



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

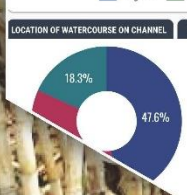
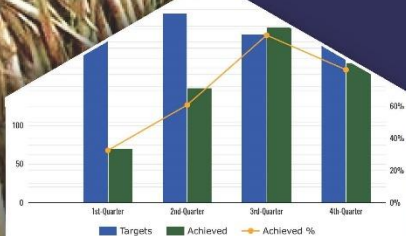
NATIONAL PROGRAM FOR IMPROVEMENT OF WATERCOURSES IN PAKISTAN PHASE-II: (NPIWC-II)

MONITORING, EVALUATION AND IMPACT EVALUATION CONSULTANTS



QUARTERLY MONITORING & EVALUATION REPORT

JANUARY TO MARCH 2022



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



EASE-PAK

ADA
Consultants Inc.

In Association with **S&S Associates**



**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)**

QUARTERLY MONITORING AND EVALUATION REPORT JANUARY-MARCH 2022

CONTENTS

ACRONYMS	iii
EXECUTIVE SUMMARY	1
CHAPTER-1: INTRODUCTION	3
1.1 PROJECT PROFILE	3
1.2 PROJECT DESCRIPTION	3
1.2.1 Project Development Objectives	3
1.2.2 Project Objectives – General & Quantitative	3
1.2.3 Project Beneficiaries	4
1.2.4 Project Components	4
1.2.5 Project Targets	4
CHAPTER 2: SCOPE AND SERVICES OF ME&IE CONSULTANTS	6
2.1 OBJECTIVES	6
2.2 SCOPE OF THE SERVICES	6
2.3 MONITORING STRATEGY	7
2.4 FRAMEWORK AND RESULTS-BASED MONITORING (RBM) INDICATORS	9
CHAPTER 3: WORK PLAN OF THE CONSULTANTS FOR THIRD QUARTER	10
3.1 COMPLIANCE STATUS OF WORK PLAN OF QUARTER JAN-MAR 2022	10
3.1.1 Pre-Field Activities	10
3.1.2 Field Activities	10
3.1.3 ICT Assignment	10
3.1.4 Coordination	10
3.1.5 Deliverables	10
CHAPTER 4: ACTIVITIES DURING THE REPORTING QUARTER	11
4.1 INTRODUCTION	11

4.2	OBJECTIVE OF QM&ER	11
4.3	REPORTING QUARTER	11
4.4	IMPROVEMENT OF MONITORING TOOLS (MTS) FOR 2 ND PHASE BASELINE SURVEY	11
4.5	REGULAR MONITORING OF INTERVENTIONS IN THE FIELD	11
4.5.1	Regular Monitoring / Field Visits by Zonal Office ICT	11
4.5.1.1	Field Visit by Zonal Team ICT	12
4.5.2	Regular Monitoring / Field Visits by Zonal Office Punjab	19
4.5.2.1	Field Visits by Zonal Team Punjab	19
4.5.3	Regular Monitoring / Field Visits by Zonal Office KP	32
4.5.4	Regular Monitoring / Field Visits by Zonal Office Balochistan	32
4.5.4.1	Revision and Pre-testing of MTs	34
4.5.4.2	Baseline Field Survey, Phase-II Balochistan	34
4.5.4.3	Field Visits by Zonal Team Balochistan	36
4.5	ONLINE DATA ENTRY IN ANDROID BASED APPLICATION	55
4.5	MEETINGS OF ME&IE CONSULTANTS WITH STAKEHOLDERS REGARDING PROJECT PROGRESS / ISSUES	55
4.5.1	Meetings of ME&IE Consultants - ICT Zone	55
4.5.2	Meetings of ME&IE Consultants – Punjab Zone	56
4.5.3	Meetings of ME&IE Consultants – KP Zone	61
4.5.4	Meetings of ME&IE Consultants – Balochistan Zone	63
4.6	INTERNAL MEETINGS OF ME&IE CONSULTANTS	65
4.7	ICT ASSIGNMENT	67
4.7.1	Development of Customized Android Based Applications	67
4.7.2	Data collection of interventions in MIS/GIS database	67
4.7.3	Implementation of MIS Dashboard	67
4.7.4	Training and Capacity Building	69
4.8	MONITORING / DATA COLLECTION ON SOCIAL AND GENDER COMPONENT	69
4.8.1	Case Study of Intervention in ICT Zone	70
4.8.2	Case Study of Intervention in Punjab	73
4.8.3	A Case Study of Intervention in Balochistan	75
CHAPTER 5: ISSUES / BOTTLENECKS		80

LIST OF TABLES

Table ES.1: Compliance Status of Quarterly Tentative Work Plan (1 st Jan. 2022 to 31 st Mar. 2022) ..	2
Table 2.1: Monitoring Strategy for ME&IE Activities	7

LIST OF ANNEXES

ANNEX - A: TENTATIVE WORK PLAN FOR QUARTER (JAN-MAR 2022)	82
ANNEX - B: MATRIX OF RESPONSIBILITIES	84
ANNEX - C: MONITORING LOG-FRAME	Error! Bookmark not defined.
ANNEX - D: DELIVERABLES/REPORTING REQUIREMENTS	91
ANNEX - E: WATERCOURSE DATA COLLECTION SUMMARY - AJK	92
ANNEX - F: WATER STORAGE TANK DATA SUMMARY - AJK	93
ANNEX - G: WATERCOURSES DATA SUMMARY - KP	94
ANNEX - H: WATER STORAGE TANK DATA - KP	96
ANNEX - I: PICTORIAL VIEWS OF DASHBOARD TRAININGS IN KP	97

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
QM&ER	Quarterly Monitoring and Evaluation Report
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, “Quarterly Monitoring and Evaluation Report for the period of 01 January 2022 to 31 March 2022” is comprising of five sections.

Chapter-1 describes the project introduction in detail. The Government of Pakistan is implementing a project “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 including Sindh) 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.

Chapter-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.

Chapter -3 of this report covers the detail of ME&IE Consultants’ activities initiating during the reporting period (January 01, 2022 to March 31, 2021) as listed below.

This section also summarizes the compliance status of Quarterly Tentative Work Plan.

- Pre- Field Activities

- Field Activities
- ICT Assignment
- Coordination
- Deliverables

Chapter-4 of this report covers the activities completed during the reporting period as summarized below:

- Data collection from OFWM Department/NWMC for Baseline survey/regular monitoring
- Regular Monitoring of Interventions in the Field
- Data Collection of the Interventions in the Field
- Online Data Entry in Android Based Application.
- Baseline survey field visits
- Data entry, Data cleaning, Data processing & data Analysis
- Meetings of ME&IE Consultants with Stakeholders Regarding Project Progress / Issues
- Monitoring / Data Collection on Social and Gender Component
- Refinement of NPIWC-II web site
- Data collection of interventions in MIS/GIS database
- Development and Refinement of dashboard of Project Interventions
- Data collection of interventions in MIS/GIS database
- Implementation of MIS Dashboard
- Case Study on the Intervention

Chapter-5: Due to non-availability of data from NWMC (NESPAK) & respective Directorates and resources from Client, ME&IE Consultants have been facing constraints for timely completion of activities of the assignment.

Table ES.1: Compliance Status of Quarterly Tentative Work Plan (1st Jan. 2022 to 31st Mar. 2022)

No.	Activities Planned for the Reporting Quarter		Status	
1	Pre-field Activities:			
	1.1	Preparation of 2 nd Phase Baseline Survey	Complied	
	1.2	Improvement of Questionnaires in the light of experience of 1 st Baseline Survey	Complied.Submitted to Client for Comments	
2	Field Activities:			
	2.1	Regular Monitoring of Interventions in the Field	Complied/continued for current year	
	2.2	Data Collection of the Interventions in the Field	Complied/ in progress	
	2.3	Baseline Survey Stagee-2	Questionnaires have been Improved, Staff training conducted and Field Teams are in the filed for data collection	
	2.4	Online data entry I android based application	In progress	
3	ICT Assignment:			
	3.1	Development / Improvement of web site of NPIWC-II	Complied	
	3.2	Monitoring online data collection ad Data entry	Complied	
	3.3	Monitoring Android based Mobile Application under implementation by field staff	Complied	
	3.4	Data collection of interventions in MIS/GIS database	Complied	
	3.5	Designing of Dashboard of Project Interventions	Complied	
4	Coordination			
	4.1	Meetings of TL with NPC and OFWM departments regarding Project Progress / issues	Meetings conducted on regular basis	
	4.2	Meetings of DTLs with respective DTL of PC & concerned OFWM departments	Meetings conducted on regular basis	
5	Deliverables:			
	5.1	Monthly Monitoring Report (MMR)	13 th MMR (JAN 2022)	Submitted
14 th MMR (FEB 20212)			Submitted	
15 th MMR (MAR 2022)			To be submitted on Stipulated time	
	5.2	Quarterly Monitoring & Evaluation Report (QM&ER)	QM&ER (JUL-SEPT 2021)	Submitted
QM &ER (OCT-DEC 2021)			Submitted	
QM &ER (JAN-MAR 2022)			To be submitted on Stipulated time	
	5.3	Baseline Survey Phase-II	Data Collection in the field is in progress	

CHAPTER-1: INTRODUCTION

1.1 PROJECT PROFILE

Project Name	National Program for Improvement of Watercourses in Pakistan Phase-II (NPIWC-II)
Project Areas	Punjab, KP, Balochistan, 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. Director Irrigation and Small Dams, AJK 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, including Sindh)
ME&IE Consultancy Period	4 year
ME&IE Consultant:	JV of G3 Engineering Consultants (Pvt.) Ltd., EASE PAK Engineering services (Pvt.) Ltd., Centre for Social Research and Development (CSRD) and ADA Consultants Inc. Canada
ME&IE Consultant Mobilized	November 20, 2020

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:

- Social mobilization through capacity building of WUAs/ FOs,
- Minimization of conveyance and field application losses,
- Reduction in Water Logging and salinity,
- Equity in water distribution,
- Reduction in water disputes/thefts/litigation,
- Motivation/participation of farmers,
- Poverty reduction through employment generation,
- Increase in crops yield/sufficiency in food.

2) Quantitative Objectives:

The quantitative objectives of the Project are as under:

Project outputs

- 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.
- 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).
- Construction of 14,932 water storage tanks with 60% subsidy.
- 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

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

C1: ORGANIZATION OF WATER USERS ASSOCIATIONS:

Establishment/ reactivation of Water Users Associations (WUAs) through community driven implementation approach.

- i) Provide right of way for constructing watercourse,
- ii) Arrange skilled and unskilled labour required for reconstruction / maintenance of earthen water channel, installation of water control structures, and lining of critical reaches,
- iii) Procure construction materials for carrying out civil works,
- iv) Settle matters of disputes amongst the water users in respect of channel alignment, fixation of Naccas, distribution of work, etc.,

- v) Make alternate arrangements for conveyance of water during execution of improvement works,
- vi) Carry out civil works in accordance with standards and specifications under the supervision of OFWM field staff,
- vii) Regularly undertake O&M of improved watercourses after its construction.

C2: WATERCOURSE IMPROVEMENTS:

47,278 Watercourses are planned to be improved /reconstructed and lined.

- i) New watercourses that are not yet improved under earlier programs / projects,
- ii) Reconstruction of more than 20 years old watercourses that outlived their economic / useful life,
- iii) Additional lining up to 50% of already improved watercourses.

C3: CONSTRUCTION OF WATER STORAGE TANKS:

Construction of 14,932 Water Storage Tanks (WSTs).

- i) Store water during the rainy season and times of no use in the commands of perennial / non-perennial canals for subsequent irrigations at the critical crop growth stages,
- ii) Provide flexibility for storage of plentiful canal and rainfall runoff water for its more expedient use subsequently,
- iii) Collect, store and filter water from:
 - Small Dams, Springs, Streams, Nallas etc.
 - Rainfall runoff over agricultural catchment during rainy season
 - Tube Wells and dug wells of low flows
 - Tail-waters from agricultural fields
- iv) Regulate the flows so that it can be used efficiently when needed in large flow rates.

C4: PROVISION OF LASER LAND LEVELING UNITS:

Provision of 11,610 Laser Land Leveling units to the farmers. The component will strengthen LASER land leveling services in the country through provision of Laser Land Leveling Units to farmers/service providers on 50% subsidized rates.

1.2.5 Project Targets

Project aims at achieving the targets (Figure-1.1) for 5 years starting from year 2019-20 to 2023-24. The targets for each province/Zone (excluding Sindh) are given in below Figure-1.2.

Project Targets:

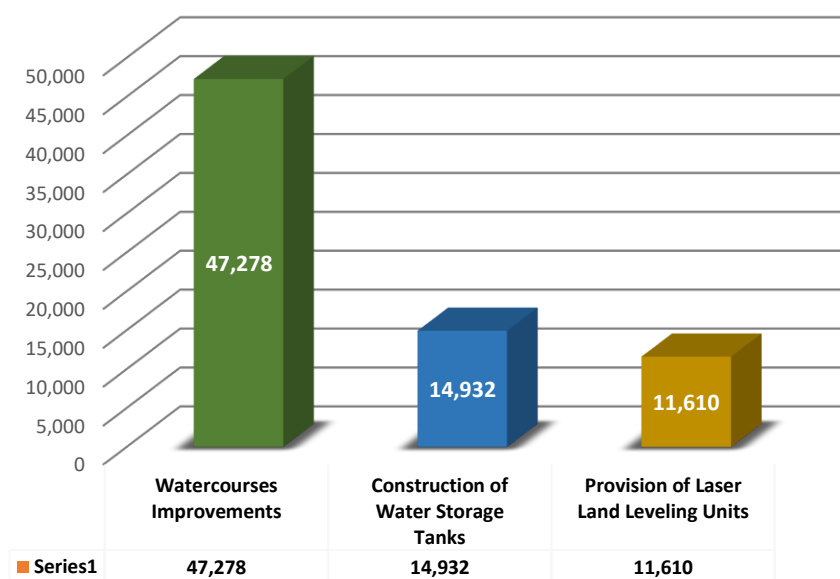


Figure-1.1: Pakistan Targets

Zonal Targets:

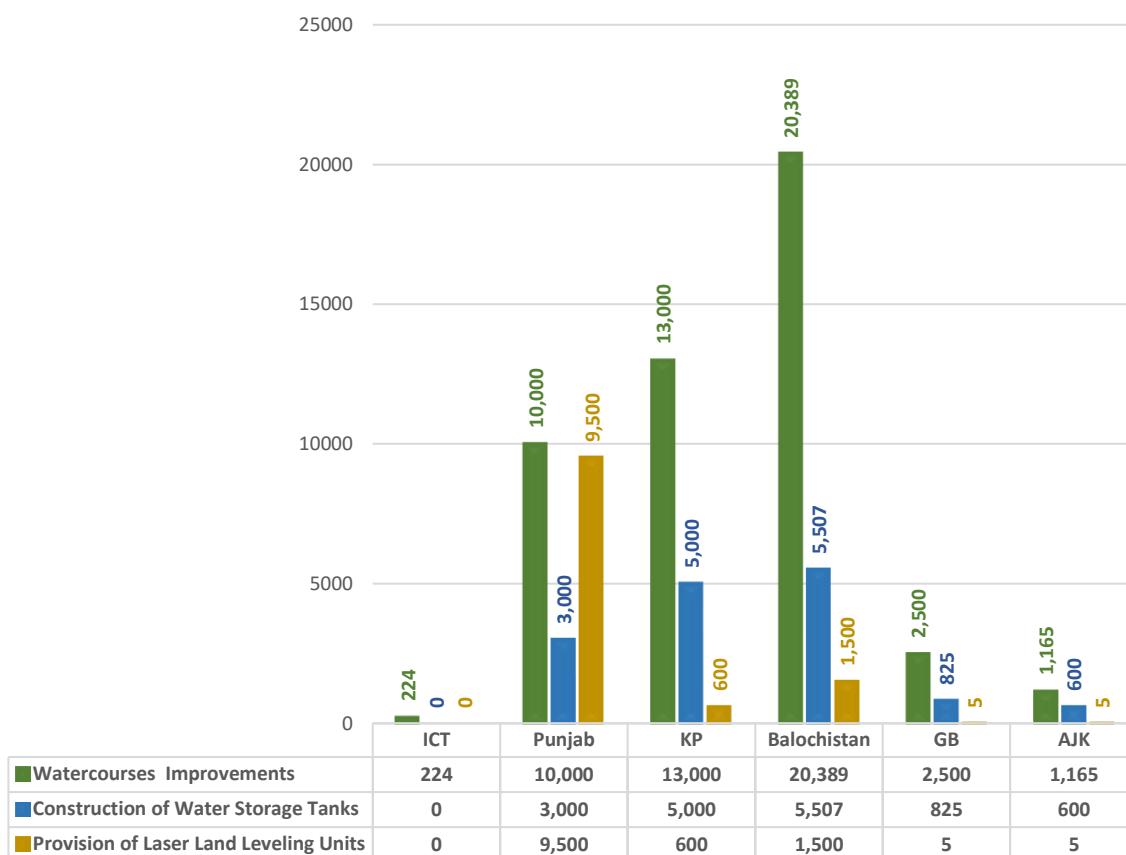


Figure-1.2: Zonal Targets

CHAPTER 2: SCOPE AND SERVICES OF ME&IE CONSULTANTS

The ME&IE Consultants services are planned to be provided through a multi-disciplinary team of qualified professionals. All firms in the joint venture have rich experience in the field of monitoring and evaluations. The team deputed for this task in the project comprises highly qualified professionals having long practical experience of such projects earlier launched in Pakistan. The consultant will develop a State-of-the-Art Management Information System (MIS) with GIS focuses for NPIWC-II to monitor progress on project interventions and to carry out effective monitoring process. The MIS will help decision makers to make informed the decisions.

2.1 OBJECTIVES

The objective of ME&IE Consultant's services is to carry out monitoring and evaluation of project impacts to ensure achievement of project development objectives.

2.2 SCOPE OF THE SERVICES

The ME&IE Consultants will be responsible for monitoring, evaluation and impact evaluation, and in this context will carry out the following activities:

- i) Undertake baseline, midline and end line surveys for the project activities / interventions in all the project areas,
- ii) Develop monitoring strategy, framework and Result-Based Monitoring (RBM) indicators,
- iii) Preparation of monthly, quarterly and annual monitoring, evaluation and validation reports of the project activities,
- iv) Assessing the water saving per annum on watercourses, water storage tanks and field levels as well as aggregate due to the project interventions,
- 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:

- Development of a GIS database with all spatial layers related to activities being undertaken under the project
- Give technical assistance for up-dation/up-gradation of water management GIS database.
- Development of web-based GIS application as a dashboard interface for comprehensive representation of all spatial and tabular information: custom designed web GIS application be developed for large LED screens, should be self-operative and represent project data on multiple layouts of application interface.
- Development of a MIS application as an integral part of web GIS to maintain information on facilities and services, applications, procedures, watercourses database, etc.
- 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 management.
- Application should generate custom designed reports and analysis as per user-defined requirements.
- Application should generate alerts (SMS, email, web-notifications) to the user on the non-conformance of project's key indicators; the application should have the provision to custom define alerts levels and desired notifications.

2.3 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 were 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	Baseline, 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"> Baseline 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. Baseline 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.

Sr. No.	Monitoring Activity	ME&IE Team Responsible	Monitoring Strategy
			<ul style="list-style-type: none"> 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.
			<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	<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

Sr. No.	Monitoring Activity	ME&IE Team Responsible	Monitoring Strategy
		Socio-Economic Expert	<p>estimated. It is benefit towards food security</p> <ul style="list-style-type: none"> 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.
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.

2.4 FRAMEWORK AND RESULTS-BASED MONITORING (RBM) INDICATORS

The framework and Results-Based Monitoring (RBM) Indicators are identified in Table-2.2 of Inception Report. 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.

CHAPTER 3: WORK PLAN OF THE CONSULTANTS FOR THIRD QUARTER

3.1 COMPLIANCE STATUS OF WORK PLAN OF QUARTER JAN-MAR 2022

The ME&IE activities initiating during the 1st Quarter of the year 2022 (1st January 2022 to 31st March 2021) and their compliance status is summarized below. The Tentative Work Plan for the 2nd Quarter of year 2022 (1st April 2022 to 31st June 2022) is given as Annex-A.

3.1.1 Pre-Field Activities

S#	Activities	Status
i	Preparation of 2 nd Phase Baseline Survey	Complied, Refer chapter 4 for detail:
ii	Improvement of Questionnaires in the light of experience of 1 st Baseline Survey	Complied, Refer chapter 4 for detail:

3.1.2 Field Activities

S#	Activities	Status
i	Regular Monitoring of Interventions in the Field	Complied, Refer chapter 4 for detail:
ii	Data Collection of the Interventions in the Field	Complied, Refer chapter 4 for detail:
iii	Baseline Survey Stagee-2	Complied, Refer chapter 4 for detail:
iv	Online data entry in android based application	Complied, Refer chapter 4 for detail:

3.1.3 ICT Assignment

S#	Assignment	Status
i	Development / Improvement of web site of NPIWC-II	Complied Refer chapter 4 for detail:
ii	Monitoring online data collection ad Data entry	Complied, Refer chapter 4 for detail:
iii	Monitoring Android based Mobile Application under	Complied,

	implementation by field staff	Refer chapter 4 for detail:
iv	Data collection of interventions in MIS/GIS database	Complied, Refer chapter 4 for detail:
v	Designing of Dashboard of Project Interventions	Complied, Implementation under process, Refer chapter 4 for detail:

3.1.4 Coordination

S#	Activities	Status
i	Meetings of TL with NPC and OFWM departments regarding Project Progress / issues	Meetings conducted on regular basis
ii	Meetings of DTLs with respective DTL of PC & concerned OFWM departments	Meetings conducted on regular basis

3.1.5 Deliverables

S#	Reports	Status
i	Monthly Monitoring Reports (MMRs) Jan & Feb 2022	Complied
ii	Monthly Monitoring Report (MMR) Mar 2022	To be submitte within stipulated time
iii	Quarterly Monitoring & Evaluation Report (QM&ER) Oct-Dec 2021	Complied
iv	Quarterly Monitoring & Evaluation Report (QM&ER) Jan-Mar 2022	To be submitte within stipulated time
v	Baseline Survey Report (Ph-2)	Data Collection in field is in progress

CHAPTER 4: ACTIVITIES DURING THE REPORTING QUARTER

4.1 INTRODUCTION

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

4.2 OBJECTIVE OF QM&ER

The Main objective of Quarterly Monitoring and Evaluation Report (QM&ER) is to update the Client about the activities carrying out by the ME&IE Consultants during the reporting quarter. Reporting is an integral part of monitoring and evaluation framework.

4.3 REPORTING QUARTER

This current QM&ER covers the period from 01 January 2022 to 31 March 2022.

The in hand QM&ER has been prepared by the participation of all core team of ME&IE Consultants NPIWC-II.

This Report provides the progress made in various activities relating to the accomplishment of Monitoring activities of project interventions e.g., Field Survey / Monitoring of the field interventions. This report also describes all activities to be carried out as per quarterly work plan. Activities during the reporting period are given below:

4.4 IMPROVEMENT OF MONITORING TOOLS (MTS) FOR 2ND PHASE BASELINE SURVEY

The ME&IE Consultants conducted multiple sessions of discussions on the Monitoring Tools (MTs) for improvement. Consultants reviewed the MTs in the light of Client's comments received on 1st Baseline Survey Report and lessons learnt by the consultants during activities of 1st Baseline Survey. The MTs were reviewed by all the zonal offices in coordination with Team Leader. Improvements / amendments were made in the MTs after detailed discussions. Some new indicators have also been added in the previous MTs which were felt

necessary to evaluate the impact of the project interventions.

Improved MTs were submitted to NPC office on 27 February, for comments.

Field teams were also provided training on the updated MTs and refined / updated MTs were pretested in the field by the field teams. MTs have also been updated on Android base application for data collection in the field.

4.5 REGULAR MONITORING OF INTERVENTIONS IN THE FIELD

The routine monitoring is containing brief analysis of the results; calculating achievement rates and establishing trends, relevant findings that may help or constraint the future data collection activities in the established periods and, if appropriate, propose specific solutions assessing the advantages and disadvantages of each.

The regular monitoring assignments under the project NPIWC-II are comprised of input-output and process as defined in the Annual Work Plan / Budget and tracking of the outcome's indicators. Regular routine monitoring is to look at the extent to which the proposed project activities are being implemented as planned. Routine monitoring by the ME&IE consultants remained in progress during the reporting quarter.

Zonal teams of ME&IE consultants visited client offices for of data collection to develop dashboard for Islamabad and KP zones. Consultants also conducted meeting with client offices for planning of 2nd Phase of Baseline Survey.

Detail of field visits and observations of the field teams and other ME&IE activities of all the Zonal offices during the reporting period is given below:

4.5.1 Regular Monitoring / Field Visits by Zonal Office ICT

Deputy Team Leader ME&IE Consultants, ICT Zone and his team remained in close coordination with On Farm Water Management Department ICT, for ME&IE activities of the project.

During the current reporting period ICT Zonal Team conducted a visit to monitor the cropping patterns on the improved parcels of the project at farmers' fields during Rabi 2021-22. The visit plan was

discussed with Water Management team on 2nd and 3rd of January 2022 and was planned to conduct field visit in ICT area on 6th January 2022.

ME&IE team along with Eng. Ghufarn Memon, Water Management Officer, visited the farm of Mr. Raja Zaheer Ahmad. This visit also aimed to cover a case study on the project intervention in ICT Zone.

ME&IE Team of ICT Zone also remained engaged in the listed below activities during the reporting period.

- i. Review and improvement of baseline survey questionnaire and its pre-testing in the field.
 - a. Questionnaire for water channels
 - b. Questionnaire for water structures/tanks
- ii. Finalization of the section on sampling methodology for incorporation in the baseline report.
- iii. Preparation of success story on Gladiolus cultivation in Rawalpindi-Islamabad area

In the Month of February 2022, Field team conducted two days' (22nd – 23rd February 2022) field visit of two districts of AJK (Mirpur and Bhimber). Following team members of ME&IE consultants, jointly carried out these visits.

- i) Mr. Muhammad Bilal, Field Team Incharge
- ii) Hafiza Maryam Iqbal, M&E Officer
- iii) Ms. Sana Gul, M&E Officer

ME&IE consultants conducted this visit in coordination with Mr. Javed Qamar, Deputy Director Mirpur, who managed the visit of watercourses. Following staff of AJK Water Management Department joined the ME&IE Team during this visit.

- i) Water Management Officer Mr. Muhammad Ali, and
- ii) Assistant Director of Line Department, Mr. Jabar Rafique

Pictorial view of this visit is given and **Figure 4.1** and **Figure 4.2**. Team visited following interventions:

S#	WC Name	District	Date of Visit
1	Faridabad	Mirpur	22 nd February 2022
2	Dhok Balyala		
3	Ternal-4		
4	Ternal		
5	Sirla -1	Bhimber	

6	Sokasan		23 rd February 2022
7	Channi Ganjal		



Figure 4.1: ME&IE Team with WMOAJK during field visit of Fareedabad, district Mirpur, AJK



Figure 4.2: ME&IE Field Team with A.D. AJK during Visit of Watercourse at Sirla, District Bhimber, AJK

4.5.1.1 Field Visit by Zonal Team ICT

i) Visit Raja Zaheer Ahmed Farm in Village Phulgran, ICT - January 06, 2022

DTL and ME&IE team visited village Phulgran in Islamabad Capital Territory on 6th January 2022. Field Officers of Water Management Department joined the ME&IE team for this visit. ME&IE Team conducted a meeting in the OFWM Department Islamabad and then left field visit. Following were the participants of the meeting:

1. Engr. Ghufarn, Deputy Director Water Management, OFWM, ICT, Islamabad
2. Mr. Mubeen, Water Management Officer, OFWM, ICT, Islamabad
3. Dr. Umar Farooq, Deputy Team Lead ME&IE Consultants.
4. Muhammad Bilal, Field Team Incharge ME&IE Consultants

After meeting, Consultants' team visited Raja Zaheer Ahmed Farm where he is harvesting Gladiolus (Figures 4.1 to 4.3). Salient glimpses of the field visit and success story made out of it is given below in Figures 4.4 to 4.5. The figures show the source of water for the farm, and market place where flowers are being supplied by the farmer.



Figure 4.3: Water Storage Tank Constructed at Raja Zaheer Ahmad's Farm



Figure 4.4: Water Pump Installed on Raja Zaheer Farm



Figure 4.5: Gladiolus Field, When There is no Flowering



Figure 4.6: Gladiolus Flowers Harvested on the Day Team Visited Raja Zaheer Ahmad's Farm



Figure 4.7: A Gimp of the Rawalpindi Flower Market, where the Gladiolus Flowers are Ultimately Supplied along with Flower Shops in Islamabad from farm of Raja Zaheer

ii) Field Visit - Watercourse Waheed Anjum, Mirpur AJK - February 22, 2022

Scheme	Watercourse
Farmer Name	Waheed Anjum
Name of village:	Faridabad
Chairman WUA:	Waheed Anjum
District:	Mirpur
Province	AJK
Source of irrigation:	Tube Well
Type of watercourse:	PCPS
Length of the watercourse:	900ft
Command area of watercourse:	7.37 Acres
No of beneficiaries:	3
Cropping intensity increased	Not measured due to new lining.

Equity in water distribution increased	<i>No Problems related to Equity in Water Distribution.</i>
Reduction in water disputes/thefts	<i>No problems related to water theft</i>
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> The farmer is Chairman of the WUA He has 200 Kanal land under this watercourse; however, 59 Kanal will be facilitated by the lining of this watercourse. He has requested the Department for the lining of watercourse as it takes 7 hours to irrigate 1-acre land due to sandy land and non-sufficient rainfall patterns. From this 59 kanal, 57 kanals is used for agriculture, while 2 kanal is being used for animal shed and labour residences.
General Observations	<ul style="list-style-type: none"> Land in this area is sandy WUA is actively working. Watercourse is precast parabolic segments. The source of the watercourse was Tube well which is owned by the beneficiary.



Figure 4.8: Faridabad: Unlined watercourse and crops



Figure 4.9: Faridabad: tube well source of water

iii) Field Visit - Watercourse Abdul Majeed (Dhok Balyala), Mirpur, AJK - 22 February, 2022

Scheme	Watercourse
Farmer Name	Abdul Majeed
Name of village:	Dhok Balyala
Chairman WUA:	Abdul Majeed
District:	Mirpur
Province	Ajk
Source of irrigation:	Tube Well
Type of watercourse:	PCPS
Length of the watercourse:	848ft
Number of segments:	212
Command area of watercourse:	4 Acres (32 Kanal)
No of beneficiaries:	3
Cropping intensity increased	Not measured due to new lining.
Equity in water distribution increased	<i>No Problems related to Equity in Water Distribution.</i>
Reduction in water disputes/thefts	<i>No problems related to water theft</i>
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> The farmer is Chairman of WUA WUA is actively working No female is working in WUA.
General Observations	<ul style="list-style-type: none"> The source of water was Tube well. Farmers use water only from the tubewells and



Figure 4.10: Balyala: Plastic foldable pipes being used for irrigation before lining of watercourse



Figure 4.11: Balyala: Lined Watercourse

iv) Field Visit - Watercourse Waheed Ahmed
(Ternal -4), Mirpur, AJK - February 22, 2022

Scheme	Watercourse
Farmer Name	Naveed Ahmed
Name of village:	Ternal
Chairman WUA:	Naveed Ahmed
District:	Mirpur
Province	Ajk
Source of irrigation:	Tube Well
Type of watercourse:	PCPS
Length of the watercourse:	320ft
Number of segments:	60
Command area of watercourse:	4.75 Acres
No of beneficiaries:	3
Cropping intensity increased	Not measured due to new lining.

Equity in water distribution increased	No Problems related to Equity in Water Distribution.
Reduction in water disputes/thefts	No problems related to water theft
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Farmer's current land holding is 38 Kanal and all the land is suitable for cultivation. He had hired two permanent labors for farming activities. No female participation in farming activities.
General Observations	<ul style="list-style-type: none"> The type of the watercourse is precast parabolic segment. The lining length of WC was 320ft, while the number of segments were 60. The source of the watercourse was only Tube well.



Figure 4.12: Ternal 4: W.C. Under Construction



Figure 4.13: Ternal 4: Comparison of irrigated vs rain-fed crops in same vicinity.

v) Field Visit - Watercourse Naveed Ahmed
(Ternal), Mirpur, AJK - 22 February, 2022

Scheme	Watercourse
Farmer Name	Naveed Ahmed
Name of village:	Ternal
Chairman WUA:	Naveed Ahmed
District:	Mirpur
Province	Ajk
Source of irrigation:	Tube Well
Type of watercourse:	PCPS
Length of the watercourse:	472ft
Number of segments:	118
Command area of watercourse:	2.8Acres
No of beneficiaries:	3
Cropping intensity increased	Not measured due to new lining.
Equity in water distribution increased	No Problems related to Equity in Water Distribution.
Reduction in water disputes/thefts	No problems related to water theft
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Farmer has his own farming equipment including rotavator, tractor He also a tube well. His current land holding is 23 Kanal and all the land was suitable for cultivation. He had hired two permanent labors for farming activities. <p>No female participation in farming activities</p>
General Observations	<ul style="list-style-type: none"> The source of the watercourse was only Tube well. They had livestock and the consumption pattern of food was given by the beneficiary.

Pictorial view of visit given in figures 4.14.& 4.14



Figure 4.14: Ternal Watercourse Branches



Figure 4.15: ME&IE Team interviewing farmers

vi) Field Visit – Watercourse Muhammad Irfan
(Sirla-1), Bhimber, AJK - 23 February 2022

Scheme	Watercourse
Farmer Name	Muhammad Irfan
Name of village:	Sirla
Chairman WUA:	Muhammad Irfan
District:	Bhimber
Province	Ajk
Source of irrigation:	Tube Well
Type of watercourse:	PCPS
Length of the watercourse:	700ft
Number of segments:	175
Command area of watercourse:	2.87 Acres
No of beneficiaries:	3
Cropping intensity increased	Not measured due to new lining.
Equity in water distribution increased	No Problems related to Equity in Water Distribution.
Reduction in water disputes/thefts	No problems related to water theft

Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> The farmer is owner of 32 Kanal of land He is the chairman of WUA. The beneficiary was cultivating only fodder crops and is using his livestock for business purpose. He had hired 2 labors as permanent. There is no female participation in farming activities. With the help of Agricultural Department, he got his land leveled by Laser Land Leveler and made it useful for agriculture. He has installed a tubewell in his land. Before lining of watercourses, he used to irrigate the land through plastic foldable pipes.
General Observations	<ul style="list-style-type: none"> The source of the watercourse is tube well only. Most of the land is sandy, and requires lot of irrigation timing, however, the pipe system made it easy to irrigate. Assistant Director told that other people have also levelled their land and are requesting the Irrigation Department for the lining of the watercourse falling in their land.



Figure 4.16: Meeting with farmer in Serla



Figure 4.17: Newly Constructed Watercourse

vii) Visit of Watercourse Ulfat Hussain (Sokason), Bhimber, AJK - February 23, 2022

Scheme	Watercourse
Farmer Name	Ulfat Hussain
Name of village:	Sokason
Chairman WUA:	Ulfat Hussain
District:	Bhimber
Province	Ajk
Source of irrigation:	Tube Well
Type of watercourse:	PCPS
Length of the watercourse:	404ft
Number of segments:	101
Command area of watercourse:	3.75 Acres
No of beneficiaries:	3
Cropping intensity increased	Not measured due to new lining.

Equity in water distribution increased	<i>No Problems related to Equity in Water Distribution.</i>
Reduction in water disputes/thefts	<i>No problems related to water theft</i>
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Farmer holds 30 Kanal of land. He is the chairman of the WUA No female participation in the farming activities He hires casual labours whenever needed.
General Observations	<ul style="list-style-type: none"> The source of the water is only tubewell and sometimes rainfalls, however rainfall is insufficient throughout the season.



Figure 4.18: Sokason Watercourse Under Construction

viii) Field Visit - Watercourse Usman Mehmood (Channi Kanjal), Bhimber, AJK - 23 February 2022

Scheme	Watercourse
Farmer Name	Usman Mehmood
Name of village:	Channi Kanjal
Chairman WUA:	Usman Mahmood
District:	Bhimber
Province	AJK
Source of irrigation:	Tube Well
Type of watercourse:	PCPS
Length of the watercourse:	870ft
Number of segments:	290

Command area of watercourse:	7.5 Acres
No of beneficiaries:	3
Cropping intensity increased	Not measured due to new lining.
Equity in water distribution increased	<i>No Problems related to Equity in Water Distribution.</i>
Reduction in water disputes/thefts	<i>No problems related to water theft</i>
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> He is holding 60 Kanal agriculture land He has established a farm for his livestock including Australian cows, buffaloes, ducks. He installed lined watercourses during NPIWC-I During NPIWC-II he not got more lining of WC but he also constructed Dam in a gully area to store water for irrigation purpose. He also installed few tube well in this land holding and watercourses are lined in a way that lower watercourses can be irrigated from upper area whenever needed. No female participation in farming activities.
General Observations	<ul style="list-style-type: none"> This land was uneven and was not useful for Agriculture. Now he has leveled lot of area and using for agriculture. He planted Eucalyptus in his land before 7 years which are more than 60,000 trees.

- Now he has planted olive plants on other part of his land which will be more productive for him.
- He has to hire experienced labor from Punjab or KPK and the hiring cost of those labor is much higher



Figure 4.19: Channi Kanjal Watercourse Under Construction

4.5.2 Regular Monitoring / Field Visits by Zonal Office Punjab

Regular Monitoring/Visits of various interventions by Punjab ME&IE teams, remained continued during the reporting period. The Field activities included collection / reviewing basic data of interventions like watercourses improvement, Water User Associations, Water Storage Tanks and Laser Land Levelers. The Consultants also carried out selection of interventions as per prescribed criteria in the respective area on each sub zone. ME&IE Team conducted visits to client offices and conducted field visits as part of regular monitoring.

4.5.2.1 Field Visits by Zonal Team Punjab

i) Visit of Watercourse Bhai Kot Chak No.3 UC 3: January 13, 2022

Basic Profile of Watercourse Monitored / Visited

Watercourse ID:	45316 – L
Name of village:	Bhai Kot Chak No 3
Village council:	UC 03
Chairman WUA:	Junaid Iqbal
Cell No.	0315 - 0150000
Tehsil & District:	Pattoki, Kasur
Source of irrigation:	Canal

Total length of watercourse:	8589 Meter
Estimated length of lining:	232 Meter
Command area of watercourse:	729 Acres
No of beneficiaries:	60
Status	ICR – II

Pictorial view of the visit is given in **Figure 4.20 to 4.21**.



Figure 4.20: View of Under Improvement Watercourse



Figure 4.21: ME&IE Team Monitoring Watercourse

Interaction with Beneficiaries & Beneficiaries Interviewed at the Spot:

The field team of ME&IE consultants interviewed the beneficiaries of the watercourse and gathered their remarks on the interventions under the NPIWC-II project. Detailed observations of the ME&IE team and feedback of the beneficiaries is given below. Pictorial views of the discussions held with beneficiaries are shown in figures 4.22 to 4.23.

Name of Beneficiaries	Land Owned	Location at Watercourse
Amanat Ali	12.5 Acre	Middle
Bashir Hussain	5 Acre	Middle
Barkat Ali Yahya	9 Acre	Tail

Field Observations:

The farmers are happy on the improvement of the watercourse. They appreciated OFWM officials on their work especially ADA Dr. Nadeem Jaffri and sub-engineer Muhammad Rizwan Rai, as they were very active in watercourse improvement task.



Figure 4.22: Meeting with Shareholders of Watercourse



Figure 4.23: General Discussion with farmers at the spot

The following are the main observations and conclusions made by the ME&IE Team of Consultants:

- Ground water is saline, and farmers/ mainly depend upon canal irrigation
- No water salinity and waterlogging are observed in the field
- Reduction in water losses in the field
- Equity in water distribution at Head/Mid/Tail
- No tree was cut down during the improvement of Watercourse
- Weed cleanness was done by farmers in cooperation with Water User Association
- Watercourse does not choke after improvement when water passed through it.

Impact of the

The improvement of Watercourse resulted in;

- Time saving in the application of one-go irrigation has been improved (from 2 to 2.25 to 1 to 1.5 hours/Acre).
- Land price before lining / Improvement of watercourse was Rs. 1.5 to 1.8 Million / Acre and now land rate after improvement of watercourse has increased to 3.5 to 4.0 Million /acre.

ii) Visit of Watercourse 12648/R Chak No. 97GB: February 21, 2022

Basic Profile of Watercourse Monitored / Visited

Date of Visit	Feb 21, 2022
Watercourse No	12648/R
Type of Watercourse	Additional Lining
Chak No/Village	97-GB
District and Tehsil	Faisalabad / Jaranwala
Name of Distributary	Pawalian
Type of Moga	Open Flume
Measured Discharge Before Improvement	Head 145 LPS (l/s) Middle 70 LPS Tail 50 LPS
Sanctioned Discharge	52 LPS
Tube well Discharge (if any)	20 LPS
Designed Discharge	165 LPS
Gross Command Area	641 Acres
Culturable Command area	612 Acres
Total No of water users	39
Estimated lining Length	2411 meter
Additional Lining	First lining was made in 1992-93. The old watercourse flow was insufficient.



Figure 4.24: Site Visit at 12648 R Under Construction Watercourse along with Supervisor and Beneficiaries

Beneficiaries Interviewed at the Spot

Name	Location on WC	Area/Acres				Status
		Owned	Rented In	Rented Out	Operated Area	
Shahid Farooq	Head	33	17	-	50	ICR-II
Sayed Ghulam Muhammad Shah	Tail	4	-	-	4	
Hafiz Muhammad Sajjad	Middle	2.5	0	-	2.5	
Muhammad Aslam	Middle	6	10	-	16	

Observations:

Major Crops	Wheat, sugarcane, rice
Area under Salinity	About 10-15% of the main land was affected mainly due to shortage of ground water. Unfit for irrigation.
Satisfaction of Farmers	Farmers are satisfied with the working of OFWM.
Farmers Concern	Farmers are concerned about the proper repair and maintenance of the old watercourse portion.

iii) Visit of Water Storage Tank (Aftab Iftikhar)

WST Owner:	Aftab Iftikhar
Name of village:	100 GB
Union council:	100/GB
Tehsil & District:	Jarawala / Faisalabad
Source of irrigation:	Canal + Tube well
Shape of water storage tank:	Trapezoidal + Geomembrane
Size of water storage tank:	24.5m x 25.0m
Depth of WST:	5 ft
Command area of water storage tank:	8.00 acres
No of beneficiaries:	1



Figure 4.25: View of WST

Date	21 February 2022
Name of Farmer	Aftab Iftikhar
Area in acres	
Owned	8
Rented in	-
Rented out	-
Status	FCR



Figure 4.26: ME&IE Team Interviewing Owner of WST for Data Collection

Observations:

Owner / Beneficiary was satisfied with the overall progress of the construction of WST and the support from OFWM department.

iv) Visit of Watercourse No. 6730-L Additional Lining: 22 February 2022

Date of the Visit	Feb 22, 2022
Watercourse No	6730-L

Beneficiaries interviewed at the Spot

Type of Watercourse	Additional Lining	
Chak No/Village	Marh Bashi	
District and Tehsil	Hafizabad / Hafizabad	
Name of Distributary	Dherankay	
Type of Moga	A.O.S.M (Adjustable Orifice Semi-Module)	
Measured Discharge Before Improvement	Head	50 LPS
	Middle	39 LPS
	Tail	27 LPS
Sanctioned Discharge	47 LPS	
Tube well Discharge (if any)	23 LPS	
Designed Discharge	70 LPS	
Gross Command Area	322 Acres	
Culturable Command area	309 Acres	
Total No of water users	10	
Estimated lining Length	702 meters	
Reduction in Water Theft / Litigation	It was about 15/20%	
Salinity / Water logging	It was about 5-10%	
Main source of irrigation	Non-Perennial Canal + Tube well	
Quality of Ground Water	Fit for Irrigation	




Figure 4.27: Site Visit to Watercourse

Figure 4.27: Site Visit to Watercourse

Beneficiaries Interviewed at the Spot

Name	Address	Location on WC	Area/Acres				Status
			Owned	Rented In	Rented Out	Operated Area	
Badar Alam	Marh Bashi District and Tehsil Hafizabad	Head	22	-	-	20	FCR
Muhammad Zaman		Tail	45	-	-	45	
Daud Hassan		Middle	27	10	-	37	
Muhammad Afzal		Middle	48	5	-	53	

Observations:

1. Major crops sown were wheat and rice.
2. Reduction of water losses is about 5-10%.
3. Time consumed to irrigate one acre of land has been reduced approximately 50%.
4. Choking of the water courses has been reduced.
5. Increase in land rent by 10%.
6. All farmers were satisfied with OFWM performance. Particularly farmers at the tail of the watercourse.




Figure 4.28: ME&IE Team Interviewing Beneficiaries of Watercourse for data Collection

Figure 4.28: ME&IE Team Interviewing Beneficiaries of Watercourse for data Collection

v) Visit of Muhammad Afzal Water Storage Tank Marh Bashi, Hafizabad: 22 February 2022

Basic Profile of Water Storage Tank

WST Owner:	Muhammad Afzal
Name of village:	Marh Bashi
Union council:	25
Tehsil & District:	Hafizabad / Hafizabad
Source of irrigation:	Canal + Tube well
Shape of water storage tank:	Trapezoidal
Size of water storage tank:	42.66m x21.94m
Depth of WST:	5 ft
Quality of Geo membrane	Not good
Maintenance of WST	Not properly maintained

Uses of WST	For drainage and fish farming purposes.
Source of WST	Canal + Tube well +Rainfall (Being low among the other fields)
Command area of water storage tank:	12.5 acres
No of beneficiaries:	1



Figure 4.29: ME&IE Team Measuring the Dimensions of Watercourse

Beneficiaries Interviewed at the Spot

Date	Name	Area/Acres				Status
		Owned	Rented In	Rented Out	Owned	
22-02-2022	Muhammad Afzal	Barh Bashi District and Tehsil Hafizabad	-	-	12.5	FCR

Observations:

Trees in WST	The trees in the process of construction of WST were sold to compensate for the construction cost of the beneficiary.
Location of WST	The location of the land where WST was constructed was of very low-quality including mixture of gravels in the soil and it was very shallow.

vi) Visit of Watercourse No. 168000/R on 2 March 2022

Date of Visit	Mar 02, 2022	
Watercourse No	16800/R	
Type of Watercourse	Additional Lining	
Chak No/Village	Hardo sohl Hindu	
District and Tehsil	Shiekhupura / Muridke	
Name of Distributary	Muridke	
Type of Moga	Pipe Outlet	
Measured Discharge Before Improvement	Head	65 LPS (Liter per Second)
	Middle	33 LPS
	Tail	20 LPS
Sanctioned Discharge	29 LPS	
Tube well Discharge (if any)	36 LPS	
Designed Discharge	65 LPS	
Gross Command Area	330 Acres	
Culturable Command area	270 Acres	
Total No of water users	16	
Estimated lining Length	665 meters	



Figure 4.30: Site Visit at 16800 R Watercourse along with ADA Mr. Zaffar Munir and Beneficiaries



Figure 4.31: ME&IE Team Interviewing the Farmer-ADA Zafar Munir is also with Team

Interview of Beneficiaries of Watercourse 16800 R						
Name of Farmer	Location of WC	Area (Acres)				Status
		Owned	Rented	Rented Out	Operated Area	
Haji Afzal Khan	Head	40	-	-	40	ICR-1
Azhar Hussain	Head	0	20	-	20	
Muhammad Gulfam	Middle	05	0	-	05	
Imran Ali	Middle	05	5.5	-	10.5	
Liaquat Hussain	Tail	19	-	-	19	
Abdul Majeed	Tail	03	8	-	11	

vii) Visit of W/C No. 20460/R on 2 March 2022

Date of Visit	Mar 02, 2022	
Watercourse No	20460/R	
Type of Watercourse	Additional Lining	
Chak No/Village	Ghuchli Virkan	
District and Tehsil	Shiekhupura / Muridke	
Name of Distributary	Muridke	
Type of Moga	Pipe Outlet	
Measured Discharge Before Improvement	Head	103 LPS (Liter per Second)
	Middle	74 LPS
	Tail	50 LPS
Sanctioned Discharge	39 LPS	
Tube well Discharge (if any)	66 LPS	
Designed Discharge	105 LPS	
Gross Command Area	380 Acres	
Culturable Command area	358 Acres	
Total No of water users	19	

Estimated lining Length	1815 meter
-------------------------	------------



Figure 4.32: Site Visit of 20460 R Watercourse along with ADA and Beneficiaries.



Figure 4.33: ME&IE Team Interviewing Farmer at W/C 20460 R

Interview of Beneficiaries of Watercourse 20460 R						
Name Farmer	Location on WC	Area/Acres				Status
		Owned	Rented In	Rented Out	Operated Area	
Abdul Majeed	Head	12	12	-	24	ICR-1
Mohsin Ali	Head	13	02	-	15	
Khalid Mahmood	Middle	15	-	-	15	
Karamat Ali	Middle	60	-	-	2.5	
Iftikhar Ahmad	Tail	3	8	-	11	
Khawar Saleem	Tail	13	02	-	15	

viii) Visit of Watercourse No. 17617/R on 03 March 2022

Date of Visit	March, 03, 2022	
Watercourse No	17617/R	
Type of Watercourse	Additional	
Chak No/Village	24-RB Abdullah Pur Kalan	
District and Tehsil	Sheikhupura , Safdarabad	
Name of Distributary	Khurrianwala	
Type of Moga	AOSM	
Measured Discharge Before Improvement	Head	40.37 LPS
	Middle	30 LPS
	Tail	20 LPS
Sanctioned Discharge	29.16 LPS	
Tube well Discharge (if any)	28.31 LPS	
Designed Discharge	70 LPS	
Culturable Command area	361 acres	
Total No of water users	50	
Estimated lining Length	1292 meter	



Figure 4.34: Inspection of WC alongwith WC Beneficiaries



Figure 4.35: Interviewing beneficiary of watercourse

Beneficiaries Interviewed at W/C 17617/R						
Name of Farmer	Location on WC	Area/Acres				Status
		Owned	Rented In	Rented Out	Operated Area	
Zahid Ali	Head	2.5	4	-	6.5	ICR-1
Taj Din	Head	2	3	-	5	
Muhammad Jameel	Middle	33	-	-	33	
Imtiaz Ali	Middle	29	-	-	29	
Muhammad Afzal	Tail	4	-	-	4	
Farooq Shahnawaz	Tail	4	8	-	12	

ix) Visit of Watercourse No. 36265/R on 3 March 2022

Date of the Visit	3-3-2022	
Watercourse No	36265/R	
Type of Watercourse	Additional	
Chak No/Village	Mateela	
District and Tehsil	District Sargodha Tehsil Kot Momin	
Name of Distributery	Kerana	
Type of Moga	AOSM	
Measured Discharge Before Improvement	Head	65LPS
	Middle	55LPS
	Tail	40LPS
Sanctioned Discharge	56LPS	
Tube well Discharge (if any)	25LPS	
Designed Discharge	90 LPS	

Gross Command Area	Acres
Culturable Command area	586Acres
Total No of water users	9
Estimated lining Length	1390 m



Figure 4.36: ME&IE Team in discussion with beneficiary of WC

Interviewed of beneficiaries of W/C 36265/R						
Name of Farmer	Location on WC	Area/Acres				Status
		Owned	Rented In	Rented Out	Operated Area	
Noor Ahmad	Head	7	15	-	22	FCR
Muhammad Mumtaz	Head	10	-	-	10	
Rauf Ahmad	Middle	13	-	-		
Zahoor Ahmad	Middle	13	-	-	13	
Fateh Muhammad	Tail	2.5	-	-	2.5	
Ghazanfar Ali	Tail	36	-	-	36	




Figure 4.37: General Discussion with Farmers about water saving Perception & Farmers sharing their Point of View

Figure 4.37: General Discussion with Farmers about water saving Perception & Farmers sharing their Point of View

x) **Visit of Watercourse No. 49050/R on 3 March 2022**

Date of the Visit	3-3-2022	
Watercourse No	49050/R	
Type of Watercourse	Additional	
Chak No/Village	65/SB	
District and Tehsil	Kot Momin	
Name of Distributary	Hujjan	
Type of Moga	AOSM	
Measured Discharge Before Improvement	Head	95LPS
	Middle	80 LPS
	Tail	70 LPS
Sanctioned Discharge	54 LPS	
Tube well Discharge (if any)	41 LPS	

Designed Discharge	95 LPS
Gross Command Area	Acres
Culturable Command area	Acres
Total No of water users	25
Estimated lining Length	1385 m



Figure 4.38: inspection of watercourse along with beneficiaries

Interview of Beneficiary of Watercourse 49050/R						
Name	Location on WC	Area/Acres				Status
		Owned	Rented In	Rented Out	Operated Area	
Mushtaq Ahmad	Head	6	04	-	10	FC R
Anwar Baig	Middle	10	-	-	10	
Malik Masir Khan	Middle	9.5	-	-	9.5	
Muhammad Ijaz	Tail	5	6	-	11	
Malik Ghulam Haidar	Tail	10	2	-	12	
Mushtaq Ahmad	Head	6	04	-	10	

xi) **Visit of Water Storage Tank (Muir Ahmed) on 3 March 2022**

WST Owner:	Munir Ahmad
Name of village:	49/NB
Tehsil & District:	Sillahwali, Sargodha
Source of irrigation:	Canal
The shape of the water storage tank:	Trapezoidal
Size of water storage tank:	68 x 40 ft ²
Depth of WST:	5 feet
Command area of water storage tank:	6 Acre
No of beneficiaries:	1
Name of the Orchard	Guava



Figure 4.39: View of Water storage tank



Figure 4.40: ME&IE Team Interviewing Farmer regarding benefits of WST



Figure 4.42: ME&IE Team Interviewing beneficiaries of WST

xii) Visit of Watercourse (Arshad Ahmed Gorya) on 3 March 2022

WST Owner:	Arshad Ahmad Goraya
Name of village:	49 / SB
Tehsil & District:	Sillahwali, Sargodha
Source of irrigation:	Canal + Tube well
The shape of the water storage tank:	Trapezoidal
Size of water storage tank:	54 x 52 ft ²
Depth of WST:	5 Feet
Command area of water storage tank:	12.5 Acre
No of beneficiaries:	1
Name of the Orchard	Citrus



Figure 4.41: View of Water storage tank

xiii) Visit of Watercourse No. 56900-L on 4 March 2022

Date of the Visit	4-3-2022	
Watercourse No	56900-L	
Type of Watercourse	Additional	
Chak No/Village	59NB	
District and Tehsil	Sargodha	
Name of Distributery	Lak	
Type of Moga	AOSM	
Measured Discharge Before Improvement	Head	68LPS
	Middle	48LPS
	Tail	35 LPS
Sanctioned Discharge	60 LPS	
Tube well Discharge (if any)	32 LPS	
Designed Discharge	LPS	
Gross Command Area	Acres	
Culturable Command area	610Acres	
Total No of water users	28	
Estimated lining Length	1717 m	



Figure 4.43: ME&IE Team Monitoring W/C along with AD OFWM Sargodha, Dr. Umer Hayat Bhatti and Chairman WUA



Figure 4.44: ME&IE Team Interviewing Farmers during Data Collection

Interview of Beneficiaries at W/C 56900-L						
Name of Farmers	Location on WC	Area/Acres				Status
		Owned	Rented In	Rented Out	Operated Area	
Ghulam Shabbir	Head	1.5	3	-	4.5	FCR
Muhammad Nawaz	Head	2.5	-	-	2.5	
Muhammad Yaqoob	Middle	8	-	-	8	
Muhammad Arshad	Middle	5	-	-	5	
Mian Khan	Tail	25	-	-	25	
Muhammad Iqbal	Tail	25	-	-	25	

xiv) Visit of Watercourse No. 185762/L on 5 March 2022

Date of the Visit	5-3-2022	
Watercourse No	185762/L	
Type of Watercourse	Additional	
Chak No/Village	132-SB	
District and Tehsil	Sillawali	
Name of Distributery	Kirana	
Type of Moga	AOSM	
Measured Discharge Before Improvement	Head	65LPS
	Middle	55LPS
	Tail	40LPS
Sanctioned Discharge	56LPS	
Tube well Discharge (if any)	25LPS	
Designed Discharge	90 LPS	
Gross Command Area	Acres	
Culturable Command area	586Acres	

Total No of water users	9
Estimated lining Length	1390 m



Figure 4.45: ME&IE Team in discussion with Farmers



Figure 4.46: Sign Board showing Detail of W/C Construction

Interview of Farmers at W/C 185762/L						
Name of Farmers	Location on WC	Area/Acres				Status
		Owned	Rented In	Rented Out	Operated Area	
Haji Maqbool	Head	3	-	-	3	FCR
Muhammad Akram	Head	6	-	-	6	
Muhammad Nadeem Bhatti	Middle	8	-	-	8	
Zaheer Ahmad	Middle	16.5	-	-	16.5	
Sardar Muhammad	Tail	4	-	-	4	
Ijaz Ahmad	Tail	5	-	-	5	

xv) Visit of Watercourse No. 935/R on 04 March 2022

Date of Visit	March 04, 2022	
Watercourse No	935/R	
Type of Watercourse	Additional	
Chak No/Village	Kot Pindi Das	
District and Tehsil	Sheikhupura, Sharaqpur	
Financial Year	2020-21	
Name of Distributary	Qila Star Shah	
Type of Moga	Pipe	
Measured Discharge Before Improvement	Head	62 LPS
	Middle	45 LPS
	Tail	29 LPS
Sanctioned Discharge	40 LPS	
Tube well Discharge (if any)	30 LPS	
Designed Discharge	70 LPS	
Gross Command Area	390 acres	
Culturable Command area	373 acres	
Total No of water users	20	

Estimated lining Length 830 meters



Figure 4.47: View of additional watercourse



Figure 4.48: ME&IE Team Interviewing Beneficiary of W/C

Detail of Interviewed of Beneficiaries of Watercourse 935/R						
Name of Farmer	Location on WC	Area/Acres				Status
		Owned	Rented In	Rented Out	Operated Area	
Muhammad Irfan	Head	4	-	-	4	ICR-1
Muhammad Arshad	Head	7	-	-	7	
Muhammad Mukhtar	Middle	-	3	-	3	
Muhammad Javid	Middle	05	-	-	05	
Muhammad Saleem	Tail	05	-	-	05	
Muhammad Akram	Tail	60	-	40	20	

xvi) **Visit of Watercourse No. 182920/L on 04 March 2022**

Date of Visit	March, 04 2022	
Watercourse No	182920/L	
Type of Watercourse	Additional	
Chak No/Village	Kot Pindi Das	
District and Tehsil	Sheikhupura, Feroze wala	
Name of Distributary	Muridke	
Type of Moga	Pipe	
Measured Discharge Before Improvement	Head	50 LPS
	Middle	40 LPS
	Tail	30 LPS
Sanctioned Discharge	34 LPS	
Tube well Discharge (if any)	28 LPS	
Designed Discharge	80 LPS	
Gross Command Area	340 acres	
Culturable Command area	315 acres	
Total No of water users	09	
Estimated lining Length	935 meters	

4.5.3 Regular Monitoring / Field Visits by Zonal Office KP

ME&IE consultants of KP Zone reviewed the Monitoring tools and gave their comments / observation as per experience gained during the first phase of Baseline Survey. Zonal team of KP collected data from the Director General OFWM KP office for the Dashboard. Teams conducted meetings with District Director DR. Rab Nawaz during the process of data collection.

Data of all completed schemes of Watercourses and Water Storage Tanks for the year “2019-20, 2020-21 and 2021-22” were collected by reviewing the

hard copies of data files provided by district Directors of OFWM KP for “Online Dashboard”. ME&IE Teams remained engaged in collection of data which was further uploaded to the computer system in close coordination with Mr. Rizwan Saleem, Incharge ICT Team.

Android Application Trainings imparted by ME/IE Consultants NPIWC-II

In the Month of March 2022, the KP field team engineers completed transfer of all the districts’ data of the completed WCs and WSTs (under the NPIWC-II) to the computers. The data was gathered from the files provided by OFWM Department KP. The data was shared with ICT Specialist OF ME&IC Consultants, Mr. Rizwan Saleem to upload to the Dashboard. ICT Team completed the Dashboard of KP Zone of NPIWC-II and demonstrated it to the major stakeholder and OFWM officials of different zones of KP. As it was not manageable to given demonstration and training to OFWM officials in Peshawar jointly, therefore demonstration was given in three districts of KP i.e. D.I. Khan, Abbottabad, and Peshawar. Detail of presentation / training is given section “demonstration of Dashboard”.

4.5.4 Regular Monitoring / Field Visits by Zonal Office Balochistan

During the reporting quarter (January to March 2022), the ME&IE Consultants, Balochistan Zone carried out several activities. i.e., refinement of MTs for Baseline Survey Phase-II, held staff Training Sessions, startup of Baseline Survey Phase-II, Regular Monitoring Visits, Impact Evaluation Assessment, worked on Success Stories of different intervention of NPIWC-II, conducted meetings with OFWM departments and farmers, and NWM Consultants. Detail of activities carried out during the reporting period are given below:

The ME&IE Consultants, Balochistan has monitored 13 Watercourses and 39 Water Storage Tanks in Baseline Survey activities. Total benchmarked sites in Baseline Survey are 53 by 31st March 2022. The Baseline is being conducted in phase-wise and the 2nd Baseline Survey is in progress and will continue in the upcoming quarter.

The Balochistan field teams are also conducting regular monitoring of on-going / completed sites covering all financial years on a monthly basis along with the Baseline Surveys. The Balochistan field team has so far monitored 65 watercourses and 50 Water Storage Tanks. Total 115 sites have been monitored by 31st March 2022.

This following table shows the overall progress of Balochistan Zone by 31st March 2022.

Sr. #	District	Baseline / Bench Marked		Regular Monitoring		Total
		WC	WST	WC	WST	
1	Quetta	-	4	8	7	19
2	Pishin	-	4	3	9	16
3	Killa Abdullah	1	1	3	2	7
4	Ziarat	-	-	2	1	3
5	Mastung	1	2	6	4	13
6	Nushki	-	-	2	1	3
7	Sibi	-	-	1	3	4
8	Jhal Magsi	1	4	1	2	8
9	Kachhi	-	8	1	2	11
10	Naseerabad	2	4	9	4	19
11	Jaffarabad	-	-	4	1	5
12	Sohbatpur	3	-	7	-	10
13	Loralai	1	2	1	2	6
14	Duki	-	-	2	1	3
15	Zhob	-	-	3	2	5
16	Kila-Saifullah	2	1	4	1	8
17	Musa khel	-	-	1	1	2
18	Sherani	-	-	2	2	4

Sr. #	District	Baseline / Bench Marked		Regular Monitoring		Total
		WC	WST	WC	WST	
19	Khuzdar	1	6	1	1	9
20	Kalat	1	3	4	4	12
Sub-Total		13	39	65	50	167

There are 33 districts in Balochistan, 02 more districts have been notified but their administrative setup yet to be functional. The Balochistan Team has planned to cover all Balochistan as each district has different agriculture setup. All districts have different crops, vegetable, fruits based on their different climate and soil types. Some districts i.e., Quetta, Ziarat, Kalat, Muslim Bagh have extreme cold weather while some districts i.e., Sibi, Naseerabad, Jaffarabad, Sohbatpur, Lasbella lies in extreme hot weather. Due to this reason ME&IEC, Balochistan have planned to cover all Balochistan to give a complete picture of cropping pattern and its intensity, social and gender data, water situation, cost production etc. to make more authentic data.

Balochistan has monitored the sites of 20 districts of 33, the remaining 13 districts to be covered in upcoming months. Progress is explained in **Figure 4.49** blow.

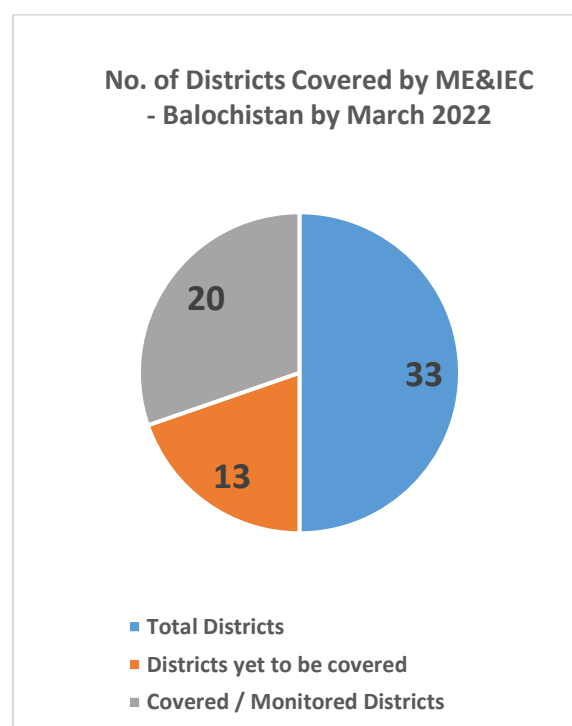


Figure 4.49: Districts Covered by Balochistan Zone Team

4.5.4.1 Revision and Pre-testing of MTs

The ME&IE Consultants, National Office Islamabad conducted 02 Days' Workshop i.e., 3rd and 4th of January 2022. All Core Team Members and Provincial Deputy Team Leaders participated the meeting along with their field staff. In the workshop, detailed discussion was held on Monitoring Tools related to Watercourse and Water Storage Tanks. The participants gave their suggestion for improvement of MTs in the light of experience / lessons learnt during the first phase of Baseline Survey. The forum also highlighted the bottlenecks faced during the first baseline survey and emphasized to address in second phase of Baseline Survey. All MTs have been revised and amended as per different agriculture patterns, type of constructions, etc. of each province.

At the closing of the workshop, it was decided that all provincial teams will pre-test the revised MTs on ground and submit their feedback to the National Office Islamabad. In After feedback from all provinces, it will be uploaded on the ODK System for second phase of Baseline Survey.

In this context Balochistan Field Teams selected 03 districts i.e. Quetta, Zhob and Jaffarabad for pre-testing the MTs and Monitoring visits.

Team Composition:

The Balochistan Field Teams were comprised of 03 teams as listed below:

Team – 1

1. Mr. Tariq Khoso, M&E Expert
2. Mr. Saleem Abro, M&E Expert

Team – 2

1. Mr. Naseeb Jan, M&E Expert

Team -3

1. Mr. Manzoor Kasi, M&E Expert
2. Mr. Hamza Qureshi, M&E Officer
3. Ms. Mahgul Baloch, M&E Officer

The field team - 1 visited Jaffarabad district, field team -2 visited Zhob District and field team – 3 visited Quetta district. All teams were assigned 02 interventions i.e. 01 Watercourse and 01 Water Storage tanks of allocated district.

4.5.4.2 Baseline Field Survey, Phase-II Balochistan

The first “Baseline Survey” was conducted in the month of June 2021. The Balochistan field teams covered 09 districts in the first baseline survey.

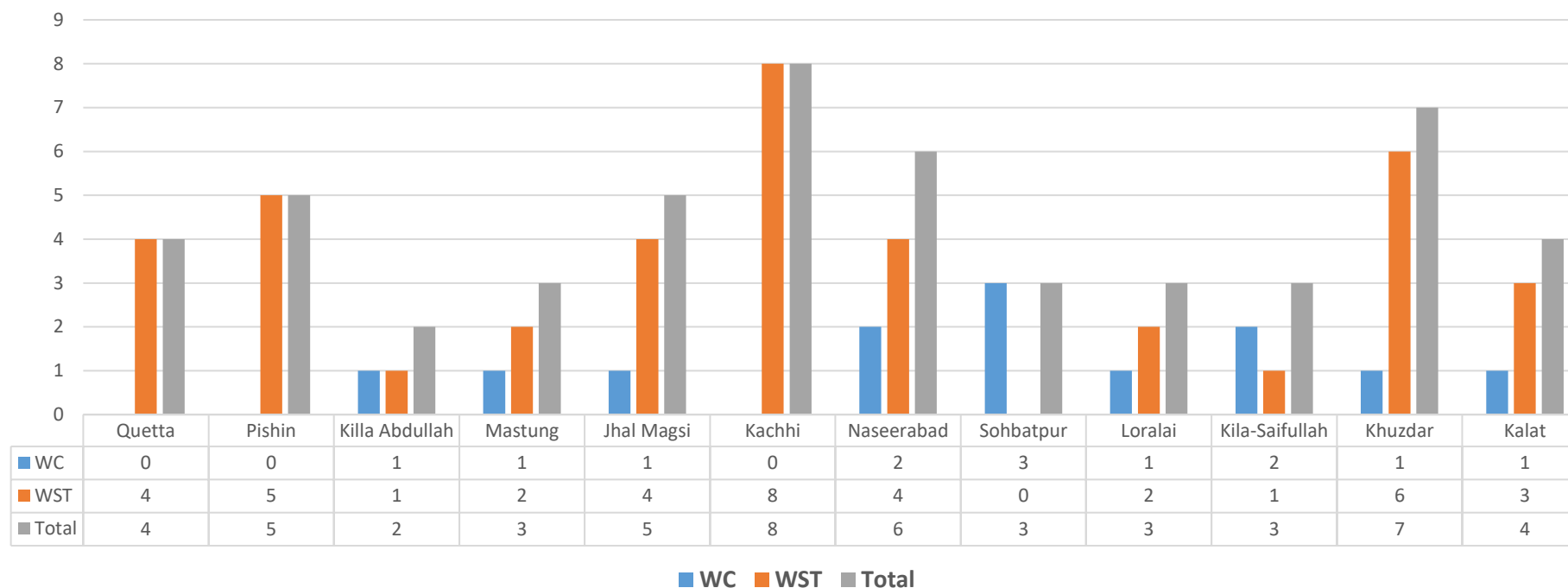
The ME&IE Consultants planned Baseline Survey Phase-II in the reporting month i.e., March 2022. The works of F.Y. 2021-22 were focused for Baseline Survey Phase-II where physical works were started recently. However, some sites of previous Financial Years were also included in BLS Phase-II to achieve the targets.

Balochistan is the largest province of Pakistan, covering 44% of the country's areas, but it has the lowest population density in the country with a population of only 12.3 million. It is divided into 33 districts and 07 divisions. The reason for the low density of population is due to mountainous terrain and scarcity of water. Balochistan is Pakistan's least developed province with 71% people living below poverty line. Agriculture is the mainstay of Balochistan's economy, accounting for some 60% of the provinces' GDP and employing around 67% of the labour force. The most important products are millet, wheat, apples, vegetables, grapes milk and meat, Balochistan is unique in terms of the different types of irrigated agriculture being practiced and the issues related to sustainable use of scarce water resources (Average annual rainfall in Balochistan varies from 2 to 20 inches, 50 to 500 mm).

The On Farm Water Management (OFWM) executing different interventions under National Program for Improvement of Watercourses in Pakistan, Phase-II i.e., to improve water situation through canal lining, PVC Pipes for conveyance, Concrete Structure and farm level Storage Reservoirs / Water Storage Tanks to curtail water losses.

The updated progress of Baseline Survey of Phase I and Phase – II is given in following graphs:

Progress of Baseline Surveys (Phase I & II) by 31st March 2022



Note: The Baseline Survey Phase-II activities are in progress and will continue next quarter.

4.5.4.3 Field Visits by Zonal Team Balochistan

Detail of monitoring visits conducted by Balochistan ME&IE field teams is given below.

Monitoring visits conducted by Manzoor Ahmed Kasi, M&E Expert and Mah Gul Noor & Hamza H. Qureshi, M&E Officers Quetta Division.

i) Field Visit Date: 27th January 2022

Scheme	Water Storage Tank
Farmer Name	Muhammad Anwar Raisani
Name of village:	Panjpai
Union council:	Panjpai
Chairman WUA:	Muhammad Anwar Raisani
District:	Quetta
Tehsil	Panjpai
Source of irrigation:	Tube Well
Shape of Water Storage Tank:	Square
Size of water storage tank:	50x50
Depth of WST:	4.5
Command area of water storage tank:	40 Acres
No of beneficiaries:	1
Cropping intensity increased	Increased by 25% Approx.
Crops yield increased	Increased by 30% Approx.
Equity in water distribution increased	<i>No Problems related to Equity in Water Distribution</i>
Reduction in water disputes/thefts	<i>No problems related to water theft</i>
Poverty reduction through generation of employment.	Labor Force Increased by 40%
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> The WST helped the farmer to save his Farm, which was about to be wasted due to non-availability of water Cultivated area has increased after WST construction. The construction of WST caused Water saving as well as time

	<p>saved during conveyance of water to the farm.</p> <ul style="list-style-type: none"> Due to the construction of WST, farmers adopted tunnel farming for nursery plantations of vegetables.
General Observations	<ul style="list-style-type: none"> Due to this WST, the farmer was willing to increase his farm area for the production of Pistachio, Grapes and Fig. Farmer was well aware and if provided with an improved variety of seeds for crops, vegetables and fruits, the production on his farm may boost. This may also cause his fellow farmers to get motivation and ownership. The DDA OFWM, Quetta and his field team frequently support and interacted with this farmer due to which he became aware about new technologies i.e. drip irrigation system etc., This area is best for low delta crops, fruit trees and vegetable plants. The farms can increase production, which can contribute to the GDP of Balochistan province and Country in the long run with the support of the Department.

ME&IE Team of consultants also interviewed the farmers for pretesting the revised questionnaires.

Pictorial views of the visit are given in **Figures 4.50 to 4.53**.



Figure 4.50: Scheme Board of Water Storage



Figure 4.51: View of Water Storage Tank



Figure 4.52: Interviewing the farmer / Pre-testing of MTs



Figure 4.53: Preparation of tunnel for vegetable farming

Monitoring visit conducted by Manzoor Ahmed Kasi M&E Expert and Mah Gul Noor & Hamza Hussan Qureshi M&E Officer Quetta Division.

ii) Field Visit Date – 31st January 2022

Scheme:	Watercourse
Name of Farmer:	Malik Ghulam Farooq Shahwani
Name of village:	Killi Khalli
Union council:	Shadinzai
Chairman WUA:	Malik Ghulam Farooq Shahwani
District:	Quetta
Tehsil:	Quetta
Source of irrigation:	Tube Well
Total length of watercourse:	4000 rft.
Estimated length of lining:	2000 rft.
Command area of watercourse:	14 Acres
No of beneficiaries:	1
Reduction in Water Logging and salinity	No water logging or salinity in this area
Cropping intensity increased	Increased by 20% Approx.
Crops yield increased	Increased by 400% Approx.
Equity in water distribution increased	No Problems related to Equity in Water Distribution
Reduction in water disputes/thefts	No problems related to water theft
Poverty reduction through generation of employment.	15% increase in labor force which also differs depending on the activities of the farm.
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Due to the provision of this WC, area of cultivation has been increased, duration between irrigations has decreased (more frequent irrigations). Farmer was demanding to have any industry deployed near his farm so that his production of tomato to be used for value-added products, as his total

	<p>production of tomato is very high.</p> <ul style="list-style-type: none"> ● If the Government supports us with tunnel farming, it would be helpful for growing nurseries of vegetables. ● The farmer was very happy and was appreciating DDA, OFWM and his staff's support at all the times.
General Observations	<ul style="list-style-type: none"> ● This farm had an improved variety of trees for Peach and Apricot, as well as an improved variety of grapes. ● The demand of farmers for any value-addition plant to be placed near his farm can result in a positive boost in the GDP. ● It is suggested that the Directorate of Women Division of Agriculture Extension department may provide training and awareness to the females of this area on village and school level, so that they may be able to participate in processing of value-added products from the produce of this farm and other farms in this area.

Pictorial view of the visit is given in **Figure 4.54** to **Figure 4.55**.



Figure 4.54: View of Watercourse



Figure 4.55: ME&IE Team Interviewing the farmer during Pre-testing of MTs

Monitoring Visit Conducted by Muhammad Tariq M&E Expert and Mr Saleem Abro M&E officer Naseerabad Division.

iii) Field Visit Date – 28 January 2022.

Scheme	WST
Farmer Name	Deen Muhammad
Name of village:	Deen Muhammad
Union council:	Cattle Farm
Chairman WUA:	Deen Muhammad
District:	Jaffarabad
Tehsil	Jhat Pat
Source of irrigation:	Canal
Shape of Water Storage Tank:	Rectangular
Size of Water Storage Tank:	50 x 50
Depth of WST:	4.6 Feet

Command area of Water Storage Tank:	20 Acre
No of beneficiaries:	05
Quality of work	Good
Cropping intensity increased	Yes 40%
Crops yield increased	Yes 20%
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Overall feedback of Farmer / Beneficiary	Former was satisfied with the scheme and requested for more schemes in upcoming Financial Years, so that he can increase his cultivated area.
General Observations	<ul style="list-style-type: none"> Former was happy. Quality of work was good. Crop intensity has been increased.

Pictorial views of the visit are given in figures 4.56 to 4.57 below:



Figure 4.56: View of Deen Muhammad Water Storage Tank



Figure 4.57: ME&IE Teams in discussion with farmers/beneficiaries collection information, district Jaffarabad

iv) Field Visit Date – 31 January 2022

Scheme:	Watercourse
Name of Farmer:	Dost Ali Lehri
Name of village:	Aachar Khan Lehri
Union council:	Naseerabad
Chairman WUA:	Dost Ali Lehri
District:	Jaffarabad
Tehsil	Jhat Pat
Source of irrigation:	Canal
Total length of watercourse:	1150 ft
Estimated length of lining:	1150 ft
Command area of watercourse:	50 Acre
No of beneficiaries:	05
Reduction in Water Logging and salinity	Water Logging and Salinity not observed at this site
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Poverty reduction through generation of employment.	Yes
Overall feedback of Farmer / Beneficiary	Former was happy and satisfied due to development of scheme.
General Observations	<ul style="list-style-type: none"> Crop intensity has increased.

The pictorial views of the visit are given in Figures 4.58 to 4.59 below:



Figure 4.58: Watercourse District Jaffarabad



Figure 4.59: ME&IE Team gathering information from farmers/beneficiaries at Watercourse District Jaffarabad

Monitoring Visit Conducted by Naseeb Jan M&E Expert Zhob Division

v) Field Visit Date: 28 January 2022

Scheme	Water Storage Tank
Farmer Name	Baz Muhammad
Name of village:	New Abadi Badenzai
Union council:	Badenzai
Chairman WUA:	Baz Muhammad
District:	Zhob
Tehsil	Zhob
Source of irrigation:	Tube Well
Shape of water storage tank:	Rectangular
Size of water storage tank:	50 x 50
Depth of WST:	4.6 Feet
Command area of water storage tank:	20 Acre
No of beneficiaries:	05
Cropping intensity increased	Yes 40%

Crops yield increased	Yes 30%
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Overall feedback of Farmer / Beneficiary	Farmer suggested for more interventions and appreciated the OFWM staff for their keen interest and facilitation which enabled him to enhance the cultivated area.
General Observations	<ul style="list-style-type: none"> Former was happy. Quality of work was good. Cultivated area has increased.

The pictorial views of the visit are given in **Figures 4.60** below:



Figure 4.60: FTI gathering information from farmer/beneficiary at of Water Storage Tank, District Zhob

vi) Field Visit Date: 31-01-2022

Scheme:	WC
Name of Farmer:	Muhammad Gul
Name of village:	New Abadi Badenzai
Union council:	Badenzai
Chairman WUA:	Muhammad Gul
District:	Zhob
Tehsil	Zhob
Source of irrigation:	Tube Well

Total length of watercourse:	2000 ft
Estimated length of lining:	2000 ft
Command area of watercourse:	25 Acre
No of beneficiaries:	05
Reduction in Water Logging and salinity	Not observed at this site
Cropping intensity increased	Yes
Crops yield increased	Yes
Poverty reduction through generation of employment.	Yes
Overall feedback of Farmer / Beneficiary	Farmer was satisfied and interested in more schemes.
General Observations	<ul style="list-style-type: none"> • Farmer was happy. • Cultivated area was increased due to this intervention. • Quality of Work was satisfactory. • WC was need to clean up

The pictorial views of the visit are given in Figures 4.61 to 4.62 below:



Figure 4.61: ME&IE FTI Interview the Farmer



Figure 4.62: FTI interviewing Farmer/Beneficiary at Watercourse, District Zhob

vii) Field Visit Date – 8th March, 2022

Scheme	Water Storage Tank
Farmer Name	Ali Akbar
Name of village:	Ghori Singh
Union council:	Baghbana
Chairman WUA:	Ali Akbar
District:	Khuzdar
Tehsil	Khuzdar
Coordinates	N 28.047 E 66.3035
Source of irrigation:	Tube well
Shape of water storage tank:	Square
Size of water storage tank:	60x60 ft.
Depth of WST:	4.5 ft.
Command area of water storage tank:	5 Acres
No of beneficiaries:	1
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> • The farmer was planning to plant Olive trees as now sufficient water was available after construction of WST. • Beneficiary has prepared land for Cotton as well, after the provision of this WST. • Beneficiary was requesting the Govt. that a WC should also be provided to make this WST more effective. • As the land was Gravel, it causes more water conveyance losses, a WC or PVC pipe can be very helpful. • As the land was gravel, there was a

	<p>lot of water conveyance losses, a WC or PVC pipe can be very helpful.</p> <ul style="list-style-type: none"> • The land of this area is suitable for growing grapes, so the Govt. should introduce High Efficiency Irrigation Systems (HEISs) in this area. • The DDA OFWM Mr. Habibullah Mirwani and his field staff has been very supportive all along, due to which the farmer was also thankful to them. • The OFWM staff were always providing awareness to the farmers about the technicalities of agriculture and cropping patterns of their land. • The ME&IEC field team observed that a Plant Protection Officer was giving different information to the farmer about the pesticides and weedicides. • The file works of the scheme was under progress due to this reason ME & IEC field teams could not fill the MTs completely. • The farmer was facing a lot of problems due to heavy electricity load shedding in the area.
--	--



Figure 4.63: ME&IEC team interviewing the beneficiary, ii) View of WST

viii) Field Visit Date – 8th March, 2022

Scheme	Water Storage Tank
Farmer Name	Mujeeb-Ur-Rehman
Name of village:	Pashtakoi
Union council:	Baghbana-2
Chairman WUA:	Mujeeb-Ur-Rehman
District:	Khuzdar
Tehsil	Khuzdar
Coordinates	N 27.5910 E 66.3039
Source of irrigation:	Tube well
Shape of water storage tank:	Square
Size of water storage tank:	60x60 ft.
Depth of WST:	4.5 ft.
Command area of water storage tank:	20 Acres
No of beneficiaries:	1
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> • Before Intervention of WST, the first tube well of this farmer had dried out. The WST is constructed where his second tube well is to be

used, now the farmer has prepared new land for Wheat, cotton and mixed vegetables.

- The command area of the first tube well of this beneficiary was very vast, and now he was struggling to save the old command area as well through this WST and was requesting for a PVC pipeline for water conveyance.
- The farmer has bought 5000 rft PVC pipe from himself, now he needs about 5000 rft. PVC pipe more to save his old command area.
- The file works of the scheme was under progress due to this reason ME&IEC field teams could not fill the MTs completely.
- The farmer was facing a lot of problems due to heavy electricity load shedding in the area of 16 hours in a day.

Figure 4.64: Interviewing the Beneficiary ii) Scheme Board, ME&IEC Team along with OFWM Staff

ix) Field Visit Date – 9th March, 2022

Scheme	Water Storage Tank
Farmer Name	Gul Muhammad
Name of village:	Chashma Murad Khan
Union council:	Wair
Chairman WUA:	Gul Muhammad
District:	Khuzdar
Tehsil	Wadh
Coordinates	N 27.3522 E 66.2743
Source of irrigation:	Tube well
Shape of water storage tank:	Square
Size of water storage tank:	60x60 ft.
Depth of WST:	4.5 ft.
Command area of water storage tank:	18 Acres
No of beneficiaries:	1
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> • The farmer was planning to grow cotton and mix vegetables after the intervention of WST. • He was also trying to increase his cultivable area as now he had sufficient water. • Farmer was very well aware about agriculture and his land. • The file works of the scheme was under progress due to this reason ME&IEC field teams could not fill the MTs completely. • Farmers were facing a lot of problems regarding water due to electricity shortage.



Figure 4.65: ME&IE Team along with OFWM Staff and Beneficiary ii) Scheme Board

x) Field Visit Date – 9th March, 2022

Scheme	Water Storage Tank
Farmer Name	Habib-Ur-Rehman
Name of village:	Pir Muhammad
Union council:	Wadh
Chairman WUA:	Habib-Ur-Rehman
District:	Khuzdar
Tehsil	Wadh
Coordinates	N 27.3226 E 66.2628
Source of irrigation:	Tube well
Shape of water storage tank:	Square
Size of water storage tank:	60x60ft.
Depth of WST:	4.5ft.
Command area of water storage tank:	20 Acres
No of beneficiaries:	1
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> After the intervention of WST, he has planned to increase his cultivable land for onions, tomatoes and mixed vegetables.

- He has already prepared nurseries for them.
- He was requesting a WC to be made on his land.
- He was also preparing land for Cotton.
- The farmer was planting the nursery for tomato, and Mr. Muhammad Khan, DDA, Plant Protection, was guiding him regarding the protection of the newly transplanted tomato plants from termites and other insects.
- The agriculture activities were badly suffering due to heavy load shading in the area.



Figure 4.66: WST Being Maintained by the beneficiary

xi) Field Visit Date – 10th March, 2022

Scheme	Water Storage Tank
Farmer Name	Fareed Ahmed
Name of village:	Goru Sasool
Union council:	Zeedi
Chairman WUA:	Fareed Ahmed


District:	Khuzdar
Tehsil	Khuzdar
Coordinates	N 27.8078 E 66.8276
Source of irrigation:	Tube well
Shape of water storage tank:	Square
Size of water storage tank:	60x60ft.
Depth of WST:	4.5ft.
Command area of water storage tank:	25 Acres
No of beneficiaries:	1
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> • He has planned to increase his cultivable area for Cotton and he will also plant Cotton in the land where currently he has planted Wheat. This is due to the WST. • In future, he has planned to plant low delta crops as well to save maximum water for other crops. • He was also planning to keep livestock on his land. • The farmer was requesting for PVC pipe to get maximum benefits of this WST. • Farmer and his wife were educated and the farmer was a school teacher, due to which he was well aware and concerned about his agriculture practices and his land. • He was the first person in this area who



Figure 4.67: Interviewing the Beneficiary View of WST

xii) Field Visit Date – 10th March, 2022

Scheme	Water Storage Tank
Farmer Name	Dr. Abdul Haq
Name of village:	Lakrah
Union council:	Lakharo Balok
Chairman WUA:	Dr. Abdul Haq
District:	Khuzdar
Tehsil	Karkh
Coordinates	N 27.4143 E 67.740
Source of irrigation:	Tube well
Shape of water storage tank:	Square
Size of water storage tank:	50x50 ft.
Depth of WST:	4.5 ft.
Command area of water storage tank:	30 Acres
No of beneficiaries:	1
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> • Beneficiary was very happy due to this WST; his water saving has increased greatly.

	<ul style="list-style-type: none"> • He was preparing more land for cultivation of Orchard • He was also planning to plant Cotton. • He was planning to start Dairy farming on his land, so that waste of animals to be used as fertilizers for crops and fodder on his land to be used for these livestock. • Farmer was himself a veterinary doctor, and he was well aware about agriculture as well as livestock. • He was planting mangoes, guava, grapes, black plum and mixed vegetables.
 <p>Figure 4.68: ME&IE team with OFWM Staff and the beneficiary, ii) View of WST</p>	

xiii) Field Visit Date – 11th March, 2022

Scheme:	Watercourse
Name of Farmer:	Muhammad Tayyab
Name of village:	Kathan

Union council:	Kathan
Chairman WUA:	Muhammad Tayyab
District:	Khuzdar
Tehsil	Khuzdar
Coordinates	N 27.4755 E 66.3856
Source of irrigation:	Tube well
Total length of watercourse:	2000 rft.
Estimated length of lining:	1000 rft. (Estimated) 918.68 rft. (Actual on ground)
Command area of watercourse:	200 Acres
No of beneficiaries:	1
Quality of Work	Satisfactory
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> • Water conveyance losses improved 60% after intervention of Pakka/Cemented WC. • Cultivated area increased by about 4 acres, the farmer was also planning to enhance the cultivation area as much as possible. • The backfilling of WC was not properly done, it needs prompt attention.



Figure 4.69: Interviewing the Beneficiary ii) Spot Checking and Measuring the WC

xiv) Field Visit Date – 16th March, 2022

Scheme	Water Storage Tank
Farmer Name	Ahmed Khan
Name of village:	Ghulam Muhammad
Union council:	Bostan
Chairman WUA:	Ahmed Khan
District:	Pishin
Tehsil	Bostan
Coordinates	N 30.2517 E 67.246
Source of irrigation:	Tube well
Shape of water storage tank:	Square
Size of water storage tank:	40x40 ft.
Depth of WST:	4.5 ft.
Command area of water storage tank:	250 Acres
No of beneficiaries:	1
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> ● Cultivated area increased about 5 acres due to intervention of WST. ● Farmer was very satisfied by this WST and was demanding to have made another WST of Dimensions 60x60 for another tube well about 700 meters away from this WST to cultivate this barren land. His command area is very wide-spread and also requires a PVC Pipe for better water conveyance. ● After that, he will increase the orchards and vegetables on his land. ● Farmer was very cooperative and well aware, backfilling of WST was properly done.

- Faizullah Shah Agha, DDA OFWM Pishin and his field staff are very active and cooperative with all the farmers of their district.
- Hafiz Abdul Rauf, BPOM, ME&IE Consultants also visited the site and interacted with the farmer. He appreciated the works of OFWM Department and the upright participation of the farmer. He also appreciated the work of the Field Team of ME&IE Consultants.



Figure 4.70: ME&IE team with Hafiz Abdul Rauf, BPOM, Mr. Rizwan Ahmad, DTL Balochistan along with Faizullah Shah, DDA OFWM District Pishin and the Beneficiary

xv) Field Visit Date – 09th March, 2022

Scheme:	Watercourse
Name of Farmer:	Safdar Ali Shah
Name of village:	Fateh Pur
Union council:	Khari
Chairman WUA:	Safdar Ali Shah
District:	Jhal Magsi
Tehsil	Gandawah
Coordinates	N, 28.3360 E, 67.2835
Source of irrigation:	Tube well
Total length of watercourse:	2000 ft
Estimated length of lining:	2000 ft
Command area of watercourse:	42 Acres
No of beneficiaries:	03
Quality of Work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> Conveyance losses decreased about 50%. Water reaching time improved 58%. Capacity building campaigns regarding techniques of farming for Framers are a must. Former was very well educated and was caring the WC very well Farmers had vast uninhabited land due to lack of water, He was demanding a WST to enhance cultivated land.



Figure 4.71: View of WC (above) and interview conducted with farmers with DDA (below).

xvi) Field Visit Date – 9th March 2022

Scheme	Water Storage Tank
Farmer Name	Safdar Ali Shah
Name of village:	Fateh Pur
Union council:	Khari
Chairman WUA:	Safdar Ali Shah
District:	Jhal Magsi
Tehsil	Gandawah
Coordinates	N 28.3360 E 67.2836
Source of irrigation:	Tube Well
Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	50x50 ft
Depth of WST:	4.50 ft
Command area of water storage tank:	40
No of beneficiaries:	03
Construction Cost of watercourse:	1,238,004.57
Quality of work	Good

Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> • Cultivated area increased about 6 acres due to intervention of WST. • Farmer was planning to enhance more cultivated land after having sufficient water saving capacity.
--	---



Figure 4.72: Site visit with DDA OFWM, district Jhall Magsi

Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> • After the intervention of WST, the farmer has planned to increase his cultivable land for mixed vegetables. • He was requesting a WC to be made on his land.



Figure 4.73: Jan Baig WST District Jhall Magsi

xvii) Field Visit Date – 10th March, 2022

Scheme	Water Storage Tank
Farmer Name	Jan Baig
Name of village:	Khari
Union council:	Khari
Chairman WUA:	Jan Baig
District:	Jhal Magsi
Tehsil	Gandawah
Coordinates	N 28.3480 E 67.2130
Source of irrigation:	Tube Well
Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	40x40 ft
Depth of WST:	4.5 ft
Command area of water storage tank:	40 acres
No of beneficiaries:	03
Construction Cost of watercourse:	927,766.01

xviii) Field Visit Date – 10th March, 2022

Scheme	Water Storage Tank
Farmer Name	Abdul Rasheed
Name of village:	Khari
Union council:	Kotra
Chairman WUA:	Abdul Rasheed
District:	Jhal Magsi
Tehsil	Gandawah
Coordinates	N 29.2493 E 67.2372
Source of irrigation:	Tube Well
Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	40x40 ft
Depth of WST:	4.5 ft
Command area of water storage tank:	40
No of beneficiaries:	2
Construction Cost of watercourse:	927,766.01

Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> After the intervention of WST, he has planned to increase his cultivable land for cotton and mix vegetables. He was also preparing land for Cotton.



Figure 4.74: Views of under construction WST Village Abdul Rasheed, District Jhal Magsi

xix) Field Visit Date – 10th March, 2022

Scheme	Water Storage Tank
Farmer Name	Ghulam Hussain
Name of village:	Kunbi
Union council:	Khari
Chairman WUA:	Ghulam Hussain
District:	Jhal Magsi
Tehsil	Gandawah
Coordinates	N 28.3359 E 67.2109
Source of irrigation:	Tube Well

Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	40x40 ft
Depth of WST:	4.5 ft
Command area of water storage tank:	30
No of beneficiaries:	2
Construction Cost of watercourse:	927,766.01
Quality of work	Good

Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> The WST is under construction; farmer has planned to cultivate more crops to enhance cultivated area after intervention of WST Farmer was taking keen interest in construction works and was satisfied with Department officials.
---	--



Figure 4.75: View of under Construction of WST

xx) Field Visit Date – 11th March, 2022

Scheme	Water Storage Tank
Farmer Name	Khuda Bux
Name of village:	Rindabad
Union council:	Mashkaf
Chairman WUA:	Khuda Bux
District:	Kachhi
Tehsil	Dhadar
Coordinates	N 29.4809 E 62.6207
Source of irrigation:	Tube Well

Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	60x60 ft
Depth of WST:	4.5 ft
Command area of water storage tank:	25
No of beneficiaries:	04
Construction Cost of watercourse:	1,591,134.79
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> The farmer was looking for modern agriculture techniques to enhance his cropping intensity and income after having sufficient water saving with intervention of WST. Strong coordination was seen between the farmer and OFWM team. Trees were cut down during construction of WST. The farm was advised by the DD, OFWM and field team of ME&IEC to cultivate new trees in place of felled trees as per set protocols immediately



Figure 4.76: View of newly constructed WST and Discharge System.

xxi) Field Visit Date – 11th March, 2022

Scheme	Water Storage Tank
Farmer Name	Karim Bux
Name of village:	Kot Raisani
Union council:	Kot Raisani
Chairman WUA:	Karim Bux
District:	Kachhi
Tehsil	Dadhar
Coordinates	N 29.4461 E 67.6049
Source of irrigation:	Tube Well
Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	50x50 ft
Depth of WST:	4.5 ft
Command area of water storage tank:	20
No of beneficiaries:	04
Construction Cost of watercourse:	12,38,004.57
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> The farmer has planned to cultivate mix vegetable and low delta crops after intervention of WST The farmer was planning to enhance his cultivated area by 5 to 7 acres.



Figure 4.77: View of functional WST

xxii) Field Visit Date – 14th March, 2022


Scheme	Water Storage Tank
Farmer Name	Haji Munir Ahmed
Name of village:	Killi Qambrani
Union council:	Mashkaaf
Chairman WUA:	Haji Munir Ahmed
District:	Kachhi
Tehsil	Dadhar
Coordinates	N 29.4825 E 67.6082
Source of irrigation:	Tube Well
Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	60x60 ft
Depth of WST:	4.5 ft
Command area of water storage tank:	30
No of beneficiaries:	04
Construction Cost of watercourse:	1,591,134.79
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> The farmer has planned to cultivate cotton and mix vegetable after intervention of WST The farmer was planning to enhance his cultivated area by about 5 acres.



Figure 4.78: The backfilling of WST is under progress


xxiii) Field Visit Date – 14th March, 2022

Scheme	Water Storage Tank
Farmer Name	Abdul Nabi
Name of village:	Chotai
Union council:	Mashkaaf
Chairman WUA:	Abdul Nabi
District:	Kachhi
Tehsil	Dadhar
Coordinates	N 29.4630 E 67.6179
Source of irrigation:	Tube Well
Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	60x60 ft
Depth of WST:	4.5
Command area of water storage tank:	50
No of beneficiaries:	05
Starting date:	22-01-2022
Completion date:	04-03-2022
Construction Cost of watercourse:	1,591,134.79

Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> The farmer has planned to cultivate mix vegetable and low delta crops after intervention of WST The farmer was planning to enhance his cultivated area by 3 to 5 acres.
	
<p><i>Figure 4.79: An interview conducted with farmer for BLS</i></p>	

xxiv) Field Visit Date – 15th March, 2022

Scheme	Water Storage Tank
Farmer Name	Mir Mohammad
Name of village:	Mir Bagh
Union council:	Kot Raisani
Chairman WUA:	Mir Mohammad
District:	Kachhi
Tehsil	Dadhar
Coordinates	N 29.4458 E 67.6046
Source of irrigation:	Tube Well
Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	50x50 ft
Depth of WST:	4.5 ft
Command area of water storage tank:	30
No of beneficiaries:	04

Construction Cost of watercourse:	1,238,004.57
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> The farmer has planned to cultivate low delta crops after having sufficient water storage with intervention of WST The expected enhanced cultivated area with this intervention is about 5 acres in the upcoming one year.
	
<p><i>Figure 4.80: View of functional WST 60x60 with DDA Kachi</i></p>	

xxv) Field Visit Date – 15th March, 2022

Scheme	Water Storage Tank
Farmer Name	Mukhtiar Ahmed
Name of village:	Kot Khari
Union council:	Kot Raisani
Chairman WUA:	Mukhtiar
District:	Kachhi
Tehsil	Dadhar
Coordinates	N 29.4341 E 67.5929
Source of irrigation:	Tube Well
Shape of water storage tank:	Bricks Masonry

Size of water storage tank:	60x60 ft
Depth of WST:	4.5 ft
Command area of water storage tank:	50
No of beneficiaries:	04
Construction Cost of watercourse:	1,591,134.79
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> The farmer has planned to cultivate mixed vegetable and low delta crops after intervention of WST.



Figure 4.81: An interview conducted with farmer for BLS

xxvi) Field Visit Date – 16th March, 2022

Scheme	Water Storage Tank
Farmer Name	Rasheed Zaman
Name of village:	Rind Garh
Union council:	Kot Raisani
Chairman WUA:	Rasheed Zaman
District:	Kachhi
Tehsil	Dadhar

Coordinates	N 29.4829 E 67.5896
Source of irrigation:	Tube Well
Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	40x40 ft
Depth of WST:	4.5 ft
Command area of water storage tank:	25
No of beneficiaries:	03
Construction Cost of watercourse:	927,766.01
Quality of work	Good

- Impact Evaluation Assessment according to benchmarked data / General Observations
- The farmer has planned to cultivate mix vegetable and low delta crops after intervention of WST
 - The farmer was planning to enhance his cultivated area by 5 to 7 acres.



Figure 4.82: The WST work was in progress

xxvii) Field Visit Date – 16th March, 2022

Scheme	Water Storage Tank
Farmer Name	Moheem Khan
Name of village:	Killi Jattak
Union council:	Mashkaaf
Chairman WUA:	Moheem Khan

District:	Kachhi
Tehsil	Dadhar
Coordinates	N 29.4779 E 67.6676
Source of irrigation:	Tube Well
Shape of water storage tank:	Bricks Masonry
Size of water storage tank:	50 x 50
Depth of WST:	4.5 ft
Command area of water storage tank:	20
No of beneficiaries:	02
Construction Cost of watercourse:	1,238,004.57
Quality of work	Good
Impact Evaluation Assessment according to benchmarked data / General Observations	<ul style="list-style-type: none"> The farmer has planned to cultivate mix vegetable and low delta crops after intervention of WST The farmer was planning to enhance his cultivated area by 5 to 7 acres.



Figure 4.83: The backfilling of WST was under progress

4.5 ONLINE DATA ENTRY IN ANDROID BASED APPLICATION

The ICT Technology Team of ME&IE Consultants NPIWC-II has developed Android Based Applications for data collection. Data entry in this application is done directly by the field monitoring teams of all the zonal offices and is uploaded in the MIS system. The data is being observed and monitored by the ICT team of ME&IE Consultants.

4.5 MEETINGS OF ME&IE CONSULTANTS WITH STAKEHOLDERS REGARDING PROJECT PROGRESS / ISSUES

4.5.1 Meetings of ME&IE Consultants - ICT Zone

i) Meeting with Director Agriculture Extension Services ICT

Date:	February 18 2022
Venue	ME&IE Consultants' National Office Islamabad
Participants	
i) Mr. Waqar Anwar, Director Agriculture Extension ICT ii) Dr. Usman Mustafa, Team Leader ME&IE Consultants iii) Dr. Umar Farooq, Deputy Team Leader, ME&IE Consultants iv) Mr. Muhammad Bilal, Field Team Incharge ICT Zone v) Mr. Shumail Mahmood, ICT Expert	
Meeting Agenda:	
Discussion of Project activities in ICT Zone, and Coordination for Data Collection in the Field.	
Discussion / Decisions	
Team Leader ME&IE Consultants welcomed Mr. Waqar Anwar in the Consultants National Office Islamabad and thanked him for visiting consultants' office. Following discussions were held in the meeting. <ul style="list-style-type: none"> Team Leader ME&IE Consultants, Dr. Usman briefed project related of the ME&IE Consultants in ICT Zone. Team Leader requested Mr. Waqar Anwar to make available his staff to assist ME&IE field teams during field visits and data collection. Team Leader shared a case study of an intervention under the project NPIWC-II in the ICT Zone. Director Agri. Extension Mr. Waqar Anwar appreciated the Case Study flyer prepared by the ME&IE Consultants and also gave valuable input in the Case Study. Pictorial view of meeting is given in Figures 4.84 to 4.85.	



Figure 4.84: Team Leader ME&IE Dr. Usman Mustafa in Meeting with D. Agri. Ext. ICT, Mr. Waqar Anwar



Figure 4.85: Team Leader, DTL, FTI, & ICT Expert ME&IE Consultants in Meeting with D. Agri. ICT

4.5.2 Meetings of ME&IE Consultants – Punjab Zone

Field staff of ME&IE consultants' remained in regular coordination with field staff of OFWM throughout the period under review. These coordinations at Deputy Director/Assistant Director at District and tehsils levels facilitated the consultants for smooth operation of Monitoring and Baseline Survey in accomplishing the objective of the project. Detail of meetings held during the reporting month is given below.

ii) Meeting with Assistant Director (OFWM) – Kot Radha Kishan

Date	January 13, 2022
Venue	Site of watercourse 45316/L Village bhai kot 3 Tehsil Pattoki District Kasur
Participants	
1)	Dr. M. Nadeem Jaffri Assistant Director (OFWM) Tehsil Kot Radha Kishan District Kasur
2)	Mr. Rizwan Rai, Water Management Supervisor (OFWM)
3)	Mr. M. Rizwan Suleman Field Team In-charge /ME&IE Expert
4)	Mr. Muhammad Zubair Field Team In-charge / ME&IE Expert
5)	Mr. Shahid Khalil Field Team Engineer
Meeting Agenda:	
Progress review of the project activities. Basic Data Collection of Monitoring/Baseline Survey Phase – II /	
Issue faced by the farmer	

iii) Meeting at DGA (OFWM) Office Lahore held on February 10,2022

Date:	February 10, 2022
Venue	Director-General Agriculture (OFWM) Punjab Zonal Office, Davis Road, Lahore
Participants	
vi)	Malik Muhammad Akram, Director General Agriculture (OFWM)
vii)	Hafiz Qaisar Yasin, Director H.Q D. G office
viii)	Mr. Asif Iqbal Watto, Deputy Project Director (NPIWC– II)
ix)	Mr. Muhammad Rafi, System Analyst (D.G Office)
x)	Mr. Muqadus Badar, Computer Operator, DGA (OFWM) office
xi)	Mr. Muhammad Tariq Khan, Deputy Team Leader NWM Consultants
xii)	Mr. Muhammad Yousaf Bhatti, Deputy Team Leader, ME&IE Consultants
xiii)	Mr. Rizwan Saleem, ICT Specialist, ME&IE Consultants
xiv)	Mr. Irfan Aziz, Technical Staff ME&IE Consultants

Meeting Agenda:

Presentation on Dashboard Development and implementation by the ME&IE, Consultants

Discussion / Decisions

- Presentation given by Mr. Rizwan Saleem ICT specialist (ME&IE Consultants) on Dashboard development and implementation. DGA (OFWM) appreciated the Dashboard's application & development.
- The Validated data by NWM Consultants as required by ME&IE consultants will be available through DGA (OFWM) office
- A proper mechanism for the data collection will be developed by the ME&IE consultants in consultation with the NWM Consultants and the Client (OFWM).
- At least a fortnightly meeting should be held between ME&IE consultants and (OFWM) department to keep close coordination and collaboration between the consultant and the client
- A letter will be issued by the DGA (OFWM) office to their field offices for cooperation and provision of the basic data as required by the ME&IE consultants during their field visit
- Director H.Q, pointed out some minor issues to be covered by the ME&IE consultants. The consultants accepted and showed commitment to make it as a part of their field activities.
- The meeting ended with the vote of thanks to the chair.

Pictorial vies of the meeting is given in **Figure 4.86.**



Figure 4.86: ICT Expert in Meeting with DGA (OFWM) on Dashboard Presentation

iv) Meeting with ADA OFWM Jaranwala on Feb 21,2022

Date:	Feb 21, 2022
Venue:	Office of the Assistant Director (OFWM) Office Tehsil Jaranwala.

Participants:

- Maqsood Alam, Assistant Director Agri (OFWM) Jaranwala
- Muhammad Ehsan Water Management Supervisor (Agri) OFWM Jaranwala
- Awais Jahangeer Field Team In-charge, ME&IE Expert/ Socio Expert-1
- Muhammad Zubair Field Team In-charge, ME&IE Expert/ Socio Expert-3
- Shahid Khalil Rana Field Engineer Technician/ME&IE Officers/Socio Officer-1

Meeting Agenda:

- Briefing on ME & IE Consultants activities regarding Baseline Survey/Monitoring by Field Team In-charge.
- Basic data Collection from ADA Office and field visit.

Pictorial view of meeting given in **Figure 4.87.**



Figure 4.87: Meeting of ME & IE Consultant with Assistant Director Agriculture (OFWM) Hafizabad.

v) Meeting with DDA and ADA OFWM Faisalabad on Feb 22, 2022

Date:	Feb 22, 2022
Venue:	Deputy Director (OFWM) Office District Faisal Abad

Participants:

- Muhammad Asim Rafique, Deputy Director Agriculture (DDA) Faisalabad
- Abuzar Saleem, Assistant Director Agriculture (ADA) Faisalabad
- Awais Jahangeer, Field Team In-charge, ME&IE Expert/ Socio Expert-1

Meeting Agenda:

Briefing regarding the basic data collection of District Faisalabad and discussion on upcoming field visits.

Pictorial view of meeting given in **Figure 4.88**.



Figure 4.88: Meeting with Deputy Director Agriculture (DDA) Faisalabad Muhammad Asim Rafique and ADA Tehsil Faisalabad Abuzar Saleem Randhawa

measurement of water flow in water courses ME&IE consultants should consider the schedule of closure of canals.

- iv) The Deputy Director from OFWM Department and Field Team In-charge from ME&IE consultants assured each other full cooperation in future for smooth working of the field activities.

Pictorial view of meeting given in **Figure 4.89**.



Figure 4.89: Meeting of ME & IE Consultant with Waheed-uz-zaman Deputy Director OFWM Hafizabad

vi) Meeting with DDA Hafizabad on Feb 22, 2022

Date:	Feb 22, 2022
Venue:	Deputy Director (OFWM) Office District Hafizabad.
Participants:	
i)	Waheed-uz-Zaman, Deputy Director Agriculture (OFWM), District Hafizabad.
ii)	Mr. Muhammad Rizwan Suleman, Field Team In-charge (Sub Zone -2) ME&IE Consultants Lahore.
iii)	Mr. Muhammad Bilal Sohail, Field Team Engineer (Sub Zone -2) ME&IE Consultants Lahore.
iv)	Nauman Rasheed, Field Team Engineer ME&IE Consultants Lahore.
v)	Misbah-ur-Rehman, Field Team Engineer ME&IE Consultants Lahore.
Meeting Agenda:	
i)	Briefing on ME & IE Consultants activities by Field Team In-charge.
ii)	Review of the other OFWM activities performed by Deputy Director OFWM, Hafizabad and discussed future activities of the department and other relevant issues.
iii)	The Deputy Director informed that improvement of water course activities in Hafizabad particularly rice area, are on peak in between the period "after the harvesting of rice and sowing of wheat". He advised that for the purpose of

vii) Meeting with ADA Hafizabad on Feb 22, 2022

Date:	Feb 22, 2022
Venue:	Assistant Director (OFWM) Office District & Tehsil Hafizabad.
Participants:	
i)	Zafar Iqbal, Assistant Director Agriculture (OFWM), District & Tehsil Hafizabad.
ii)	Mr. Muhammad Rizwan Suleman, Field Team In-charge (Sub Zone -2) ME&IE Consultants Lahore.
iii)	Mr. Muhammad Bilal Sohail, Field Team Engineer (Sub Zone -2) ME&IE Consultants Lahore.
iv)	Nauman Rasheed, Field Team Engineer ME&IE Consultants Lahore.
v)	Misbah-ur-Rehman, Field Team Engineer ME&IE Consultants Lahore.
Meeting Agenda:	
i)	Briefing on ME & IE Consultants activities regarding Baseline Survey/Monitoring by Field Team In-charge.
ii)	Other Issues faced by the department.
iii)	Basic data Collection from ADA Office.
Pictorial view of meeting given in Figure 4.90 .	



Figure 4.90: Meeting of ME & IE Consultant with Zafar Iqbal Assistant Director Agriculture (OFWM) Hafizabad.

viii) Meeting with ADA OFWM Jaranwala on Mar 2, 2022

Date:	Mar 2, 2022
Venue:	Office of the Assistant Director (OFWM) Office Tehsil Muridke
Participants:	
vi)	Awais Jahangeer Field Team In-charge, ME&IE Expert/ Socio Expert-1
vii)	Muhammad Zubair Field Team In-charge, ME&IE Expert/ Socio Expert-3
viii)	Shahid Khalil Rana Field Engineer Technician/ME&IE Officers/Socio Officer-1
Meeting Agenda:	
iv)	Briefing on ME & IE Consultants activities regarding Baseline Survey/Monitoring by Field Team In-charge.
v)	Basic data Collection from ADA Office and field visit.



Figure 4.91: ME&IE Team in meeting with AD Agriculture (OFWM) Tehsil Muridke, District Sheikhupura.

ix) Meeting with ADA and OFWM Safdar Abad on March 3rd 2022

Date:	Mar 3rd, 2022
Venue:	Assistant Director (OFWM) Office Tehsil Safdar Abad District Sheikhupura
Participants:	
iv)	Awais Jahangeer Field Team In-charge, ME&IE Expert/ Socio Expert-1
v)	Shahid Khalil Rana Field Engineer Technician/ME&IE Officers/Socio Officer-1
Meeting Agenda:	
Briefing regarding the basic data collection of Tehsil Safdarabad District Sheikhupura and discussion on upcoming field visits.	



Figure 4.92: Meeting with Assistant Director Agriculture (OFWM) Mr. Ghulam Mustafa Tehsil Safdar Abad District Sheikhupura.

x) Meeting with ADA and OFWM Safdar Abad on March 4th 2022

Date:	Mar 4th, 2022
Venue:	Assistant Director (OFWM) Office Tehsil Sharaqpur District Sheikhupura
Participants:	
1.	Muhammad Asim Rafique Deputy Director Agriculture (DDA) Faisalabad
2.	Abuzar Saleem Assistant Director Agriculture (ADA) Faisalabad
3.	Awais Jahangeer Field Team In-charge, ME&IE Expert/ Socio Expert-1
4.	Muhammad Zubair Field Team In-charge, ME&IE Expert/ Socio Expert-3
5.	Shahid Khalil Field Engineer Technician/ME&IE Officers/Socio Officer-1

Meeting Agenda:

Briefing regarding the basic data collection of Tehsil Safdar Abad District Sheikhpura and discussion on upcoming field visits.



Figure 4.93: Meeting of ME&IE Consultant with AD Agriculture (OFWM) Mr. Umer Shehzad Tehsil Sharaqpur District Sheikhpura.

xi) Meeting with DDA OFWM on March 3rd, 2022

Date:	Mar 3, 2022
Venue:	Office of the Deputy Director Agri. (OFWM) Sargodha.
Participants:	
i)	Muhammad Rizwan Suleman Field Team In-charge, ME&IE Expert/ Socio Expert-1
ii)	Noman Rasheed Field Engineer Technician/ME&IE Officers/Socio Officer-1
iii)	Sohail Ahmad Field Engineer Technician/ME&IE Officers/Socio Officer-2
Meeting Agenda:	
i)	Briefing on ME & IE Consultants activities regarding Baseline Survey/Monitoring by Field Team In-charge.



Figure 4.94: Meeting OF ME & IE Consultant with Deputy Director Agri (OFWM) i-e Ishfaq Ahmad Sindu along with ADA (OFWM) Sahiwal i-e M. Tayyab Tahir

xii) Meeting with ADA OFWM on Mar 4, 2022

Date:	Mar 4th, 2022
Venue:	Assistant Director (OFWM) Office Tehsil kot Momin District Sargodha
Participants:	
i)	M.Rizwan Suleman Field Team In-charge, ME&IE Expert/ Socio Expert-1
ii)	Noman Rasheed Field Engineer Technician/ME&IE Officers/Socio Officer-1
iii)	Sohail Ahmad Field Engineer Technician/ME&IE Officers/Socio Officer-2
Meeting Agenda:	

Briefing on ME & IE Consultant Activities regarding Baseline Survey/Monitoring



Figure 4.95: Meeting With Assistant Director (OFWM) Sahiwal i-e Muhammad Tayyab Tahir, Assistant Director (OFWM) Sargodha i-e Umer Hayyat Bhatti Assistant Director (OFWM) kot Momin i-e Tariq Mehmood regarding Baseline Survey Phase-II

xiii) Meeting with ADA OFWM on Mar 5, 2022

Date:	Mar 5th, 2022
Venue:	Assistant Director (OFWM) Office District and Tehsil Sargodha
Participants:	
1.	M. Rizwan Suleman Field Team In-charge, ME&IE Expert/ Socio Expert-1
2.	Noman Rasheed Field Engineer Technician/ME&IE Officers/Socio Officer- 1
3.	Sohail Ahmad Field Engineer Technician/ME&IE Officers/Socio Officer-2
Meeting Agenda:	
Briefing regarding the basic data collection of Tehsil Sargodha District Sargodha.	



Figure 4.96: Meeting of ME & IE Consultant with Assistant Director Agriculture (OFWM) Sargodha i-e Umer Hayyat Bhatti

4.5.3 Meetings of ME&IE Consultants – KP Zone

i) Meeting in OFWM Office Peshawar

Meeting Date	January 28, 2022
Venue	On Farm Water Management Office, Peshawar
Participants	
i.	Dr. Rab Nawaz (Project Coordinator/ District Director) (Chaired the Meeting)
ii.	Dr. Humayun Khan, Deputy Team Leader KP (G3 Consultants)
iii.	Dr. Saiful Islam Dy. Project Coordinator, NPIWC II, Islamabad
iv.	Engg Ilyas DTL NESPAK, TPV consultants- NPIWC-II
Meeting Agenda /Points Discussed	
Main Agenda of the meeting was Data sharing by the Department and discuss the Progress till date.	
This meeting was held on verbal directives of Dr. Saiful Islam Dy. Project Coordinator NPIWC-II. The meeting was held in the office of Dr. Rab Nawaz Directorate of Water Management Department KP Peshawar and was chaired by Dr. Rab Nawaz Khan.	
Dr. Saiful Islam DPC NPIWC -II asked Dr. Rab Nawaz about the progress of project activities and method sharing the data files of each district with M&E consultants. Following were the further discussions held in the meeting.	
<ul style="list-style-type: none"> • Dr. Rab Nawaz shared the Workplan of 2019-2020 & 2020-2021, 2021-22 (Physical and Financial) with M&E consultants. • All the data files maintained from start of the project till date of each district have 	

been provided to M&E consultants for data entry process.

- Peshawar and nearby districts files was provided to M&E consultants at Peshawar OFWM office.
- Other far distanced districts were covered by visiting one district and near districts were brought data to that district for M&E consultants for data entry.
- Dr. Rab Nawaz told that they will ask Districts to include the financial payments dates column and WUA registration number information in future.
- Dr. Humayun Khan also explained to the DPC NPIWC-II about the data entry process of the acquired data and the progress made so far.

Dr. Rab Nawaz told that they have and will support M&E consultants in providing data every time M&E consultants ask for data. Also, department will cooperate with M&E consultants regarding data sharing at every stage.

The meeting ended with a vote of thanks by Dr. Rab Nawaz.

Pictorial view of the meetins is given in **Figures 4.97 to 4.98** below:



Figure 4.97: ME&IE Team and Dr. Saiful Islam DPC NPIWC-II in Meeting with Dr. Rab Nawaz Khan, District Director OFWM Peshawar



Figure 4.98: DTL ME&IE Consultants KP Dr. Humayoun Khan in Meeting with Dr. Rab Nawaz Khan, District Director OFWM Peshawar

ii) **Meeting in the office of DG OFWM Peshawar**

Date	February 20, 2022
Venue	Office of the Director General On Farm Water Management, Peshawar
Participants	
i)	Mr. Kifayat Zaman, Fed. DG OFWM, Islamabad
ii)	Naseebur-ur-Rehman Khattak, Director OFWM KP
iii)	Dr. Saiful Islam, Deputy Project Coordinator, Islamabad
iv)	Dr. Humayun Khan, Deputy Team Leader (G3 Consultants)
v)	Engg Ilyas, DTL NESPAK, TPV consultants-NPIWC-II
vi)	Muhammad Afzal, Director PMU, Peshawar
vii)	Abdul Wajid, WMO, OFWM Dept Peshawar
viii)	Qazi Shefa, Asstt Director Planning, OFWM Department KP
ix)	Ali Raza Naqvi, I A, FWMC Islamabad
x)	Fawad Ahmad, ICT/Technology Specialist (G3 Consultants)
Meeting Title	Discussion/presentation on the progress of ME/IE Consultants KP Zone
Agenda of the Meeting/Points Discussed	
Meeting was chaired by Mr. Kifayat Zaman, Fed. DG OFWM, Islamabad. The meeting was started with the greeting note by Director H Q, Mr. Naseeb ur Rehman. He welcomed all the participants of the meeting.	
Mr. Kifayat Zaman Fed. DG OFWM Islamabad enquired about the progress made so far by the	

OFWM Department, ME/IE Consultants G-3, and NES PAK Consultants regarding WCs and WSTs Schemes completed under NPIWC-II.

Following discussions held at the meeting.

- Director H Q, Mr. Naseeb ur Rehman made presentation on the schemes (WCs and WSTs) of 2019-2020, 2020-2021 and 2021-22 (Physical and Financial).
- Dr. Humayun Khan DTL KP Zone presented the progress achieved so far by the M&E consultants. The focus was confined to the data collected for the Dash Board till date.
- Engr. Ilyas presented the progress made by the NES PAK consultants regarding their activities of NPIWC-II.

The meeting ended with a vote of thanks to all participants.

Pictorial view of meeting given in **Figure 4.99**.



Figure 4.99: Meeting of the DTL KP Zone with Mr. Kifayat Zaman, DG Fed ONWM cell Islamabad, Dr. Saiful Islam Dy. Project Coordinator, Islamabad and Director HQ OFWM Peshawar

4.5.4 Meetings of ME&IE Consultants – Balochistan Zone

i) Meeting in the office of DDA OFWM Quetta

Date	26 th January, 2022
Venue	Office of the DDA OFWM, Quetta
Participants	
1)	Noor Ahmed, DDA OFWM, Quetta.
2)	Abdul Ghafoor Jaffar, Agriculture Officer.
3)	Muhammad Ibrahim, Agriculture Officer.
4)	Himayun Muree, Agriculture Officer.
5)	Zahoor Ahmed, Sub-Engineer, Panjpai.
6)	Manzoor Ahmed Kasi, FTI/M&E Expert.
7)	Mah Gul Noor, M&E Officer.
8)	Hamza H. Qureshi, M&E Officer.
Meeting Agenda/Points discussed:	
<ul style="list-style-type: none"> Finalization of the Beneficiaries list for the F.Y 2021-2022. Informed about the visits of the ME & IEC team that were planned for the Pre-testing of the MTs. 	

Pictorial view of the meeting is given in **Figure 4.100** below:



Figure 4.100: ME&IE Team in Meeting with the DDA OFWM, Quetta and his Field team

ii) Meeting in the office of Directorate of Women Division Agriculture Office Quetta

Date	26 th January, 2022
Venue	Directorate of Women Division, Agriculture Office, Quetta
Participants	
1)	Shazia Kurd, DDA Women Division, Quetta
2)	Manzoor Ahmed Kasi, FTI/M&E Expert.
3)	Mah Gul Noor, M&E Officer.
4)	Hamza H. Qureshi, M&E Officer.
Meeting Agenda/Points discussed:	

- Introduction of the ME&IEC teams to the Women Division, Quetta.
- Requested the Women Division to arrange Trainings for women, girls at village and school levels where NPIWC-II activities are being initiated, so that they can play their effective role in making NPIWC-II project more successful.
- A demonstration was given of the Value-added products by the women division to the ME & IEC team.

The pictorial view of the meeting is given in **Figure 4.101** below:



Figure 4.101: DDA Women Division Showing to ME&IE Team, all the Value-added Products, produced all over Balochistan

iii) Meeting in the office of DDA OFWM, Naseerabad

Date	25 th January, 2022
Venue	Office of the DDA OFWM, Naseerabad
Participants	
1)	Mr. Anwar Aadil, DDA,, OFWM, Naseerabad
2)	Mr. Ali Mardan, Sub Engineer, OFWM, Naseerabad
3)	Mr. Tariq Khoso, FTI/M&E Expert, ME&IE Consultants, Naseerabad Zone.
Meeting Agenda/Points discussed:	
<ul style="list-style-type: none"> A Meeting held with DDA, OFWM, Naseerabad to discuss the new schemes (F.Y. 2021-22) The FTI/M&E Expert, ME&IEC shared the visits plan for pre-testing of MTs / Monitoring Site with request to extend their support regarding data provision / field assistance 	
The picture of the meeting is given as Figure 4.102 below:	



Figure 4.102: Meeting with DDA, OFWM, Naseerabad at his good office.

iv) Meeting in the Office of DDA OFWM, Jaffarabad

Date	26 th January, 2022
Venue	Office of the DDA OFWM, Jaffarabad
Participants	
1)	Mr. Babal Khan Bhangar, Sub Engineer, OFWM, Jaffarabad
2)	Mr. Abdul Fateh, Sub Engineer, OFWM, Jaffarabad
3)	Mr. Israr Jamali, Field Assistant, OFWM, Jaffarabad.
4)	Mr. Tariq Khoso, FTI/M&E Expert, ME&IE Consultants, Naseerabad Zone.
Meeting Agenda/Points discussed:	
<ul style="list-style-type: none"> A Meeting was held with OFWM staff to discuss and share Project progress. Discuss the Beneficiaries list for the F.Y. 2021-2022. Informed about the visits of ME&IEC team that were planned for the Pre-testing of the MTs / Monitoring of site. 	

The picture of the meeting is given as **Figure 4.103** below:



Figure 4.103: Meeting with DDA, OFWM, Naseerabad in his office

v) Meeting with DG OFWM Rani Bagh Quetta

Date	07 th February 2022
Venue	Director General, OFWM, Agriculture Office, Rani Bagh, Quetta
Participants	
i)	Mr. Ali Raza Jamali, Director General, OFWM, Agriculture Department, GoB, Quetta.
ii)	Mr. Wali Muhammad, Deputy Director, Technical, OFWM, GoB, Quetta
iii)	Mr. Rizwan Ahmed, Deputy Team Leader, ME&IE Consultants, Balochistan, Quetta.
Meeting Agenda/Points discussed:	
i)	A Meeting held with DG, OFWM, Balochistan regarding data collection of F.Y. 2019-20 and F.Y. 2020-21 for MIS, Database, Dashboard, Balochistan.
ii)	The DTL also requested the DG, OFWM, Balochistan to provide beneficiaries list of F.Y. 2021-22, so that ME&IE Consultants would be able to plan Baseline Survey Phase-II
iii)	The DG, OFWM, Balochistan took immediate action and asked the Deputy Director, Technical to do the needful.

vi) Meeting with DG OFWM Rani Bagh Quetta

Date	11 th February 2022
Venue	Director General, OFWM, Agriculture Office, Rani Bagh, Quetta
Participants	
I.	Mr. Wali Muhammad, Deputy Director, Technical, OFWM, GoB, Quetta
II.	Mr. Rizwan Ahmed, Deputy Team Leader, ME&IE Consultants, Balochistan, Quetta.
Meeting Agenda/Points discussed:	
iv)	A meeting held with Mr. Wali Muhammad, Deputy Director (Technical), OFWM, Balochistan regarding data collection for Dashboard, Balochistan.
v)	DG office shared updated progress of F.Y. 2021-22 which is focused for Baseline Phase-II
vi)	It was decided in the meeting that DTL, Balochistan will be added in the official WhatsApp group of National Program, OFWM, Balochistan for smooth working

and timely response / information at the DDs, district level.

Pictorial view of meeting given in **Figure 4.104**.



Figure 4.104: Meeting with Mr. Wali Muhammad, DD, Technical, OFWM, Quetta.

vii) Meeting with DDA, OFWM Jaffarabad

Date	25 th February 2022
Venue	Office of the DDA, OFWM Jaffarabad
Participants	
i)	Mr. Lateef Qaisrani, Deputy Director, OFWM, Jaffarabad.
ii)	Mr. Tariq Khoso, M&E Expert/FTI, ME&IE Consultants, Naseerabad Zone.
Meeting Agenda/Points discussed:	
i)	A meeting was held with DDA, OFWM, Jaffarabad to discuss the Beneficiaries list (F.Y 2021-22) for sampling and site selection, Baseline Survey Phase-II.
ii)	The DD ensured to cooperate with the ME&IE Consultants for smooth activities of the assignment of consultants.
The photograph of the meeting is given as Figure 4.105 below.	



Figure 4.105: Meeting with DDA, OFWM, Jaffarabad and his staff at District Jaffarabad.

4.6 INTERNAL MEETINGS OF ME&IE CONSULTANTS

i) Zoom Meeting from 03 Jan. 2022 to 05 Jan. 2022

A Three days (03 January 2022 to 05 January 2022) Zoom meeting for review / discussion session on monitoring tools was conducted by DTL ICT Islamabad. Besides all the field staff of the project, the respective DTLs of various zones attended the review Sessions. Pictorial view of the Zoom Meeting is given in Figures 4.29 to 4.30.

Date	03 January 2022 to 05 January 2022
Venue	Zoom Meeting under Chair of Team Leader Organized at National office Islamabad with all Zonal Offices
Participants	
<ol style="list-style-type: none"> 1. Dr. Usman Mustafa (Team Leader, Islamabad) 2. Dr. Umer Farooq DTL. ICT. (Islamabad) 3. Rizwan Ahmed. DTL. Quetta, (Balochistan) 4. Dr. Humayun khan DTL. Peshawar (KP) 5. Muhammad Yousaf Bhatti DTL. Lahore (Punjab) 6. Dr. Muhammad Abdul Quddus Malik Agri. Economist 7. Muniza Bashir Tarar Social and Gender Specialist 8. All field team In-charges and Field Team Members of Zonal Offices. 	
Meeting Agenda	
<p>The meeting agenda was to review/discuss the revised Monitoring Tools of Watercourses Improvement and Water Storage Tanks Interventions. Timings of this three days' meeting remained from 10:00 AM to 04:00 PM every day with 1-hour break from 01:00 PM to 03:00.</p>	
<p>Proceedings of 1st Day i.e. 3 January 2022 Monitoring Tools on for Intervention of Watercourse Improvement, Beneficiaries of the intervention and cost of production of various crops were discussed.</p>	
<p>Proceedings of the 2nd Day i.e. 4 January 2022 Template of Watercourse Improvement Monitoring, Questionnaire on Social and Gender Structures and Guideline on Case Studies were discussed.</p>	
<p>Proceedings of the 3rd Day i.e. 5 January 2022 Monitoring Tools for Intervention of Water Storage Tank were discussed. During these three days, detailed discussions were held on different issues, questions, wordings, understanding of a question by the monitor and the respondent / beneficiary. Almost</p>	

all the questions were discussed to get proper feedback from the participants.

Almost all the participants agreed suggestions and comments were incorporated in the monitoring tools by the host DTL Islamabad Dr. Umer Farooq.

Pictorial view of meeting given in **Figure 4.59 to 5.60.**



Figure 4.106: ME&IE Consultants' Zoom Meeting



Figure 4.107: ME&IE Field Teams in Zoom Meeting

ii) Zoom Meeting from 07 February 2022

Date	07 th February 2022
Venue	Zoom Meeting
Participants	
i)	Mr. Rizwan Ahmed, Deputy Team Leader, ME&IE Consultants, Balochistan, Quetta.
ii)	Mr. Rizwan Saleem, ICT / Technology Specialist, HO, Islamabad
iii)	Mr. Shumail, Data Analyst, HO, Islamabad
Meeting Agenda/Points discussed:	
iii)	A zoom meeting was held regarding missing data required for Dashboard, Balochistan.
iv)	The DTL, Balochistan and ICT/Technology Specialist discussed the format made for data collection in detail. The irrelevant

information which is not being practiced in Balochistan.

- v) The DTL, Balochistan shared the bottleneck regarding data collection.

The ICT Technology Specialist informed DTL, Balochistan that the ICT team is ready to initiate the Dashboard activity for Balochistan and training for OFWM Staff, just waiting for the required data from the OFWM Department.

iii) Zoom Meeting from 17 February 2022

Date	17 th February 2022
Venue	Zoom Meeting hosted in ICT Zonal Office
Participants	
i)	Dr. Usman Mustafa, Team Leader, ME&IE Consultants, National Office, Islamabad.
ii)	Dr. Muhammad Abdul Quddus, Agriculture Economist, Lahore Office.
iii)	Dr. Umar Farooq, Deputy Team Leader, ME&IE Consultants, Islamabad.
iv)	Dr. Humayun, Deputy Team Leader, ME&IE Consultants, KPK.
v)	Mr. Yousaf Bhatti, Deputy Team Leader, ME&IE Consultants, Punjab.
vi)	Mr. Rizwan Ahmed, Deputy Team Leader, ME&IE Consultants, Balochistan.
vii)	Mr. Rizwan Saleem, ICT / Technology Specialist, HO, Islamabad
viii)	Field Staff of all provinces
Participants	
vi)	A zoom meeting was held among all provinces to discuss the refined MTs made for Baseline Survey Phase-II and Regular Monitoring
vii)	All DTL give their feedback from the province's perspective.
viii)	The field staff also shared their previous field experiences and gave their feedback for further improvements in MTs.
ix)	The Team Leader and Deputy Team Leader, Islamabad shared the methodology and sampling techniques with all members.
A view of zoom meeting is given below as Figure 4.61.	

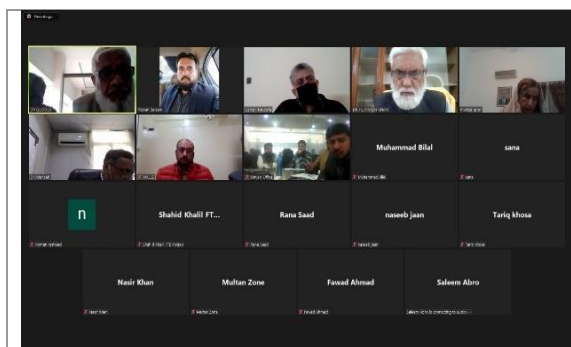


Figure 4.108: ME&IE Consultants & core Team in Zoom Meeting Lead by Team Leader

4.7 ICT ASSIGNMENT

ICT Team remained engaged in different activities related to the ME&IE assignment including development of Android based application, data collection for Dashboard and training of client staff on Dashboard / MIS for the project. ICT Specialist also conducted with Technical Staff of DG OFWM Punjab. ICT Expert also conducted training meetings in Water Management office Islamabad.

4.7.1 Development of Customized Android Based Applications

The ICT Technology Team of ME&IE Consultants NPIWC-II has developed Customized Android Based Applications for data collection. Data entry in this application is done directly by the field monitoring teams of all the zonal offices and is uploaded in the MIS system. The data is being observed and monitored by the ICT team of ME&IE Consultants.

In this regard, customized Android Based Applications have been developed, tested, and installed for Small Dams and Irrigation staff of AJK and Water Management Staff of ICT zone, and in KP Zone.

4.7.2 Data collection of interventions in MIS/GIS database

The activity regarding data collection of Interventions in MIS/GIS database was completed in KP Zone in December 2021. Following activities have been carried out in this regard during the reporting period.

- Data cleaning and validation has been completed. Missing data has been communicated to concerned DDs of OFWM

department. The ICT representative in KP zone remained in contact with DDs and acquired missing data.

- The data collection for the dashboard is in progress in Balochistan. The ICT team is facing problems in data collection because a lot of data is missing which was required by the ICT team for Implementation of MIS Dashboard.
- The ICT team of the National Office Islamabad under the supervision of ICT Technology Specialist has planned to visit the Balochistan zone to conduct meetings with department officials to resolve the issues and fill the gaps.
- Meeting has been conducted with Technical Team of OFWM department Punjab chaired by the system analyst OFWM department Punjab. During the meeting ICT Technology Specialist has briefed them on development of Monitoring Tools, Implementation methodology, Development of customized Android based Application, Development, and Implementation of MIS Dashboard of Dashboard. Later, MIS Dashboard and customized Android based application has been demonstrated to the Technical Team.
- The Technical Team showed their satisfaction on the briefing given by ICT Technology Specialist of ME&IE Consultants and showed intention to cooperate in the future.

4.7.3 Implementation of MIS Dashboard

The Dashboard has been implemented in AJK, and the progress of Interventions is live on the Dashboard since the 4th of November 2021.

AJK Zone - Watercourses Data Summary				
Division	2019-20	2020-21	2021-22	Overall
Muzaffarabad	31	92	51	174
Poonch	33	33	63	129
Mirpur	37	97	96	230
Overall	101	222	210	533

So far, Total 533 Watercourses data from AJK zone has been received and available live on Dashboard out of which 247 Watercourse has been completed & 286 watercourses are under progress. Detailed summary attached as (Annex-E).

AJK Zone - Water Storage Tank Data Summary				
Division	2019-20	2020-21	2021-22	Overall
Muzaffarabad	36	62	38	136
Poonch	15	43	91	149
Mirpur	2	15	49	66
Overall	53	120	178	351

351 Water Storage Tank data received from AJK zone and is available live on Dashboard out of which 159 Water Storage Tanks have been completed and 192 are under progress. Detailed summary is attached as **(Annex-F)**.

The Dashboard has also been implemented in KP Zone and progress of completed schemes is live on the Dashboard since 11th March 2022.

KP Zone Watercourses Data Summary				
Division	2019-20	2020-21	2021-22	Overall
Bajaur Agency	3	17	0	20
Bannu	74	40	0	114
Dera Ismail Khan	431	11	52	494
Hazara	83	57	7	147
Khyber Agency	6	13	0	19
Kohat	98	41	0	139
Kurram Agency	1	5	2	8
Malakand	177	161	10	348
Mardan	105	64	2	171
Mohmand Agency	4	26	13	43
Orakzai Agency	0	1	0	1
Peshawar	141	85	0	226
S.W Agency	3	12	0	15
Overall	1126	533	86	1745

For KP zone currently total 1745 watercourses data is live on Dashboard and out of these 1721 schemes have been completed and 24 schemes are under progress. Detailed Summary of these schemes is attached as **(Annex-G)**.

KP Zone - Water Storage Tank Data Summary				
Division	2019-20	2020-21	2021-22	Overall
Bajaur Agency	1	9	0	10
Bannu	12	18	0	30
Dera Ismail Khan	81	6	5	92
Hazara	28	43	4	75
Khyber Agency	1	9	0	10
Kohat	29	17	0	46
Kurram Agency	1	1	0	2
Malakand	75	88	5	168
Mardan	16	9	1	26
Mohmand Agency	1	36	4	41
Orakzai Agency	0	2	0	2
Peshawar	36	25	0	61
S.W Agency	0	15	0	15
Overall	281	278	19	578

In KP zone currently total 578 watercourses data is live on Dashboard and out of these 572 schemes have been completed and 6 WSTs are under progress. Detailed Summary is attached as **(Annex-H)**.

ICT Watercourse Data Summary	
Division	2020-21
ICT	20
Grand Total	20

In ICT zone so far only 20 watercourse schemes have been completed, and their data is live on Dashboard. Furthermore, no scheme is under progress in ICT Zone.

The ICT team is continuously in process of cleaning and validating the received data and communicating mistakes to the concerned ADs for correction.

4.7.4 Training and Capacity Building

On 14th January 2022, a training workshop was held in ICT zone in Agriculture Complex Islamabad (Figures 4.31 & 4.32). The nominated staff by the department has been trained on use of customized Android Based Data Collection Application. MIS Dashboard presentation is planned in the second week of February 2022. Capacity building training and MIS Dashboard presentation in KP zone is delayed due to non-availability of Project Director OFWM KP who is currently out of country. Training will be carried out after his return to Pakistan. A view of training is given below as **Figures 4.109 & 4.110**.



Figure 4.109: ME&IE ICT Expert Giving Training to Staff of Islamabad Water Management Staff



Figure 4.110: ME&IE ICT Expert Giving Training to Staff of Islamabad Water Management Staff

Three capacity building training sessions were conducted in KP Zone by ICT Team to facilitate the OFWM staff to get familiar with the Dashboard. Trainings were conducted in OFWM organized venues in D.I. Khan, Abbottabad, and Peshawar. Nominated staff were trained on Android Based Data Collection Application for data feeding on Dashboard. Detail of training venues, dates, and participants is given in table below while pictorial views of the training are given as **Annex- I**.

Training Location	Date	No. of days	No. Participants
D.I.Khan	3 rd March 2022	1	10
Abbottabad	8 th March 2022	1	14
Peshawar	11 th March 2022	1	27
Total		3	51

4.8 MONITORING / DATA COLLECTION ON SOCIAL AND GENDER COMPONENT

During the reporting quarter team under took different activities i.e. Field visits, prepared case studies, attended zoom meetings and reviewed baseline monitoring and impact evaluation tool. Observation of the team is also shared internally in which it is found that women are not participating due to cultural issues as well as they are not included during the mobilization process. It is imperative to design strategies to involve both male and female in rural and agriculture development Gender equality and women's empowerment, and the linked principles have the potential to make a difference in the lives of hundreds of millions of rural poor.

Most of the underprivileged people in Pakistan live in rural areas, and most of them depend directly or indirectly on agriculture for their livelihoods. Women are the main farmers or producers, but their roles remain largely unrecognized. Both men and women participate in agricultural activities, Agriculture is supposed to be an alleyway out of poverty

To achieve sustainable development goals, role of agriculture in sustainable development and its importance in achieving the sustainable development goals is by 2030. Government of Pakistan has signed and is working on it to reduce the share of people suffering from life-threatening poverty and hunger. Rising food prices are reminders of the need to focus on food security and agriculture for development.

The different case studies and research clearly depicts the gender in agriculture suggests that accounting for the different roles of women and men and gender equality in access to resources and opportunities is a necessary condition for doing so. In NPICW-II project activities are now affecting lives

of the beneficiaries, case studies by provincial teams are prepared which shows increase in growth and income. This will be creating great impact on their livelihood which leads towards development in all fields.

The case studies are intended to offer all stake holders an opportunity to unpack and understand the role of gender differences in driving agriculture and effects of irrigational outcomes, how program impacted, identify, and whether the program also promotes gender equality and women's empowerment. The cases are not meant to be perfect examples of how gender differences are identified and managed, but are meant as a learning tool intended to:

- i. Provide insight into specific areas where gender differences exist.
- ii. Showcase rea

A programs that have intentionally worked to integrate a gender lens into their delivery, whether from the outset or as a course correction. Examine challenges and emerging Case studies consist of three phases:

- i. The base line phase focuses on an assessment of local conditions and practices and builds relationships The assessment covers four areas:
 - program and policy environment;
 - current conditions and practices;
 - physical conditions; and
 - social and cultural conditions
- ii. During the implementation phase staff and partners work with community members through a participatory approach for mapping the landscape of current practices. How the project activities impacting local lives social financially measuring the effects at midline.
- iii. Finally, in the post implantations phase, conduct follow-up household visits, attend community meetings, and share technical advice for maintaining and facilitate to ensure the communities remain after the program's completion.

Draft Case Studies prepared by the team are given below. **Gender** and social analysis is critical in completing preferred development outcomes of increased production, improved outcomes for

poverty alleviation, increased well-being for all, and a fairer distribution of burdens and benefits in agriculture among women and men.

In developing countries, men and women make up 43 percent of the agricultural labor force. Many of them are smallholder farmers, and from paid employment to trade and marketing, women participate in all aspects of rural life. They raise crops and animals, collect water and wood for fuel, and care for family member.

In NPICW 11 now impact studies are showing increase in income which is assisting GOP to achieve the targets and now teams in fields are also going to gather field observations to further improve the project components which will help to pen down recommendations for

- i) Making changes in policy mandates.
- ii) Having senior management and leadership support and involvement.
- iii) Implementing gender-explicit evaluation and monitoring mechanism.

Having sufficient professional staff with gender expertise.

Draft Case Studies prepared by the provincial teams of ME&IE consultants are presented below.

4.8.1 Case Study of Intervention in ICT Zone

Commercial Gladiolus Farming from Rain Water in Nallah Pumped into a Storage Tank: A Replicable Success Story from Islamabad

Pakistan is becoming a fast water-scarce country for farming. The realization of due importance of the issue is now present among high-ups at planning, policy and agricultural research & development (R&D), various ministries and allied department levels. Farmers in Islamabad Capital Territory (ICT) largely depend on erratic rainfall, and not taking place at stages of crop growth. Therefore, considerable amount of this water is not used for farming purposes and it is finally drained into streams and nallahs. To tackle this long-prevailing issue, under Prime Minister of Pakistan's National Agriculture Emergency Program, the 2nd phase of National Program for Improvement of Watercourses (NPIWC-II) was launched to enhance farming households' income from crop sector. The improvement of water courses, construction of storage tanks and provision of laser land levelers are its salient component.

ICT farmers' cropping patterns are mainly household food and animal feed securities oriented. Wheat is their prime rabi crop, while in kharif, maize, sorghum and millet are sown as dual-purpose (grain + fodder) crops. Fruits and vegetables are optional --- if grown, then mostly consumed locally.

ME&IE Consultants visited a farm in ICT Zone growing cut flowers (*Gladiolus*) at commercial Level (Figure 4.64)



Figure 4.111: View of Water Storage Tank Source of Water for Irrigation of Gladiolus Farm

The Context

In Pakistan, the demand for cut-flowers has been recently grown tremendously. Wedding, birthday parties, religious gatherings, shrines *Sufi* saints, meetings/lectures/seminars/conferences, receiving guests at airports and other social gathering are incomplete without floral decoration. Cut-flower demand has also greatly increased in small cities like Islamabad for their use in hotels, meetings and the functions of schools, colleges and universities.

The rose, jasmine and other ornamental flowers' cultivation is generally confined to peri-urbans of big cities. In Punjab, there are four major flower wholesale markets located at Pattoki, Saggian, Theengmor and Tibba Sultanpur. Being famous for flowers farming and their highly competitive marketing, Pattoki city of Kasur district is known as "City of Flowers".

Gladiolus is a Garden Flower Grown for its use in Ornamental Purposes. It is also one of the Top Five Internationally Traded flowers.

- ❖ Gladiolus bears an economic and aesthetic value for its special look and unique elegance.
- ❖ Its sticks are widely used in bouquets, flower arrangements, artistic garlands, etc.
- ❖ In international trade it is 4th most traded flower, while in Pakistan, it ranks 2nd after rose cut follower, in consumer preferences and domestic flower sales.

- ❖ Its is available in different colors like white, creamy white, light purples, orange, contrast marking, orange, pink, red, etc.
- ❖ It grows well in well drained loamy soils having sufficient organic matter at ridges with inter-plant distance of 6 to 8 inches. About 60 thousand plants can be easily grown at one acre land.
- ❖ It requires 10-12 hours long full exposure to clear sunlight free from fog or frost.
- ❖ The tropical climate plains of Punjab and rainfed Pothwar including Islamabad are best suited to its commercial farming.
- ❖ It blossoms from October to March in Plains and June to September in hilly areas.
- ❖ Aphids, thrips, cutworm, mites and maggots usually attack the plant. Corm rot is its one of the high damage causing diseases. For their control, local agricultural extension and/or plant protection personnel of the area may be consulted.

Glad-Farming Prospects in Islamabad

Gladiolus is a flower of sub-tropical and temperate climatic condition. Well-drained sandy loam and loamy soils, rich in organic matter and pH 6.0 to 6.5 are ideal for its healthy growth and higher yields. However, it is highly sensitive to frost condition. The climate of Islamabad is also humid sub-tropical with four seasons: Very pleasant spring prevails in March-April; hot summer ranges from May to August; cold winter span is from November to February; monsoon season is from June to September, with heavy

rainfalls and evening thunderstorms. Hence, climatic conditions of Islamabad grossly suit to Gladiolus farming by practicing proper crop management practices.



Figure 4.112: Gladiolus Flowers

OFWM Department Explored Suitable Sites

The OFWM Islamabad project activities are consisting of exploring suitable sites for gainful harvesting of rain water for crop and livestock farming purposes in the region. In site searching and selection process, the project team approached a progressive farmer Mr. Raja Zaheer Akhtar from Phulgran village for convincing him to invest in constructing water storage tank.

On appreciation of OFWM department Islamabad, Raja Zaheer agreed to construct a water storage tank by installing a lift-pump for pumping water from nullah flowing along one of the parcels of his farm. After necessary departmental processes & procedures, he was able to get this water for irrigating his field. The OFWM Department also monitored the farming activities at newly created parcels of their project sites, as per their activity plans.

The Success Story of Raja Zaheer Akhtar

In 1st week of January 2022, the Team of ME&IE Consultants NPIWC-II along with Mr. Gufran Memon, Deputy Director, OFWM Islamabad Office visited Raja Zaheer Ahmad's farm to examine/ monitor the farming activities in post-water tank construction period in terms of changes in cropping patterns, impact on crop yields, income, food and food security, etc. The team was surprised to see that contrary to a priori expectations about shifting to fodder and/or vegetables farming, he was found successfully growing gladiolus as cut-flower for selling flower market at Banni Chowk, Rawalpindi and Islamabad cut-flowers/bouquet sellers.

On probing for this amazing development, Raja Zaheer told that in the first season, he was shift to cultivating fodders for livestock and vegetables for self-consumption and/or selling to nearby roadside market

by using this newly created irrigation water facility. He planted off-season tomatoes for which he has also constructed a tunnel. "I was failed due to lack of due experience in vegetables farming, lack of knowledge about supply patterns to be adopted for tunnel tomatoes –meaning when to market" – he said.

On advice of one his friends associated with cut-flower business in Lahore Raja Zaheer switched to plantation of Gladiolus on his farm. His friend advised, convinced and helped him in establishing his contacts in the Rawalpindi flower market. Also, he helped him by arranging a laborer from Pattoki flowers farming area for managing his Gladiolus fields. This laborer is getting Rs.20,000/= per month plus meals - the highest in the area. Following the advice of his, in the very next season, Raja Zaheer planted 15 thousand Gladiolus bulbs on 6 kanal parcel of located alongside of the nullah. In the very first year, his income from this parcel was 20 times compared to the income from crops like fodders and/or vegetables. He has applied little Farm Yard Manure, 1 bag of DAP, 1 bag of Urea and sprays.

During conversation, he also said that before this opportunity, he was growing wheat, barley, maize, sorghum, millet, etc. His prevailing yields from this parcel were about 20 maunds of wheat, 80-100 maunds of fodders and 20 maunds of maize.



Figure 4.113: Gladiolus Supplied in Market

4.8.2 Case Study of Intervention in Punjab

A JOURNEY OF CULTIVABLE WASTE TO A GREEN FIELD

“Gone are the days now when there were conflicts on water thefts and inequitable distribution of water. Farmers are now quite happy and satisfied with the rehabilitation of water courses which have increased the irrigation rate of the lands and elevated the yields of the crops.”

Mr. Amanat Ali, Share Holder on WC 45316-L, Chak No.3, Bhai Kot, Pattoki, Kasur

Mr. Amanat Ali is a traditional farmer of Chak no. 3 Bhai kot, Tehsil Pattoki, District Kasur. He inherited from his parents a piece of land measuring 12.5 acres. He has been involved in farming operations since his childhood. His farm area is located in the middle of a water course and has saline ground water, unfit for cultivation of crops.

The brief profile of the watercourse and respondent is given below and pictorial view of meeting with farmer is given as **Figure 4.67**.

Brief Profile of Watercourse and Respondent

Name of Respondent	Mr. Amanat Ali S/O Gohar Ali
Watercourse ID	45316- L
Address	Chak No.3,Bhai Kot,Pattoki,Kasur
WUA Chairman	Muhammad Junaid Iqbal
WC Type	Additional
Status of WC	ICR-II
Sanctioned Lining Length	232 m
Total Length	8589 m
CCA	729 acres
Financial Year	2021-22
Farm Area	12.5 acres
Cultivated Area	10 Acres
Culturable Waste	2.5 acres up till kharif 2021



Figure 4.114: Mr. Muhammad Zubair FTI ME&IE Consultants Questioning Mr. Amanat Ali

As per statement of Mr. Amanat Ali, he previously used to grow few crops mainly depending upon rainfall because of lack of irrigation water facilities. He was able to cultivate only 10 acres, whereas 2.5 acres were culturable waste (view of farm is given as Figure 4.38). He used to grow some barani crops dependent on rainfall, as underground water is also brackish/saline canal water was inefficient to irrigate due to many reasons like:

- Unlined (Katcha watercourses)
- Water theft
- Influential Peoples on head of Watercourses
- Wara Bandi Problems

Strategy:

In pursuit of suitable technology to cultivate his barren land with limited water resources, Mr. Amanat Ali did research, discussed with his fellows, and visited OFWM Department. He discovered that farmers are being benefited from Cemented (improved) watercourses, such improved watercourses are of precast segments in parabolic shape for proper distribution of water and overcome the farmers issue regarding saving water.

"Although the government is providing a subsidy of 60% of total cost, I was nevertheless, a little worried about the success of the rehabilitation program of watercourses adoption on my land" Mr. Amanat Ali further shared."

Impact:

"My wheat this year on the culturable waste land of 2.5 acres after so many years is in full bloom. This is because of canal water availability through improvement of the watercourse. Following are the obvious impacts of the watercourse improvement.

1. The problem related to water theft, reduction of pressure of influential people

and other so many small issues has been resolved.

2. With the increase in quantum of water supply his culturable waste land has been brought under cultivation.
3. The overall productivity of other areas of the farm is also expected to increase.



Figure 4.115: View of Mr. Amanat Ali's Wheat Crop

Conversion of Wasteland into Water Storage Tank for Commercial Purposes

A farmer named Muhammad Afzal had a piece of land of 12.5 acres in tehsil and district Hafizabad. His farm land was uneven and having waterlogged area in mid of his farm, being shallow. Generally, rainfall reaches there during rainy seasons and crops sown were badly damaged to the excessive water supply. On the other hand, a part of area was unable to get water supply due to shortage of water sometimes.



On the advice of OFWM department he constructed a water storage tank in this shallow land, ultimately to reduce water logging and saving water for hard times. No doubt he has to spent extra money on pumping of water for the tank to other corps. In addition to rainy water flow, he used canal water as well as tube well water for storage purposes.

Figure 4.116: View of WST



Figure 4.117: ME&IE Field Team INTERVIEWING Owner of WST for gathering information / data

This has resulted in reduction of water logging, increase in crop yields. He has also started fish farming now a day in water tank. He also intends to use some chemical to mitigate the salinity effects of saline water. The commercial activity is still at initial stages and will yield good results naturally.

The impact of intervention is highlighted as under:

Without Tank	With Tank Intervention
<ul style="list-style-type: none"> Trees from the land about 20-25 were cut. 	<ul style="list-style-type: none"> Trees sold price was compensated in construction of WST.
<ul style="list-style-type: none"> Water logging in this area due to poor drainage. 	<ul style="list-style-type: none"> Water Logging reduced significantly having proper drainage.
<ul style="list-style-type: none"> Excessive rainwater standing in cropped area, resulted in poor yields. 	<ul style="list-style-type: none"> Excessive rainwater drained out, resulted in good yield of crops.
<ul style="list-style-type: none"> No water availability during shortage of water. 	<ul style="list-style-type: none"> Availability from WST through pumpage.

The benefits are not quantifiable yet, as commercialization of WST is at initial stage. Naturally these are expected to be significant.

4.8.3 A Case Study of Intervention in Balochistan

Success Story on Pistachios Production through intervention of Water Storage Tank, NPIWC-II, UC Panjpai, District Quetta



Figure 4.118: Plants rich with Pistachio

During the current month i.e., January 2022, the ME&IE Consultant's Field Team visited the Union Council Panjpai which is Tehsil of district Quetta; it takes 1 hour, 45 minutes to travel from Quetta to Panjpai. Approximate driving distance between Quetta and Panjpai is 86 kms.

The ME&IEC field team met with Haji Mohammad Anwar Raisani s/o Haji Muhammad Nazar Raisani who was owner of 200 acres land, from which 40 acres land was being cultivated. The source of the Irrigation System was tube well. Cropping patterns in Rabi season were wheat, vegetables, fodder, caraway and in Kharif season onion, vegetables.

In 2014 farmers planted 2,200 pistachios trees on 7 acres out of 40 acres. He grafted pistachio trees. Pistachios are always purchased as grafted trees and are generally not propagated by home gardeners because the appropriate rootstocks are not commonly available. There are many genetic varieties of pistachio. The farmer grafted imported Iranian Grafts which are the most popular in the world.



Figure 4.119: Pistachio Plants

Plantation of Pistachios

Growing pistachios isn't an option for everyone because of their specific climate needs. The biggest factor to consider is the temperature, humidity, and rainfall of the area. Pistachio trees require very hot temperatures during the day and don't appreciate high humidity or wet soil. It does best in sandy, well-draining, loamy soil. Infrequent, deep watering is best. Pistachios require long, hot, dry summers and chilling in the winter, but don't tolerate ground that freezes. They require approximately 1,000 accumulative hours of temperature at or below 45° F during dormancy. The environment needs to be arid.

From 2014 to 2018, in about five years, taking care of these 2,200 trees was not less than a big challenge for the farmer; he was using a tractor tanker for watering at heavy cost to save these trees. On one spot he lost hope till the end of 2018 as the trees were not growing as per essential conditions. Trees were about to be dehydrated.

In 2019 from an information source, the farmer heard about the Project funded by the Federal Government of Pakistan; National Program for Improvement of Water Courses Phase-II (NPIWC-II). He immediately contacted OFWM staff and requested them for the provision of a Water Storage Tank. The OFWM staff visited his farm and found a feasible site with genuine requirements. The OFWM staff took immediate action and processed his case to higher authority. Finally, his case gets approved and a WST (50x50) constructed in 2019 at his land (Figure 4.42).



Figure 4.120: Location of Water Storage Tank



Figure 4.121: View of Water Storage Tank

Due to the provision of this Water Storage tank and Drip Irrigation System, the 2,200 pistachio trees survived and gave their first production of 100 kgs in the first year i.e. 2021. Before construction of WST 40% of total farm area was irrigated.

After construction of WST, 90% of total farm area is being irrigated. After construction of WST 50% of total farm area is planted twice a year (Rabi & Kharif). About 40% Labor force increased on farms after construction of WST. Food production also increased. Now farmers have better control on water supply.



Figure 4.122: Solar System for Electricity & Water Supply

Drip Irrigation System and Solar Panels

After the construction of this Water Storage Tank, the OFWM staff shared knowledge about HEIS and suggested the farmer acquire the Drip Irrigation System for his farm, as the tree of pistachio requires deep watering and this irrigation system is best for pistachio trees. The farmer then agreed to have the Drip Irrigation System installed on his pistachio farm and contributed his share and for the HEIS the farmer installed solar panels as the source of electricity at his own expense. This is another help from the

department for the farmer to enhance his cultivated area. View of meeting with the farmers is given as Figure 4.76.



Figure 4.123: ME&IE Field Team taking interview from Farmer

Pistachio tree takes approximately seven to ten years to produce the first crop; you will receive a good yield of pistachios within 15 to 20 years to reach peak production.

In 2021 the first production of these trees was 100 kg. It was a great achievement for farmers. He is too motivated from production he has set the land to graft about 800 pistachio trees more on his farm. Further, he has planned to increase his cultivable land up-to 40 acres for the plantation of more pistachio trees, grapes and figs, also he has prepared nursery tunnels and vegetation tunnels to increase his cropping pattern.

Pistachios are a type of tree nut with numerous health benefits. Pistachios are an excellent source of protein, antioxidants, and fiber. The health benefits of pistachios may include a healthy heart, weight management, prevention of muscular degeneration, and hypertension, as well as improved digestion. It can also boost blood, brain, and skin health.

The current prevailing market price, available to be purchased by the customers, is around PKR.2200-2800/kg, depending upon the quality and grades of the Pistachio. Let's assume that on the farm, the pistachio is sold at PKR.900-1200/kg and his total production on average is 42000 kgs approx. from 2200 trees, the farmer would get up to PKR.37.8 to 50.4million by selling the total production. In the open market the price of Pistachio is about PKR 2500/Kg and the expected income at open market is PKR.105 million to the customers.

The above data shows the total production of one farm, the suitable climate for farming of pistachio is in multiple districts of Balochistan and if we up the scale, pistachio can be grown in many other

provinces of Pakistan too. Using the above projected income and revenue generated from pistachio, we can estimate the total income and revenue of pistachio on the National level which can contribute to the GDP and Per capita income of Pakistan.

We must accept finite disappointment, but never lose infinite hope.
"Martin Luther King"

Work done by:

Mr. Manzoor Kasi, FTI / M&E Expert
Mis. Mah Gull Noor, M&E Officer
Mr. Hamza Qureshi, M&E Officer

A WAY FORWARD:

- It is suggested that after seeking permission from the client a help line should be installed in all provincial offices or in client's offices to help and guide farmers to resolve their issues or grievance's.
- Women should be involved in all mobilization process in all phases so their views should be included.

Success Story on immense impact of Watercourse at village Archar Khan, District Jaffarabad, Division Naseerabad.

The water shortage issue and the need for effective water management is a quagmire situation and it needs to be addressed on a war footing basis in Pakistan.

It has been a momentous challenge since the creation of the country as fresh water resources have drastically dwindled during the last decade and continue at an alarming rate. It is becoming evident that application of efficient water management techniques i.e., Pakka Watercourses, Construction of Water Storage Tanks, etc., are the need of the hour as more than 90 percent water is being used for irrigation.

A watercourse is a community channel used for sharing water among shareholders through a

weekly rotation system called “warabandi”. Community watercourses are connected to farmers’ fields through a complex system of channels and ditches. Water losses in watercourses are estimated at 40 percent, mainly through spillage, seepage, side leakage, evaporation etc. which result in significant shortage of irrigation water at the farm level, particularly in tail reaches that compel the farmers to use groundwater for irrigation purpose.

As a matter of fact, the groundwater is not fit for irrigating crops in most areas of Balochistan and causing degradation of productive/fertile soils. To minimize the water loss and improve the conveyance efficiency at the farm level, watercourse lining becomes the most feasible solution as it helps to improve conveyance efficiency up to 80 percent along with other benefits.

The OFWM wing of the Agriculture Department, Balochistan has initiated the NPIWC-II activities in 2019 and completed the targets of two financial years i.e., 2019-20 and 2020-21 successfully till to-date. The schemes of F.Y. 2021-22 are under progress. The staff of OFWM, Balochistan are working hard to complete all interventions under the supervision of the worthy Director General, OFWM, Balochistan in stipulated time period.

The improvement of watercourses is a community driven activity that is being undertaken through participatory approach with active involvement of Water Users Associations (WUAs), organized and registered on each watercourse. This community-based development model is helping the poor and small landholders to improve their living standards.



Figure 4.124: The members of WUAs and other Community Peoples Sharing their Point of View on benefits / impacts of Watercourse under NPIWC-II.

The community of village Archer Khan, district Jaffarabad were facing huge water losses due to seepage, side leakage and spillage for a long time and experiencing acute water shortage at their farms as they were unable to use groundwater because of its extremely poor quality for irrigation.

In this scenario farmers of Archar Khan village were demanding Watercourse under NPIWC-II to address this issue. There were 7 shareholders and irrigating the command area of about 50 acres. The problem was aggravated due to heavy losses of water due to kacha watercourses. It was extremely difficult to irrigate all fields as per the need.

While searching for a solution, the community learnt about the government facility for watercourse improvement and approached the OFWM staff for rescue. The OFWM staff suggested the farmers construct a watercourse for smooth flow of water to all the fields in the entire command area.

The OFWM, Balochistan approved a Watercourse under F.Y. 2019-20 under National Program for Improvement of Watercourses in Pakistan, Phase-II in the name of Dost Ali as per their demand / need after feasibility of the scheme. Given the severity of the issue, the community availed the facility being provided by the Balochistan Government which has made their lives better.

“Before the improvement of watercourse, only two (2) acres out of twelve (12) acres were irrigated but now five (5) to six (6) acres are being irrigated easily with same warabandi time”,



Figure 4.125: Mr. Dost Ali (Chairman WUA) and the Shareholders of the WC sharing benefits of improved watercourse. He added that “conflicts/disputes have also been reduced significantly”.

Other members of the Water Users Association, shared excitedly that “before improvement, majority of the farmers of this village used to

irrigate their lands by lifting the canal water with kacha water course; they had to spend a lot of time irrigating their crops. now their input cost has been reduced and they are getting more net profit per acre”.



Figure 4.126: The M&E Team member taking interview / information from Famers and Shareholders

Mr. Dost Ali said that improved watercourse enabled us to irrigate about 50 % more land with the same quantity of water. It also helped us to save labor expenses as 10-15 workers were required for irrigation before improvement of the watercourse. Now one worker is enough for the purpose. He further shared that “another major benefit is better crops with canal water as groundwater is not fit for the growth of crops and causes lower yields. Before water- course improvement, the shareholders quit growing rice due to water shortage and the land of some farmers had become almost barren owing to shortage of water but now they have not only started to grow Rice, but their wheat and other crops’ yield has also been doubled.

Work done by:

Mr. Tariq Khoso, M&E Expert / FTI
Mr. Saleem Abro, M&E Officer

CHAPTER 5: ISSUES / BOTTLENECKS

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

- Non availability of Technical Sanctions of the watercourses required for baseline survey
- Due to delay in approval of Monitoring Tools could not be able to move field teams on time (as per work plan) for the Baseline and Monitoring Surveys
- Non-availability of complete up-to-date inventory / data of all interventions from the Client, Provincial Agricultural Departments & NWMC (NESPAK) till to date.
- Due to non-availability of NWMC (NESPAK) deliverables/reports, ME&IE Consultants are facing hurdles to evaluate working of NWMC. In this regard the cooperation of NWMC and respective Directorates is required.

ANNEXES A to I

ANNEX - A: TENTATIVE WORK PLAN FOR QUARTER (JAN-MAR 2022)

ANNEX-A: TENTATIVE QUARTERLY WORK PLAN (APRIL 2022 – JUNE 2022)

TENTATIVE WORK PLANNED FOR THE QUARTER (April 2022 To June 2022)													Legend			
														Activity starts	↓	
														Activity Ends	↓	
														Activity Span	---	
No.	ACTIVITIES				3 Months-Year 2022 (Weeks)											
					April				May				June			
					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	Preparation for 2nd-Phase Baseline Survey (Finalization of MTs)			↓	---		↓								
	1.2	Internal Meetings of ME&IE Consultants' Zonal Offices for development of Methodology for 2nd Phase Baseline Survey			↓	---		↓								
	1.3	Training of Field Staff for 2nd-Phase Baseline Survey				↓	---	↓								
2	Field Activities															
	2.1	Regular Monitoring of Interventions in the Field			↓	---	---	---								
	2.2	Data collection of the interventions in the field			↓	---	---	---								
	2.3	Baseline Survey stage - 2			↓	---	---	---								
	2.4	Online data entry in android based application			↓	---	---	---								
3	ICT Assignment															
	3.1	Development / Improvement of website of NPIWC-II			---	---	---	---								
	3.2	Monitoring online data collection and Data entry			---	---	---	---								
	3.3	Monitoring Android based Mobile Application under implementation by field staff.			---	---	---	---								
	3.4	Data collection of interventions in MIS/GIS database			---	---	---	---								
	3.5	Data Cleaning, Development & Launching of Dashboard for Client Offices			---	---	---	---								
4	Coordination															
	4.1	Meetings of TL with NPC and OFWM Departments regarding Project Progress / Issues			---	---	---	---								
	4.2	Meeting of DTLs with respective DTL of PC & concerned OFWM Departments			---	---	---	---								
	4.2	ME&IE Consultants Internal Meetings			---	---	---	---								
5	Deliverable															
	5.1	Monthly Monitoring Report			↓	---	↓	---	↓	---	↓	---	↓	---		
	5.2	Quarterly Monitoring Report (January-March 2022)			↓	---	↓	---								
	5.3	Preparation of Baseline Survey Report 2nd-Phase									↓	---	---	---		

ANNEX - B: MATRIX OF RESPONSIBILITIES

MATRIX OF RESPONSIBILITIES

LEGEND	
●	Primary Responsibility
○	Secondry Responsibility
○	Assistance

SR. NO.	DELIVERABLE / ACTIVITIES	NPC-FPMU	Agriculture Dept. (JOEWM)	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

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

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
C2: Watercourses Improvements	Improvement of 47,278 watercourses on cost sharing basis: 40% farmers in terms of labour, and 60% funded by project.	a) Establishment of 47,278 Water users' 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: <ul style="list-style-type: none"> • Precast concrete parabolic lining (PCPL) segments, or • Rectangular brick masonry, or 	a) 47,278 WCAs established; b) 47,278 WCAs registered; c) 47,278 watercourses improved and lined;	a) Conveyance losses for improved 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	a) Increase in cropping intensity on 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%	a) Increase in farm income; b) Increase in employment for farm labour; c) Reduction in poverty; d) Enhanced food security for the country.	a) The water flow measurements will be carried 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: <ul style="list-style-type: none"> • Cropping pattern before and after the improvement; • Cropping intensities before and after improvement;

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
		any other method as approved by the project					<ul style="list-style-type: none"> • Before and after crop yields; • Before and after employment; <p>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.</p>
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	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	a) More area irrigated b) Increased cropping intensities	a) Increased crop yields b) Increased total crop output quantum c) Increased farm income	a) 2-5% sample of WSTs will be surveyed b) A data collection form will be designed to measure water

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
		b) They agree to contribute 40% of the cost c) Agree to first construct the tank with his/her own funds and then received subsidy at 40% on issuance of FCR		critical stages of the crops c) Flexibility achieved for irrigation		d) Increased farm employment	saving due to WSTs c) The forms used for baseline and 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	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	a) Water application efficiency increased at field level; b) Even germination of seed. c) Field application losses reduced by 10	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

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
	50% by the project.			by 11,610 units.	percentage points d) Water productivity increased by 24%		agriculture sample surveys. b) 2-4% sample units will be visited by ME&IE Consultants teams after one years of delivery c) The unit will be verified d) Area treated during the year will be collected e) Farmers' feedback collected on quality of the unit, quality of the after-sale service, etc.

ANNEX - C: 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 - D: WATERCOURSE DATA COLLECTION SUMMARY - AJK

AJK Zone - Watercourses Data Collection Summary											
Division	District	2019-20		2019-20 Total	2020-21		2020-21 Total	2021-22		2021-22 Total	Overall Total
		Completed	Under Progress		Completed	Under Progress		Completed	Under Progress		
Muzaffarabad	Muzaffarabad	20	8	28	12	30	42	0	31	31	101
	Jhelum	1	1	2	12	6	18	0	11	11	31
	Neelum	0	1	1	7	25	32	1	8	9	42
Muzaffarabad Total		21	10	31	31	61	92	1	50	51	174
Poonch	Poonch	11	1	12	11	1	12	4	17	21	45
	Bagh	12	1	13	5	2	7	0	10	10	30
	Haveli	1	1	2	3	1	4	0	11	11	17
	Sudhnoti	6	0	6	7	3	10	0	21	21	37
Poonch Total		30	3	33	26	7	33	4	59	63	129
Mirpur	Mirpur	15	0	15	35	0	35	2	35	37	87
	Bhimber	8	3	11	46	2	48	11	31	42	101
	Kotli	10	1	11	7	7	14	0	17	17	42
Mirpur Total		33	4	37	88	9	97	13	83	96	230
Overall		84	17	101	145	77	222	18	192	210	533

ANNEX - E: WATER STORAGE TANK DATA SUMMARY - AJK

AJK Zone - Water Storage Tank Data Summary

Division	District	2019-20		2019-20 Total	2020-21		2020-21 Total	2021-22		2021-22 Total	Overall
		Completed	Under Progress		Completed	Under Progress		Completed	Under Progress		
Muzaffarabad	Muzaffarabad	35	0	35	40	15	55	3	27	30	120
	Jhelum	1	0	1	4	3	7	0	8	8	16
Muzaffarabad Total		36	0	36	44	18	62	3	35	38	136
Poonch	Poonch	8	0	8	19	0	19	5	30	35	62
	Bagh	3	0	3	14	0	14	1	14	15	32
	Haveli	0	0	0	2	0	2	0	26	26	28
	Sudhnoti	2	2	4	6	2	8	0	15	15	27
Poonch Total		13	2	15	41	2	43	6	85	91	149
Mirpur	Mirpur	0	0	0	1	0	1	0	16	16	17
	Bhimber	1	0	1	2	0	2	0	25	25	28
	Kotli	1	0	1	11	1	12	0	8	8	21
Mirpur Total		2	0	2	14	1	15	0	49	49	66
Overall		51	2	53	99	21	120	9	169	178	351

ANNEX - F: WATERCOURSES DATA SUMMARY - KP

KP Zone - Watercourses Data Summary									
Division	District	2019-20	2020-21		2020-21 Total	2021-22		2021-22 Total	Overall
		Completed	Completed	Under Progress		Completed	Under Progress		
Bajaur Agency	Bajaur	3	17	0	17	0	0	0	20
Bajaur Agency Total		3	17	0	17	0	0	0	20
Bannu	Bannu	38	15	0	15	0	0	0	53
	Lakki Marwat	34	22	0	22	0	0	0	56
	N.W Agency	2	3	0	3	0	0	0	5
Bannu Total		74	40	0	40	0	0	0	114
Dera Ismail Khan	Dera Ismail Khan	419	0	0	0	22	14	36	455
	Tank	12	11	0	11	16	0	16	39
Dera Ismail Khan Total		431	11	0	11	38	14	52	494
Hazara	Abbottabad	7	9	0	9	0	0	0	16
	Battagram	15	10	0	10	0	0	0	25
	Haripur	17	12	0	12	0	0	0	29
	Kohistan	8	10	0	10	0	0	0	18
	Mansehra	34	12	1	13	1	0	1	48
	Torghar	2	3	0	3	6	0	6	11
Hazara Total		83	56	1	57	7	0	7	147
Khyber Agency	Khyber	6	13	0	13	0	0	0	19
Khyber Agency Total		6	13	0	13	0	0	0	19
Kohat	Hangu	29	4	0	4	0	0	0	33
	Karak	17	19	0	19	0	0	0	36
	Kohat	52	18	0	18	0	0	0	70
Kohat Total		98	41	0	41	0	0	0	139
Kurram Agency	Kurram	1	5	0	5	2	0	2	8
Kurram Agency Total		1	5	0	5	2	0	2	8
Malakand	Buner	16	14	0	14	0	0	0	30
	Chitral	12	29	0	29	0	1	1	42
	Lower Dir	21	24	0	24	0	1	1	46
	Malakand	27	18	0	18	0	2	2	47
	Shangla	19	6	0	6	4	1	5	30

KP Zone - Watercourses Data Summary									
Division	District	2019-20	2020-21		2020-21 Total	2021-22		2021-22 Total	Overall
		Completed	Completed	Under Progress		Completed	Under Progress		
	Swat	67	58	0	58	0	1	1	126
	Upper Dir	15	12	0	12	0	0	0	27
Malakand Total		177	161	0	161	4	6	10	348
Mardan	Mardan	37	50	0	50	0	0	0	87
	Swabi	68	14	0	14	0	2	2	84
Mardan Total		105	64	0	64	0	2	2	171
Mohmand Agency	Mohmand	4	26	0	26	13	0	13	43
Mohmand Agency Total		4	26	0	26	13	0	13	43
Orakzai Agency	Orakzai	0	1	0	1	0	0	0	1
Orakzai Agency Total		0	1	0	1	0	0	0	1
Peshawar	Charsadda	70	26	0	26	0	0	0	96
	Nowshera	28	42	1	43	0	0	0	71
	Peshawar	43	16	0	16	0	0	0	59
Peshawar Total		141	84	1	85	0	0	0	226
S.W Agency	S.W Agency	3	12	0	12	0	0	0	15
South Waziristan Agency Total		3	12	0	12	0	0	0	15
Overall		1126	531	2	533	64	22	86	1745

ANNEX - G: WATER STORAGE TANK DATA - KP

KP Zone - Water Storage Tank Data Summary							
Division	District	2019-20		2020-21	2021-22		Overall
		Completed	Under Progress	Completed	Completed	Under Progress	
Bajaur Agency	Bajaur	1	0	9	0	0	10
Bannu	Bannu	2	0	2	0	0	4
	Lakki Marwat	10	0	8	0	0	18
	North Waziristan	0	0	8	0	0	8
Dera Ismail Khan	Dera Ismail Khan	71	0	0	5	0	76
	Tank	10	0	6	0	0	16
Hazara	Abbottabad	0	0	0	0	1	1
	Abottabad	4	0	5	0	0	9
	Battagram	6	0	16	0	0	22
	Haripur	7	0	6	0	1	14
	Kohistan	3	0	6	0	0	9
	Mansehra	5	0	8	0	0	13
					2	0	7
Khyber Agency	Khyber	1	0	9	0	0	10
Kohat	Hangu	14	0	0	0	0	14
	Karak	13	0	16	0	0	29
	Kohat	2	0	1	0	0	3
Kurram Agency	Kurram	1	0	1	0	0	2
Malakand	Buner	4	0	12	0	0	16
	Chitral	4	0	2	0	0	6
	Dir Lower	3	0	4	0	0	7
	Dir Upper	6	0	8	0	0	14
	Malakand	7	1	5	0	2	15
	Shangla	8	0	6	3	0	17
	Swat	42	0	51	0	0	93
Mardan	Mardan	9	0	7	0	1	17
	Swabi	7	0	2	0	0	9
Mohmand Agency	Mohmand	1	0	36	4	0	41
Orakzai Agency	Orakzai	0	0	2	0	0	2
Peshawar	Charsadda	13	0	0	0	0	13
	Nowshera	14	0	17	0	0	31
	Peshawar	9	0	8	0	0	17
South Waziristan Agency	South Waziristan	0	0	15	0	0	15
Overall		280	1	278	14	5	578

ANNEX - H: PICTORIAL VIEWS OF DASHBOARD TRAININGS IN KP

Dashboard Training (NPIWC-II) at Abbotabad KP



Dashboard Training (NPIWC-II) at Dera Ismail Khan KP



Dashboard Training (NPIWC-II) at Peshawar KP

