
	5.3	Stone Masonry (Cft)
	5.4	Total Earthwork of all type (Cft)
Detail of Civil Works		
	6.1	Plastering (Sft)
	6.2	Forming, Dressing & Finishing Surface for lining (Sft)
	6.3	Brick Filling with surplus earth (Sft)
	6.4	Ground clearance/sarkanda disposal (Sft)
	6.5	Naccas
	6.6	Bitumen (Sft)
	6.7	Arch Culverts
	6.8	Slab Culverts
	6.9	Pipe Culverts
	6.10	Retaining Walls
	6.11	Drop Structures
	6.12	Buffalo Wallow
	6.13	Washing Pad
	6.14	Manhole
	6.15	PVC Bends
	6.16	Sluice Valve
	6.17	Air Valve
	6.18	Socket
	6.19	G.I. Pipe
Cost of Civil Works		
	7.1	Earthwork - Quantity (Cft)
	7.2	Earthwork - Unit Rate

7.3	Earthwork Excavation in Irrigation Channel/Drains - Quantity (Cft)
7.4	Earthwork Excavation in Irrigation Channel/Drains - Unit Rate
7.5	Forming & Dressing WC Surface (Bed) - Quantity (Cft)
7.6	Forming & Dressing WC Surface (Bed) - Unit Rate
7.7	Forming & Dressing WC Surface (Slopes)
7.8	Forming & Dressing WC Surface - Unit Rate
7.9	Ground clearance/Sarkanda Disposal - Quantity (Sft)
7.10	Ground clearance/Sarkanda Disposal - Unit Rate
7.11	Brick Work Quantity - Quantity (Cft)
7.12	Brick Work Quantity - Unit Rate
7.13	Concrete Work (PCC) (Bed) - Quantity (Cft)
7.14	Concrete Work (PCC) (Bed) - Unit Rate
7.15	Concrete Work (PCC) (Berm) - Quantity (Cft)
7.16	Concrete Work (PCC) (Berm) - Unit Rate
7.17	Concrete Work (PCC) (Slopes) - Quantity (Cft)
7.18	Concrete Work (PCC) (Slopes) - Unit Rate
7.19	Concrete Work (PCC) (Coping)
7.20	Concrete Work (PCC) (Coping) - Unit Rate
7.21	Plastering (inch thick) - Quantity (Sft)
7.22	Plastering (inch thick) - Unit Rate
7.23	Bitumen - Quantity (Sft)
7.24	Bitumen - Unit Rate
7.25	Washing Pad - Quantity (No.)
7.26	Washing Pad - Unit Rate
7.27	RCC Pipeline - Quantity (ft)
7.28	RCC Pipeline - Unit Rate
7.29	RCC Pipe Culvert - Quantity (No.)
7.30	RCC Pipe Culvert - Unit Rate
7.31	Backfilling with surplus earth - Quantity (Cft)
7.32	Backfilling with surplus earth - Unit Rate
7.33	Re-handling of Earthwork - Quantity (Cft)
7.34	Re-handling of Earthwork - Unit Rate
7.35	Installation of Nacca Structure 3-way outlet - Quantity (No.)
7.36	Installation of Nacca Structure 3-way outlet - Unit Rate
7.37	UPVC Pipeline - Quantity (ft)
7.38	UPVC Pipeline - Unit Rate
7.39	UPVC Bends - Quantity (No.)

	7.40	UPVC Bends - Unit Rate
	7.41	Sluice Valve - Quantity (No.)
	7.42	Sluice Valve - Unit Rate
	7.43	G.I. Pipe - Quantity (Rft)
	7.44	G.I. Pipe - Unit Rate
	7.45	PVC Sockets - Quantity (No.)
	7.46	PVC Sockets - Unit Rate
	7.47	Air Valve - Quantity (No.)
	7.48	Air Valve - Unit Rate
	7.49	Panel Nacca - Quantity (No.)
	7.50	Panel Nacca - Unit Rate
	7.51	Manhole - Quantity (No.)
	7.52	Manhole - Unit Rate (No.)
	7.53	Signboard - Unit Rate
	7.54	Total Cost of Civil Works/Construction Material
	7.55	Amount already paid through First Installment
	7.56	Amount already paid through Second Installment
	7.57	Total Amount Paid through First & Second Milestone
	7.58	Amount to be paid as Third/Final Installment
	7.59	Farmer's Share
	7.60	Amount to be recovered in case of any issue
	7.61	Describe Issue Detail
	7.62	Financial Year
	8.0	Comments

WST Monitoring Tool-1 (DPMIF)

WATER STORAGE TANK (WST)

Fill by OFWM District Team

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	Province / Unit?
	1.2	Davison?
	1.3	District?
	1.4	Tehsil?
	1.5	Field Team?
	1.6	Union Council?
	1.7	Village
	1.8.1	NA Constituency
	1.8.2	PP Constituency
	1.9	Name of Farmer?
	1.10	Name of Father?
	1.11	CNIC?
	1.12	Cell #?
	1.13	Sources of Irrigation System
	1	Canal Water
	2	Rainfall
	3	Tail Water Recovery Ditch (TWRD)
	4	Stream
	5	Naala
	6	Spring
	7	Tube well
	8	Dug well
	1.14	Area Operated (Acres)
	1.15	Land Topography
	1	Even
	2	Uneven
	1.16	Financial Year
	1.17	Comments

WST Monitoring Tool-2 (DPMIF)

PROCESS MONITORING FOR WATER STORAGE TANK (WST) Fill by OFWM District Team

DB#	Q#	Field Name
	1.1	Province / Unit?
	1.2	Davison?
	1.3	District?
	1.4	Tehsil?
	1.5	WST ID _____
2.PROCESS OF WATER STORAGE TANK CONSTRUCTION		
	2.1	Date of survey cost/design approved by Director?
	2.2	Date of issuance of T.S Issued by Director?
	2.3	Picture of T.S Issued by Director?
	2.4	Date of issuance of work order by OFWM?
	2.5	Picture of issuance of work order by OFWM?
	2.6	Date of ICR-I (Intermediate Completion Report-I)?
	2.7	Amount of ICR-I (Intermediate Completion Report-I)?
	2.8	Date of ICR-II (Intermediate Completion Report-II)?
	2.9	Amount of ICR-II (Intermediate Completion Report-II)?
	2.10	Total cost of the Water Storage Tank
	2.11	Project share Rs. _____
	2.12	Farmer Share Rs. _____
	2.13	Financial Year
	2.14	Comments

WST Monitoring Tool-3 (DPMIF)

PROCESS MONITORING FOR WATER STORAGE TANK (WST)

Fill by PC - Field Team

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	Province / Unit?
	1.2	Division?
	1.3	District?
	1.4	Tehsil?
	1.5	WST ID _____
	1.6	Year of Improvement?
2.PROCESS OF WATER STORAGE TANK CONSTRUCTION		
	2.1	Date of cost estimate/ design approved by NWM Consultants?
	2.2	Cost estimate as approved by PC?
	2.3	Date of ICR-I (Intermediate Completion Report-I)?
	2.4	Picture of ICR-I (Intermediate Completion Report-I)?
	2.5	Date of ICR-II (Intermediate Completion Report-II)?
	2.6	Picture of ICR-II (Intermediate Completion Report-II)?
	2.7	Date of issuance of FCR of WST by PC?
	2.8	Picture of FCR of WST by PC?
	2.9	Total cost of the Water Storage Tank
	2.10	Project share Rs. _____
	2.11	Farmer Share Rs. _____
	2.12	Picture of constructed Water Storage Tank?
3.WST MATERIAL CONSUMED & EXPENDITURE		
	3.1	Bottom Length (Inner)(ft)?
	3.2	Bottom Width (Inner)(ft)?
	3.3	Walls Thickness (ft)?
	3.4	Depth of Wall (ft)?
	3.5	Quantity of Cleared Jungle (Sft)?
	3.6	Unit rate of Cleared Jungle (Rs)?
	3.7	Quantity of Cutting, levelling & dressing of bed (Sft)?
	3.8	Unit rate of Cutting, levelling & dressing of bed (Rs)?
	3.9	Quantity of 2" sand cushion under floor (Sft)
	3.10	Unit rate of 2" sand cushion under floor (Rs)?
	3.11	Quantity of Fillet volume: horizontal (..... M x m) (Sft)?

	3.12	Unit rate of Fillet volume: horizontal (..... M x M)(Rs)?
	3.13	Quantity of fillet volume: vertical (..... M x m) (Sft)?
	3.14	Unit rate of fillet volume: vertical (..... M x m)(Rs)?
	3.15	Quantity of brick masonry works (Cft)?
	3.16	Unit rate of brick masonry works(Rs)?
	3.17	Quantity of PCC 1:4:8 (Cft)?
	3.18	Unit rate of PCC 1:4:8 (Rs)?
	3.19	Quantity of PCC 1:3:6 (Cft)?
	3.20	Unit rate of PCC 1:3:6 (Rs)?
	3.21	Quantity of PCC 1:2:4 (floor in panels with glass strips) (Sft)?
	3.22	Unit rate of PCC 1:2:4 (floor in panels with glass strips) (Rs)?
	3.23	Quantity of PCC 1:2:4 (Cft)?
	3.24	Unit rate of PCC 1:2:4 (Rs)?
	3.25	Quantity of cast iron sluice valves (6")?
	3.26	Unit rate of cast iron sluice valves (6") (Rs)?
	3.27	Quantity of excavation works (Cft)?
	3.28	Unit rate of excavation works (Rs)?
	3.29	Quantity of Backfilling (Cft)?
	3.30	Unit rate of Backfilling (Rs)?
	3.31	Quantity of G.I pipe (size: 3") (ft)?
	3.32	Unit rate of G.I pipe (size: 3") (Rs)?
	3.33	Quantity of G.I pipe (size: 6") (ft)?
	3.34	Unit rate of G.I pipe (size: 6") (Rs)?
	3.35	Cost of Sign board (3ft x 4ft) (Rs.)?
	4	Comments

LLL Monitoring Tool-1 (DPMIF)

PROCESS MONITORING OF LASER LAND LEVELER

Fill by OFWM District Team

1. IDENTIFICATION		
DB#	Q#	Field Name
	1.1	LLL ID: _____
2. OTHER DETAILS OF SERVICE PROVIDER		
	2.1	Area owned by service provider (Acres)
	2.2	Location of service provider area
	1	Perennial
	2	Non-Perennial
	3	Non Canal Area
	2.3	Have you own a tube well
	1	Yes
	2	No
	2.4	Provide other services to farmers
	1	Yes
	2	No
If "Yes" in Q.#2.4 then continue with Q.#2.5		Otherwise got Q#2.6
	2.5	Name of services/machinery
	2.6	Are you an agriculture
	1	Graduate
	2	Obligated Literate
3. PROCESS OF MONITORING		
	3.1	Date of Application
	3.2	Date of Eligibility
	3.3	Date of Balloting
	3.4	Date of Issuance of allotment
	3.5	Date of Submission of farmer's share
	3.6	Date of Issuance of work order by DG
	3.7	Date of Inspection by inspection team
	3.8	Make & Model
	3.9	Companies
	3.10	Date of Delivery
	3.11	Unit Price
	3.12	Farmer Share
	3.13	Subsidy
	4	COMMENTS OF INTERVIEWER