



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

Monitoring, Evaluation and Impact Evaluation (ME&IE) Consultants

For

National Program for Improvement of Watercourses in Pakistan Phase-II (NPIWC-II)

MONTHLY MONITORING REPORT
AUGUST 2021

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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, "Monthly Monitoring Report for the month of August 2021" is comprising of six chapters.

Chapter-1 describes the project introduction in detail. The Government of Pakistan is implementing a project entitled "National Program for Improvement of Watercourses in Pakistan Phase-II" (NPIWC-II) at a total cost of PKR 154,542.355 million (Umbrella PC-I 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 of 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 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 covers the details about the Monthly Monitoring Report. This Eighth (8th) Monthly Monitoring Report (MMR) covers the period from August 01, 2021 to August 31, 2021.

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

- Routine Monitoring of Interventions
- Meetings with Client / Stakeholders and Consultants Internal Meetings
- Data entry, Data cleaning, Data processing & data Analysis
- Regular Monitoring
- Development of web site of NPIWC-II
- Data collection of interventions in MIS/GIS database
- Meeting of DTLs with respective DTL of NWMC
- Deliverables

Chapter-5 of this report covers the details of ME&IE Consultants' activities initiated during the Third Quarter (July 1, 2021 to September 30, 2021) are listed below.

- Field Activities
- ICT Assignment
- Coordination
- Deliverables

Time span detail is mentioned in the Tentative Work Plan. **Annex-A**.

Chapter-6: of this MMR describes issues / problems faced by the consultants during the reporting period of the assignment.

Table-ES-1: Compliance Status of Tentative Work Plan (1st July to 30th September 2021)

No.	Activities Planned for the Reporting Quarter		Status
1	Pre-Field Activities:		
1.1	Training of Field Teams for Monitoring of Project Interventions		Complied
2	Field Activities:		
2.1	Regular Monitoring of Project Interventions		In progress
2.2	Data collection from OFWM Department/NWMC during Regular monitoring of Interventions		In progress
2.2	Baseline survey field visit		Complied
2.3	Data entry, Data cleaning, Data processing & data Analysis		Complied
2.4	Preparation of Draft Baseline Survey Report		Under completion
3	ICT Assignment:		
3.1	Development of Website of NPIWC-II		Complied/Refinement under process
3.2	Development of Android based Mobile Application		Complied
3.3	Testing of Monitoring tools on Android based system		Complied
3.4	Data collection of interventions in MIS/GIS database		Complied
3.5	Designing of Dashboard of Project Interventions		Complied
3.6	Implementation of Dashboard		Implementation of GIS Integrated MIS Dashboard is Under Progress
4	Coordination		
4.1	Meeting of DTLs with respective DTL of NWMC		Meetings conducted on regular basis
5	Deliverables:		
5.1	Monthly Monitoring Report (MMRs)	1 st to 7 th MMR (Jan 2021 – July 2021)	Submitted
		8 th MMR (August 2021)	To be submitted on Stipulated time
5.2	Quarterly Monitoring & Evaluation Reports (QM&ERs)	1 st QM&ER (Jan-Mar 2021) & 2 nd QM&ER (Apr-Jun 2021)	Submitted
		3 rd QM&ER (Jul-Sept 2021)	Will be submitted on Stipulated time
5.3	Baseline Survey Report		Under Submission

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)	<ol style="list-style-type: none"> 1. Federal Project Management Unit (FPMU), 2. DGA OFWM Punjab 3. DG OFWM KP 4. DGA OFWM Balochistan 5. Director Irrigation and Small Dams, AJ&K 6. Director WM, GB 7. Director Agriculture Extension Services (AES) ICT
Project Period	5 Year (2019-2024)
Total Project Cost	154,542.355 million (Umbrella PC-1, 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 (CSR) 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 (PDOs) are to improve irrigation water management at tertiary and field levels in Pakistan.

1.2.2 Project Objectives – General & Quantitative

1) General Objectives:

The Project aims to replicate the success achieved

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

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

2) Quantitative Objectives:

The quantitative objectives of the Project are as under:

Project outputs

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

Project impacts

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

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

Project indirect benefits to industry/economic activities

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

Awareness support to farmers

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

1.2.3 Project Beneficiaries

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

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

1.2.4 Project Components

The NPIWC-II comprises four components.

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

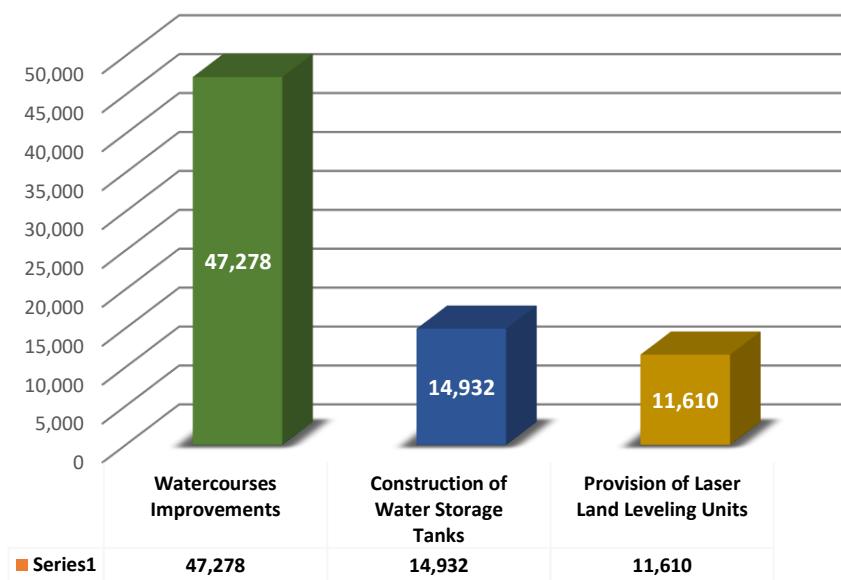


Figure 1.1: Pakistan Targets

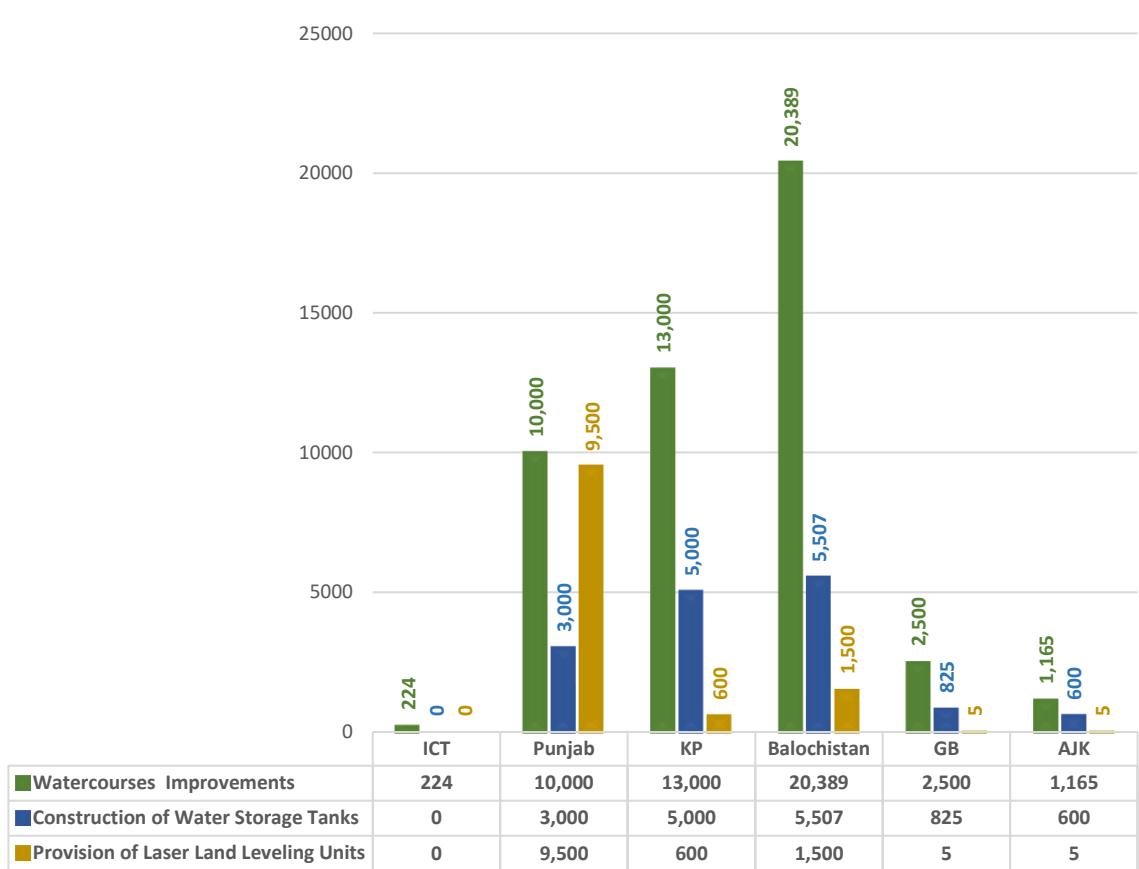


Figure 1.2: Zonal Target

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 an 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 endline 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-gradation/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 the 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. The measurements will be done through current meters.

Sr. No.	Monitoring Activity	ME&IE Team Responsible	Monitoring Strategy
			<ul style="list-style-type: none"> 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 periodically 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>
			<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.</p>
4	Community mobilization	Social and Gender Specialist and Socio-Economic Expert	<p>The extent of community mobilization will be assessed by investigating whether:</p> <ul style="list-style-type: none"> WUAs is functional Holds regular meetings and keep record of them Makes decisions democratically The participation in the organization is voluntary It is financially and administratively sustainable Takes steps and ensures maintenance of watercourses, WSTs and laser land leveler
5	Economic benefits assessment for agriculture	Team Leader, Socio- Economist and Agricultural Economist	<ul style="list-style-type: none"> As indicated at serial No. 1, Agriculture data will be collected before (baseline) and after (impact) the watercourse improvement and WSTs construction. In both the surveys same forms will be used and same sampled farmers will be interviewed Data on variables such as crop yields, irrigated area, cropping pattern, cropping intensity, farm income and employment will be collected and analyzed The difference between before and after situations minus natural growth will be assumed as economic benefits to the agriculture
6	Impact evaluation-on the economy	Team Leader, Agricultural Economist and Socio-Economic	<ul style="list-style-type: none"> The results of the baseline and impact surveys will be used to quantify impact on the economy Additional food produced due to the project will be estimated. It is benefit towards food security

Sr. No.	Monitoring Activity	ME&IE Team Responsible	Monitoring Strategy
		Expert	<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: MONTHLY MONITORING REPORT

3.1 INTRODUCTION

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

3.2 OBJECTIVE OF MONTHLY MONITORING REPORT

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

3.3 REPORTING PERIOD

This Eighth Monthly Monitoring Report (MMR) covers the period from August 01, 2021 to August 31, 2021.

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

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

CHAPTER 4: ACTIVITIES DURING THE REPORTING PERIOD

4.1 REGULAR MONITORING OF INTERVENTIONS IN THE FIELD

After completion of Baseline Survey, ME&IE consultants' survey teams started regular monitoring of Project Interventions in the field.

Teams started monitoring the field activities as per TORs of the assignment and gathering all the required data through Monitoring Tools already developed. The data is uploaded to the android-based software and is being compiled in the MIS system developed by the ICT Specialist.

All the zonal offices prepared work plans for the routine monitoring / survey activities and provided further training to field survey teams for the regular monitoring the project interventions in the field.

The regular monitoring assignments are comprised of input-output and process as defined in the Annual Work Plan / Budget and tracking of the outcomes indicators. Regular routine monitoring will look at the extent to which the proposed project activities are being implemented as planned.

4.1.1 Regular Monitoring of Interventions in the Field - ICT Zone

In the ICT region, only watercourses are being installed under NPIWC-II and currently 20 watercourses have been constructed. In AJK, watercourses as well as water storage tanks are being constructed under NPIWC-II. Schedule for Monitoring / Survey for the reporting months is as below.

4.1.1.1 Schedule for Regular Monitoring

ICT Zone Field Team scheduled the visits for monitoring survey in AJK and ICT starting from 4th August 2021. The number of units monitored in ICT Zone during reporting period is given in **Table 4.1** below:

Table 4.1: No. of Units of the Intervention Monitored during August 2021 in ICT Zone

Date	Division / Unit	Areas / Schemes
4 th August July 2021	Bhimber, AJK	Katchi
		Machia
		Machora
10 th August 2021	Islamabad Capital Territory	Arrah Payout

4.1.2 Regular Monitoring of Interventions in the Field Punjab Zone

During the reporting month, in Punjab zone, the field activities included regular monitoring of watercourses, water storage tanks. The regular monitoring of the various interventions of the project is one of the important segments of the consultant's responsibilities.

4.1.2.1 Regular Monitoring of Interventions in the Field Punjab Zone

The monitoring of activities of improvement of watercourses and construction of water storage tanks were carried out during August 2021, as a part of regular features of ME&IE consultants. The number of units monitored in Punjab zone during reporting month is given **Table 4.2**

Table 4.2: No. of Units of the Intervention Monitored during August 2021 in Punjab Zone

Sr. NO.	District	No. of Watercourses for Monitoring			No. of Water Storage Tanks	No. of Beneficiaries of WST
		Additional	Regular	Total		
1	Sub Zone 1	1	0	1	3	3
2	Sub Zone 2	2	0	2	4	4
3	Sub Zone 3	2	1	3	4	4
G. Total Punjab		5	1	6	11	11

4.1.2.2 Planning for Regular Monitoring

The planning of regular monitoring and the field activities are shown in annexure 4.1, under work plan for 1st quarter of 2021-2022 (July-September 2021).

4.1.2.3 Schedule for Regular Monitoring

Certain / minor changes are made in plan, as actual schedules are prepared with the close coordination / consultation of the field staff of OFWM department. The changes don't affect the overall objective of the plan.

4.1.3 Regular Monitoring of Interventions in the Field KP Zone

KP ME&IE Consultants' field team conducted monitoring / survey visits of WCs and WSTs in 6 (Six) districts of KP in the second round of monitoring and baseline survey. These districts include Peshawar, Nowshera, Mardan, Kohat, Abbotabad, and Mansehra. Samples were drawn from the list of WCs/WSTs for which Technical Sanctions have been issued. Two survey teams were deputed to these districts. The survey started from 2nd of August 2021. The two teams conducted the survey five days a week till 18th of August 2021. Details of monitoring / survey visits are given below.

S. No.	Name of District	Component		Total
		WC	WST	
1.	Peshawar	03	01	04
2.	Nowshera	07	03	10
3.	Mardan	03	--	03

4.	Kohat	02	--	02
5.	Abbotabad	01	--	01
6.	Mansehra	01	--	01
Total		17	04	21

4.1.4 Regular Monitoring of Interventions in the Field Balochistan Zone

The ME&IE Consultants, Balochistan conducted several activities during the reporting month i.e., August 2021. The Balochistan team accomplished the assignments and submitted all deliverables timely. The activities carried out by the Balochistan team are listed below:

- i. Analysis of watercourses F.Y. 2020-21 (Regular Monitoring/Spot Checking) monitored during the Baseline Survey.
- ii. Conducted the Regular Monitoring / Spot Checking of F.Y. 2019-20.
- iii. Data Collection from client regarding Regular Monitoring.
- iv. Attended Progress Review meeting, chaired by DG, OFWM, Balochistan.
- v. Attend different meetings with DDs at district level.
- vi. The ME&IE Consultants arranged three (03) days' workshop on the Baseline Data, MTs and six (06) months' Work Plan at National Office, Islamabad. All DTLs and Core Team members, NPIWC officials and Project Consultants participated in the meeting.

4.1.5.1 Analysis of Watercourses (F.Y. 2020-21) Regular Monitoring / Spot Checking.

The Balochistan field teams monitored 11 watercourses on sample basis in the first Baseline Survey. During the baseline field survey, the teams also carried out the activities of regular monitoring / spot checking. The purpose of these activities was to monitor the quality of work and check the status of work whether it is as per design/specifications or not.

Watercourse improvement consists of:

- i) Earthen improvement involving complete demolishing of community channel and rebuilding according to engineering design with clean compacted soil.
- ii) Installation of necessary water control structures i.e. naccas, culverts, buffalo wallows, drop structures, siphon/aqueducts etc.
- iii) Lining- the most important part of watercourse improvement carried out in reaches prone to maximum water losses.

There were two types of watercourses monitored during the baseline survey i.e., 05 Rectangular and 06 Parabolic.

The field team checked different types of indicators and found that maximum work has been done as per design/specifications. The field teams monitored 05 rectangular watercourses in different districts / tehsils. The overall work found as per design / specifications.

The removal of vegetation, Proper compaction of soil, thickness of wall, depth of watercourse, thickness of bed was found 100% okay. The water supply was adequate 100%. However, aligning, lining, free board height and back collar mortar need to be improved. The results of analysis undertaken are presented in **Figure 4.1**, which shows the % of different items checked during the field visits.

The quality of rectangular watercourses was ranked as Good (25%), Satisfactory (75%) and not

satisfactory (0%) **Figure 4.2**. It shows overall quality of work is as per mark. No work was found where quality was unsatisfactory. However, the percentage of satisfaction i.e., 75% needs to be more attention.

The results of 06 monitored parabolic watercourses indicate that water supply was adequate i.e. 100%, further lining, length, filing of joints, slope and back filling were 100% as per des design / specifications. The quality of work was also 100% satisfactory; however, removal of vegetation was found 50% which needed to be attention. Overall analysis has given in **Figure 4.3**.

The overall analysis results of all interventions will be reported in the Baseline Report.

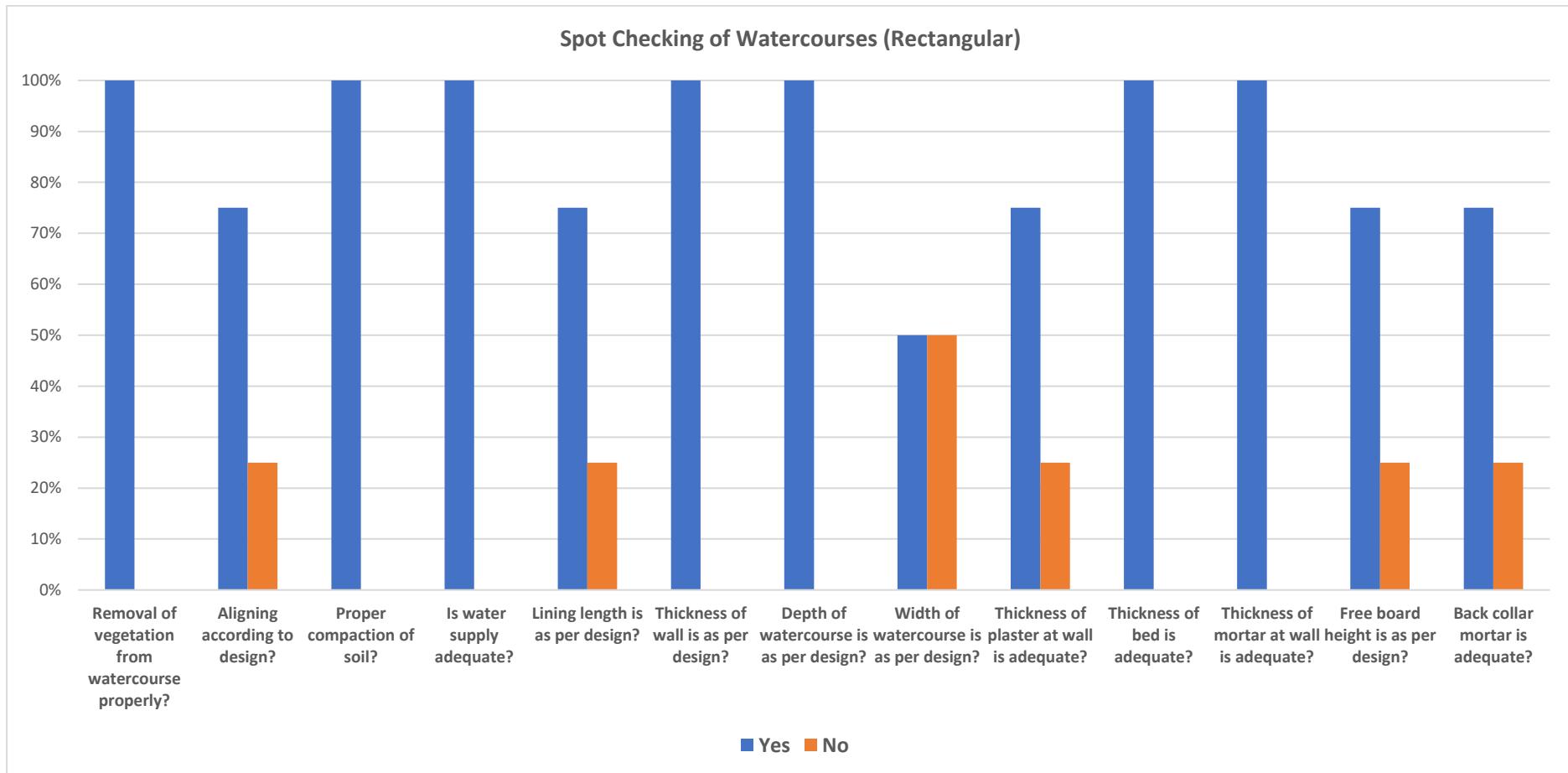


Figure 4.1: Analysis of Rectangular Watercourses Monitored during the Baseline Survey:

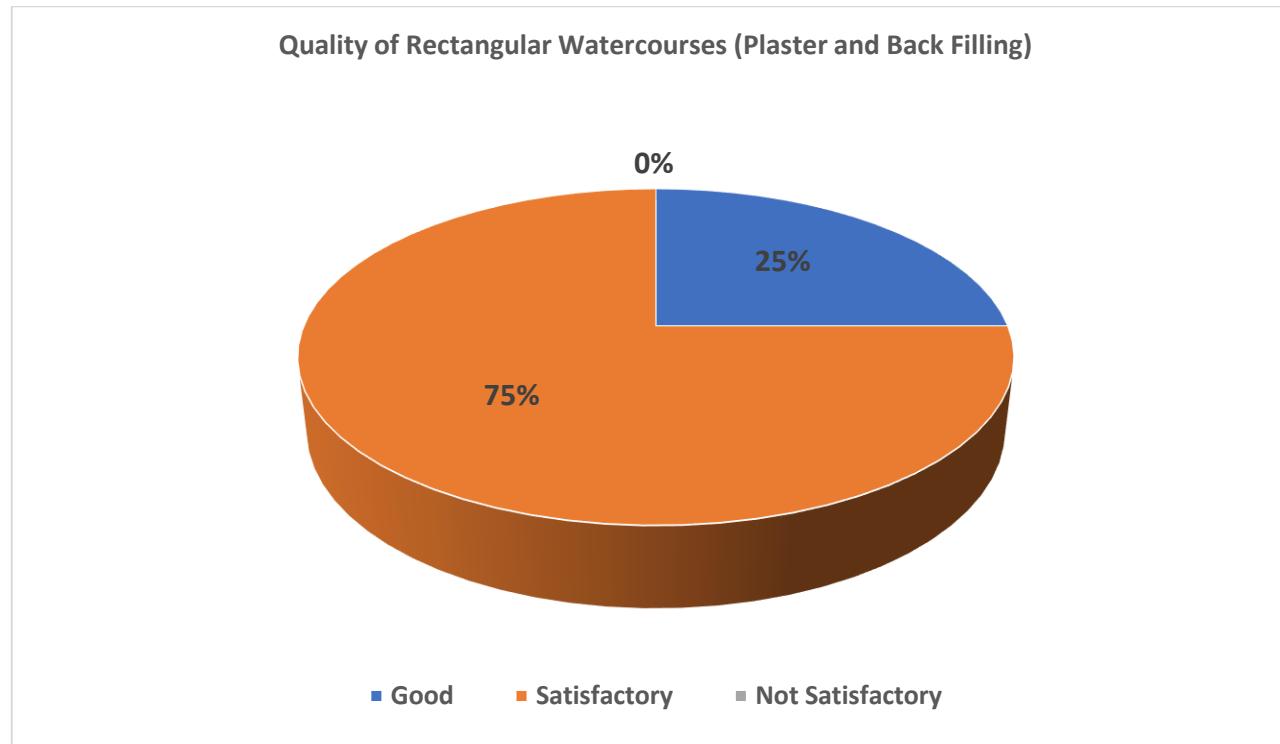


Figure 4.2: Quality of Rectangular Watercourses (Plaster and Back Filling)

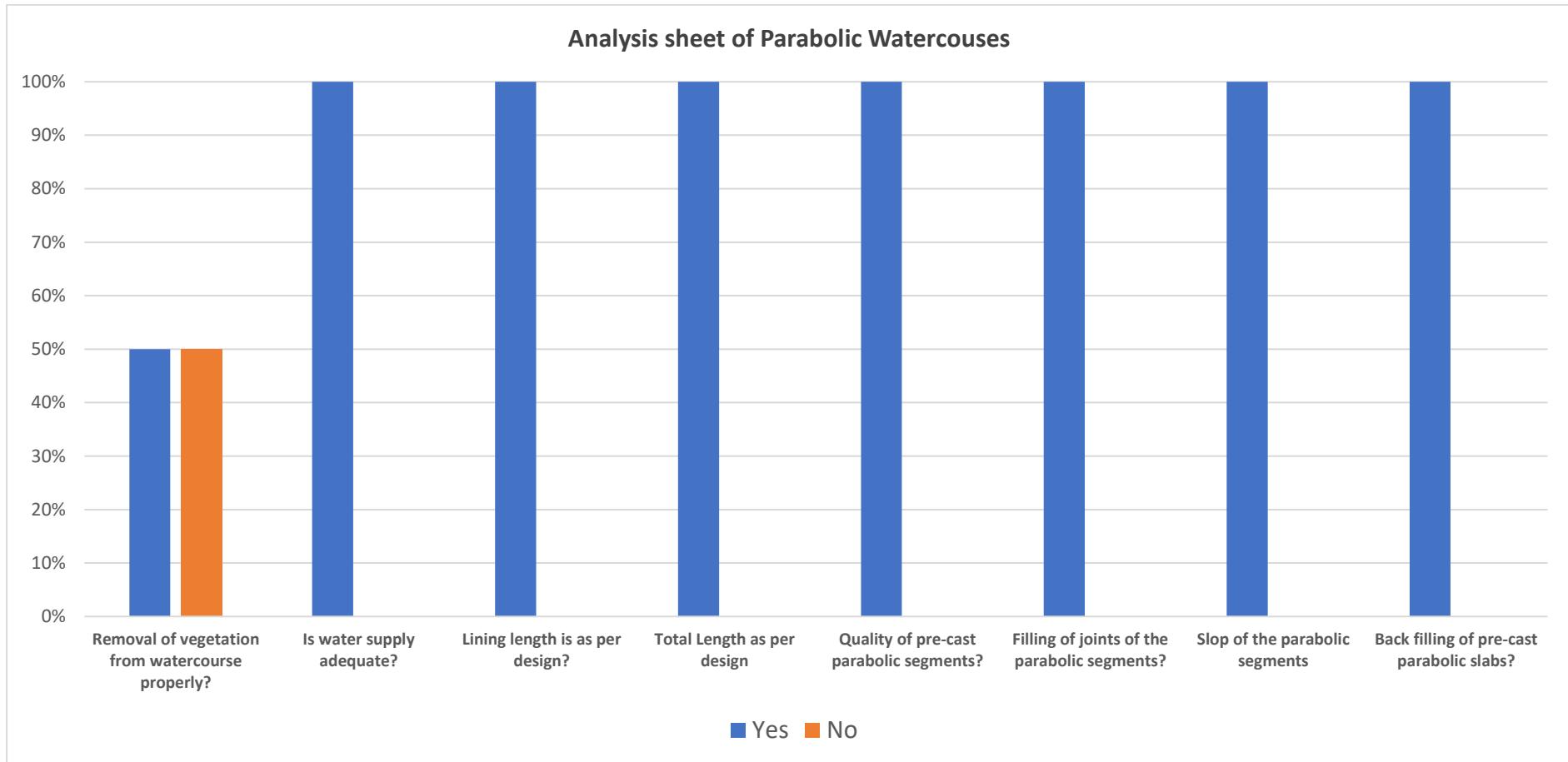


Figure 4.3: Analysis of Parabolic Watercourses Monitored During the Baseline Survey

4.2 DATA COLLECTION OF THE INTERVENTIONS IN THE FIELD

As per plan ME&IE Zonal Teams started regular monitoring of activities on project interventions. All the zonal offices conducted trainings of Field Teams for monitoring and data collection in the field. Teams were already designed and deputed as per baseline survey. Detail of monitoring activities of all the zonal offices is given below.

4.2.1 Regular Monitoring of Interventions in the Field - ICT Zone

Details of field visits / monitoring activities carried out by ICT Zonal Team are given below.

1. KATCHI - BHIMBER

Date: 4th August 2021

- Description:**

The field team of ICT visited the village "Katchi" situated in Bhimber District. PCPS type watercourse is installed there. Team thoroughly surveyed the location. Following are the details of monitoring visit.

Tehsil	Bhimber
Village	Katchi
Name of Watercourse	Katchi-2
Coordinates	N 33.0055203, E 73.8418388
No. of beneficiaries	3
Culturable Command Area (CCA)	57 Kanals
Total Number of Water Users	3
Name of Chairman	Muhammad Islam
Cropping Pattern	Kharif (Sorghum, Maize, Millet), Rabi (Wheat)
Type of watercourse	PCPS
Water Logging & Salinity	No
Warabandi System	No
Designed Discharge	42.5 LPS
Main Source of water	Tube-well
Additional Source of water	No
Date of Technical Sanction	18-03-2020
Sanctioned Cost	Rs. 322,005/-
Government's Share (80%)	Rs. 257,604/-
Farmer's Share (20%)	Rs. 64,401/-

General Details of WC at Katchi	
Province/Unit	Azad Jammu & Kashmir
Division	Mirpur
District	Bhimber

- Tenurial status, Education & Family members:**

The family is operating the whole farm and is also tenants as well. Family is well-educated.

Tenurial status, Education & Family members

Sr. No.	Farmer name	Age	Tenurial Status	Education	Family members	Location on Watercourse
1.	M Islam	55	Owner cum Tenant	Literate	8 (3 F, 5 M)	Head
2.	Qamar Shahzad	31	Owner cum Tenant	Matric	8 (3 F, 5 M)	Middle
3.	Haseeb Ullah	24	Owner cum Tenant	M.com	8 (3 F, 5 M)	Tail

- Crops Details:**

The beneficiaries are growing Maize, Sorghum, Millet, and Wheat. The complete details are as follow:

Crop details & Yield										
Name	Area Operated (Kanal)	Tenurial Status	Kharif Crops		Yield (40 Kg)		Rabi Crops		Yield (40 Kg)	
			Area (Kanal)	Crop	Per Kanal	Per Acre	Area (Kanal)	Crop	Per Kanal	Per Acre
Muhammad Islam	26	Owner cum Tenant	16 10	Maize Sorghum	4.75 4.5	38 36	26	Wheat	3.5	28
Qamar Shahzad	25	Owner cum Tenant	10 15	Maize Millet	4.75 4.375	38 35	25	Wheat	3.75	30
Haseeb Ullah	6	Owner cum Tenant	25	Maize	4.75	38	6	Wheat	3.5	28

- Social Structure & Gender:**

Female participation has been seen in this land and females take full part in farming and decisions.

Social Structure & Gender									
Name	Age	Marital Status	Education	Occupation	Heard about NPIWC-2	Participate in Decision-making?	Land Owned	WUA Member	
Nasreen Bibi	53	Married	Literate	Farming	Yes	Yes	No	No	

- Measurements of Watercourse:**

A watercourse is constructed. The length was measured using a measuring wheel and official documents were consulted for sanctioned specifications. The details and measurements of watercourse are as follow:

Measurement of WC	
Type of Watercourse	PCPS
Length of Parabolic Segment	3 Feet
Freeboard	0.22 Feet
Total Length of Watercourse (Documented)	374 Meters
Measured Total Length of Watercourse	322 Meters
Sanctioned Lining Length of Watercourse	187.5 Meters
Measured Lining Length of Watercourse	Meters

- Observations & Findings:**

- The water source is a Tube-well.
- Beneficiaries have livestock also.
- There are 3 beneficiaries having 57 Kanals of land.
- Most of the farmers are educated.
- Female participation has been seen.
- The Final Completion Report has been issued.
- The tube-well installed is double pump type.
- According to the beneficiary, fields are irrigated more quickly after the lining of the watercourse. He said that the time taken by the fields to get irrigated is 50 % less than before.
- This watercourse belongs to 1 family.
- The beneficiary also availed a government's scheme of Installation of Solar Tube-wells.
- The measurements of the Watercourse were taken, and they are little different from the design.

- The OFWM team of Bhimber is very cooperative and supportive.

2. MACHIA - BHIMBER

Date: 4th August 2021

- **Description:**

The Field Team of ICT visited the village "Machia" situated in Bhimber District for ME&IE Consultants' monitoring and baseline survey. PCPS type watercourse is installed there. Team thoroughly surveyed the location and observations are as follows. Following are the details of visit:

General Details of WC at Machia	
Province	Azad Jammu & Kashmir
Division	Mirpur
District	Bhimber
Tehsil	Bhimber
Village	Machia
Name of Watercourse	Machia-2
Coordinates	N 32.9561907, E 74.0567329
No. of beneficiaries	3
Culturable Command Area (CCA)	50 Kanals

Name of Chairman	Iftikhar Ahmad
Total Number of Water Users	3
Cropping Pattern	-
Type of watercourse	PCPS
Water Logging & Salinity	No
Warabandi System	No
Designed Discharge	28.32 LPS
Main Source of water	Tube-well
Additional Source of water	No
Date of Technical Sanction	01-10-2020
Sanctioned Cost	Rs. 409,944/-
Government's Share (80%)	Rs. 327,955/-
Farmer's Share (20%)	Rs. 819,89/-

- **Tenurial status, Education & Family members:**

The beneficiaries have hired a whole family permanently at their land. Family is educated here and mostly settled in Dubai.

Tenurial status, Education & Family members

Sr. No.	Farmer name	Age	Tenurial Status	Education	Family members	Location on Watercourse
1.	Iftikhar Ahmad	55	Owner	Literate	6 (1 F, 5 M)	Head
2.	Muhammad Saleem	52	Owner	Graduate	6 (2 F, 4 M)	Middle
3.	Ijaz Ahmad	42	Owner	Graduate	4 (2 F, 2 M)	Tail

- **Crops Details:**

The beneficiaries are growing Millet, Fodder and Wheat. They were growing fodders for their livestock. The complete details are as follow:

Crop details & Yield										
Name	Area Operated (Kanal)	Tenurial Status	Kharif Crops		Yield (40 Kg)		Rabi Crops		Yield (40 Kg)	
			Area (Kanal)	Crop	Per Kanal	Per Acre	Area (Kanal)	Crop	Per Kanal	Per Acre
Iftikhar Ahmad	20	Owner	18 2	Millet Fodder	3.5 3	22 24	18 2	Wheat Fodder	3.5 3	28 24

- Social Structure & Gender:**

Female participation has been seen in this land and females take full part in farming and decisions.

Social Structure & Gender									
Name	Age	Marital Status	Education	Occupation	Heard about NPIWC-2	Participate in Decision-making	Land Owned	WUA Member	
Razia BiBi	42	Married	Illiterate	Farming	Yes	Yes	No	No	

- Measurements of Watercourse:**

The length of constructed watercourse was measured using a measuring wheel and official documents were consulted for sanctioned specifications. The details and measurements of watercourse are as follow:

Measurement of WC	
Type of Watercourse	PCPS
Length of Parabolic Segment	4 Feet
Freeboard	0.22 Feet
Total Length of Watercourse (Documented)	304.8 Meters
Measured Total Length of Watercourse	336 Meters
Sanctioned Lining Length of Watercourse	304.8 Meters
Measured Lining Length of Watercourse	336 Meters

- All the beneficiaries are brothers. Iftikhar Ahmad takes care of the whole land. The other two beneficiaries are settled in Dubai.
- They have livestock like 7 buffalos, 6 cows and 4 goats.
- The Final Completion Report has been issued.
- Cracks were seen in the parabolic segments.
- The segments were not back-filled properly.
- The beneficiary has Permanent Hired Labors including a female and 3 males (a whole family).
- The cropping pattern in the area of Bhimber was almost the same.
- The measurements of Watercourse were taken and observed that the length of WC is more than the sanctioned length.
- The OFWM team of Bhimber is very cooperative and supportive.

3. MACHORA – BHIMBER

Date: 4th August 2021

- Description:**

The Field Team of ICT & AJK visited the village "Machora" situated in Bhimber District for monitoring and baseline survey. Water Harvesting Structure made up of clay and stone is constructed here. Team could not meet the beneficiary due to his unavailability but a thorough survey was conducted of location and observations made are as follows.

General Details of Machora	
Province	Azad Jammu & Kashmir
Division/Unit	Mirpur
District	Bhimber
Tehsil	Bhimber
Village	Machora
Name of Water Harvesting Structure	Machora
Coordinates	N 32.9542551, E 74.1371224
No. of beneficiaries	12
Culturable Command Area (CCA)	306 Kanals
Name of WUA Chairman	Sarfraz Ali
Total Number of Water Users	12
Cropping Pattern	Kharif (Millet), Rabi (Wheat), Fodder
Water Logging &	No

Salinity	
Warabandi System	No
Designed Discharge	-
Main Source of water	Rainwater
Additional Source of water	No
Date of Technical Sanction	11-11-2020
Sanctioned Cost	Rs. 897,077/-
Government's Share (80%)	Rs. 717,662/-
Farmer's Share (20%)	Rs. 179,415/-

• **Tenurial status, Education & Family members:**

The beneficiaries themselves operated their lands as tenants. People are very well-educated and cooperative in Machora. They are very fond of farming and agriculture.

Tenurial status, Education & Family members

Sr. No.	Farmer name	Age	Tenurial Status	Education	Family members	Location on Watercourse
1.	Sarfraz Ali	57	Owner cum Tenant	B.A.	5 (1 F, 4 M)	Tail
2.	M. Rafiq	55	Owner cum Tenant	Matric	8 (4 F, 4 M)	Middle
3.	Liaqat Ali	48	Owner cum Tenant	B.A.	7 (4 F, 4 M)	Head
4.	Abdul Waqas	25	Owner cum Tenant	B.A.	6 (1 F, 4 M)	Middle
5.	M. Khursheed	65	Owner cum Tenant	Matric	6 (5F, 1M)	Head
6.	Abdul Sattar	38	Owner cum Tenant	Intermediate	6 (2 F, 4 M)	Tail

• **Crops Details:**

The beneficiaries are growing Millet and Wheat. They are growing very little fodder just for their livestock. The complete details are as follow:

Crop details & Yield										
Name	Area Operated (Kanal)	Tenurial Status	Kharif Crops		Yield (40 Kg)		Rabi Crops		Yield (40 Kg)	
			Area (Kanal)	Crop	Per Kanal	Per Acre	Area (Kanal)	Crop	Per Kanal	Per Acre
Sarfraz Ali	25	Owner	25	Millet	4.75	38	26	Wheat	4	32
M Rafiq	20	Owner	20	Millet	5	40	25	Wheat	3.75	30
Liaqat Ali	30	Owner	30	Millet	4.75	38	6	Wheat	3.5	28
Abdul Waqas	20	Owner	20	Millet	4	32	20	Wheat	4	32
M. Khursheed	30	Owner	30	Millet	3.5	28	30	Wheat	3.75	30
Abdul Sattar	30	Owner	30	Millet	3.5	28	30	Wheat	3.5	28

- Social Structure & Gender:**

Female participation has been seen in this land and females take less part in farming and decisions.

Social Structure & Gender									
Name	Age	Marital Status	Education	Occupation	Heard about NPIWC-2	Participate in Decision-making?	Land Owned	WUA Member	
Azmar Bibi	45	Married	Matric	Housewife	Yes	Rarely	No	No	

- Measurements of Water Harvesting Structure:**

A water harvesting structure is constructed. It is made up of clay and then stone pitching is done. It is trapezoidal in shape. The details and measurements of water harvesting structure are as follow:

Measurement of Earth Dam of WHS	
Specification of Dam	Concrete + Stone Pitching

- Observations & Findings:**

- The water source is rainwater
- This WHS belongs to a whole family.
- Beneficiaries are well-educated.
- The farmers have a greater number of livestock including buffalos, cows, and goats.
- Female participation is less.
- The male members of the family work together, they also help each other while working in harvesting season. When one farmer is free from harvesting his crop, he and his family, who are available for farming, help the other farmers to harvest crops.
- They did not have any permanent hired labor; they did their work together.
- All the beneficiaries have almost the same crops.
- Our monitoring tools do not address Water Harvesting Structures. So, we need to consider these to update the MTs.
- The beneficiaries said that they will also submit an application for the construction of a watercourse in their area which will get water from this water harvesting structure.
- Only 2 WHS are constructed in Bhimber District and 1 in Mirpur District.

4. ARRAH - ICT

Date: 10th August 2021

- Description:**

The Field Team of ICT visited the village "Arrah" situated in Islamabad for ME&IE Consultants' monitoring and baseline survey. Underground pipeline is being installed. The beneficiary owns massive land, and he is a political personality. Team thoroughly surveyed the location and observations are as follow:

General Details of Arrah	
Province/Unit	ICT
District	ICT
Tehsil	-
Village	Arrah
Name of Watercourse	Zahid Hussain – Arrah
Coordinates	N 33.6298725 , E 73.244946
No. of beneficiaries	1
Culturable Command Area (CCA)	40 Kanals
Name of Owner	Zahid Hussain
Total Number of Water Users	1
Cropping Pattern	Kharif (Maize, Sorghum, Millet) Rabi (Wheat, Mustard)
Type of watercourse	PVC 3"

Water Logging & Salinity	No
Warabandi System	No
Designed Discharge	8 LPS
Main Source of water	Mini Dam
Additional Source of water	No

Date of Technical Sanction	-
Sanctioned Cost	Rs. 1,402,491/-
Government's Share (75%)	Rs. 1,051,868/-
Farmer's Share (25%)	Rs. 350,623/-

- Tenurial status, Education & Family members:**

The beneficiary is the owner of large land. Under the scheme, there is only 40 Kanals of land. He has permanently hired labors. The details are as follow:

Tenurial status, Education & Family members

Sr. No.	Farmer name	Age	Tenurial Status	Education	Family members		Location on Watercourse
1.	Zahid Hussain	75	Owner	Middle	8	(3 F, 5 M)	Head

- Crops Details:**

The beneficiary is growing many crops, fruits, and vegetables. On the land under scheme, he is growing Maize, Sorghum, Millet, Wheat and Mustard. The complete details are as follow:

Crop details & Yield

Name	Area Operated (Kanal)	Tenurial Status	Kharif Crops		Yield (40 Kg)		Rabi Crops		Yield (40 Kg)	
			Area (Kanal)	Crop	Per Kanal	Per Acre	Area (Kanal)	Crop	Per Kanal	Per Acre
Zahid Hussain	40	Owner	20	Maize	4.75	37	20	Wheat	3.5	27
			10	Sorghum	4.5	35	20	Mustard	2.5	20
			10	Millet	2.75	22				

- Measurements of Installed Pipeline:**

The PVC pipe of 3 inches has been used at Arrah. Also, GI Pipe (80 mm) and sluice valve (75 mm) is used. The details and measurements of watercourse are as follow:

Measurement of WC	
Sanctioned Length of Watercourse	650 Meters
Measured Length of Watercourse	696 Meters

- Measurements of Water Storage Tank:**

A water storage tank is being constructed along with the pipelines. It is circular in shape. Water is pumped up from the dam and stored in the WST, then it is distributed along the field via distribution channels. The beneficiary also owns 1 more water storage tank.

Observations & Findings:

- The WC, WST & Land is owned by a single person i.e., Zahid Hussain.
 - The concept of WUA is unknown to the beneficiary.

- Landowner is well-established and he and his brothers own a large land i.e., more than 400 Kanals.
- He grows different vegetables (potato, tomato, bitter gourd) and fruits (pear, plum, Loquat, apple, oranges).
- He also has livestock.
- The water source is a Mini Dam which stores rainwater.
- The watercourse is completed and FCR has been issued
- There are WSTs along with the WCs in ICT. But according to PC-1, ICT consists of only WCs.
- Length of WC was more than the sanctioned length and beneficiary himself paid the expense for the construction of extra length.

- **Challenges:**

- Due to the rainy season, there is massive unnecessary vegetation on the land, and team faced difficulty in measurements.
- The OFWM staff is not sharing the data / documents with ME&IE field team for verification of data like date of TS, sanctioned cost, designed discharge, sanctioned length of pipeline, size of WST etc. We need the documents of OFWM for the authentic and verified data.

5. PAYOUNT - ICT

Date: 10th August 2021

- **Description:**

The Field Team of ICT visited the village "Payount" situated in Islamabad for monitoring and baseline survey. Underground pipeline is being installed. The main beneficiary is settled in Dubai and his nephew is taking care of fields. Team thoroughly surveyed the location and observations are as follow:

General Details of Payount	
Province/Unit	ICT
District	ICT
Tehsil	-

Village	Payout
Name of Watercourse	M. Hakeem Khan – Payout
Coordinates	N 33.6928138, E 73.3218476
No. of beneficiaries	1
Culturable Command Area (CCA)	25 Kanals
Name of Owner	Muhammad Hakeem Khan
Total Number of Water Users	1
Cropping Pattern	Kharif (Maize, Millet) Rabi (Wheat, Mustard)
Type of watercourse	PVC 3"
Water Logging & Salinity	No
Warabandi System	No
Designed Discharge	8 LPS
Main Source of water	Naala
Additional Source of water	No
Date of Technical Sanction	-
Sanctioned Cost	Rs. 1,330,671/-
Government's Share (75%)	Rs. 995,004/-
Farmer's Share (25%)	Rs. 332,668/-

- **Tenurial status, Education & Family members:**

He is settled in Dubai and his nephew takes care of the land. Under the scheme, there are 25 Kanals of land. He has permanently hired labors. The details are as follow:

Tenurial status, Education & Family members

Sr. No.	Farmer name	Age	Tenurial Status	Education	Family members	Location on Watercourse
1.	Muhammad Hakeem Khan	63	Owner	Intermediate	7 (1 F, 6 M)	Head

• **Crops Details:**

The beneficiary is a new owner of this land and has not started the cultivation yet. He plans to grow Maize, Millet, Wheat and Mustard. He has more land in the same village, but it is not under this intervention. The complete details are as follow:

Crop details & Yield

Name	Area Operated (Kanal)	Tenurial Status	Kharif Crops		Yield (40 Kg)		Rabi Crops		Yield (40 Kg)	
			Area (Kanal)	Crop	Per Kanal	Per Acre	Area (Kanal)	Crop	Per Kanal	Per Acre
Muhammad Hakeem Khan	25	Owner	15 10	Maize Millet	3.75 2.5	30 20	20 5	Wheat Mustard	3.125 2.25	25 18

• **Social Structure & Gender:**

Less female's participation is seen in this land and females rarely take part in decision making but are not involved in farming.

Social Structure & Gender

Name	Age	Marital Status	Education	Occupation	Heard about NPIWC-2	Participate in Decision-making?	Land Owned	WUA Member
Mumtaz Bibi	52	Married	Primary	Housewife	Yes	Rarely	No	No

• **Measurements of Installed Pipeline:**

The PVC pipe of 3 inches has been used at Payout. Also, GI Pipe (80 mm) and sluice valve (75 mm) is used. The details and measurements of watercourse are as follow:

Measurement of WC		
Sanctioned Length of Watercourse		560 Meters
Measured Length of Watercourse		-

• **Measurements of Water Storage Tank:**

A water storage tank is being constructed with the pipelines. Water is pumped up Nala and stored in the WST, then it is distributed along the field via distribution channels. The details and measurements of water storage tank are as follow:

Measurement of WST	
Type of WST	Concrete
Sanctioned Size of Water Storage Tank	28 ft × 28 ft × 4 ft
Measured Size of Water Storage Tank	30 ft × 25 ft × 4 ft

• **Observations & Findings:**

- The WC, WST & Land is owned by a single person i.e., Muhammad Hakeem Khan.
- The concept of WUA is unknown to the beneficiary.
- Landowner is settled in Dubai and his nephew Mr. Zahid Khan takes care of land.
- The total land owned by him is 70 Kanals but only 25 Kanals are under this intervention.
- The beneficiary is a new owner of this land.
- He also owns livestock i.e., cattle and poultry.
- The water source is Naala.
- The land topography is uneven.
- The watercourse is not completed yet and ICR-II has been issued
- There are WSTs along with the WCs in ICT. But according to PC-1, ICT consists of only WCs.

• **Challenges:**

- Due to the rainy season, there is massive unnecessary vegetation on the land, and we find it difficult to monitor the pipeline.
- The OFWM staff is not sharing the documents with us for verification of data like date of TS, sanctioned cost, designed discharge, sanctioned length of pipeline, size of WST etc. We need the documents of OFWM for the authentic and verified data.

4.2.2 Regular Monitoring of Interventions in the Field –Punjab Zone

Monitoring activities in Punjab Zone were generally related to watercourses and water storage tank interventions.

Brief profile of water course monitored is shown along with some photographs of water courses site and brief description of water storage tanks along with glimpses of pictures is also given below.

Picture Showing Monitoring Watercourses Sites

Sub Zone 1



Collecting Coordinates from Outlet of WC No. 18759/L Tehsil Safdarabad

Sub Zone 2



Collection of Coordinates at Mogha Point

Sub Zone 3



Longitudinal View of flowing WC No. 26597/L Tehsil Multan Saddar



Measuring of Length WC No. 10200/L Tehsil
Shujabad

Monitoring of Water Storage Tank - Description and Glimpse of Picture

Water Storage Tank	
WST Owner:	Ch Arif husain Virk
Name of village:	Mirza Virkan
Union council:	Mubarak Pur
Tehsil & District:	Shiekhupura
Source of irrigation:	Tube-well
Shape of water storage tank:	Trapezoidal
Size of water storage tank:	89.95 x 89.95
Depth of WST:	6.068
Command area of water storage tank:	6.6
No of beneficiaries:	1



View of WST (Ch Arif husain Virk)

Water Storage Tank

WST Owner:	Khalil UR Rehman
Name of village:	Ittan Wali
Union council:	46
Tehsil & District:	Nankana Sahib
Source of irrigation:	Canal+Tube-well
Shape of water storage tank:	Rectangular
Size of water storage tank:	100.36 x 61.008
Depth of WST:	5.576
Command area of water storage tank:	15
No of beneficiaries:	1



View of Poor construction of WST (Khalil UR Rehman)

Water Storage Tank

WST Owner:	Shah Jahan
Name of village:	Paidy Wali
Union council:	25
Tehsil & District:	Nankana Sahib
Source of irrigation:	Canal+Tube-well
Shape of water storage tank:	Rectangular
Size of water storage tank:	Under Process
Command area of water storage tank:	12.5
No of beneficiaries:	1



Glimpse of Under process WST (Shah Jahan)

Water Storage Tank	
WST Owner:	Fiaz Ahmad
Name of village:	Kassoki
Union council:	Kassoki
Tehsil & District:	Hafiz Abad
Source of irrigation:	Tube-well+Canal
Shape of water storage tank:	Rectangular
Size of water storage tank:	15 x 25
Depth of WST:	5
Command area of water storage tank:	19
No of beneficiaries:	1

Depth of WST:	5
Command area of water storage tank:	5
No of beneficiaries:	1



Field Team Visiting WST (Khalid Parwaiz)



WST of Fiaz Ahmad

Water Storage Tank	
WST Owner:	Khalid Parwaiz
Name of village:	Fattu Wal
Union council:	Bheruwal
Tehsil & District:	Mandi Baha Uddin
Source of irrigation:	Tube-well
Shape of water storage tank:	Rectangular
Size of water storage tank:	31.16 x 31

Water Storage Tank	
WST Owner:	Zubaida bibi
Name of village:	Kadhar Garbi
Union council:	Kot Hast Khan
Tehsil & District:	Mandi Baha Uddin
Source of irrigation:	Canal +Tube-well
Shape of water storage tank:	Rectangular
Size of water storage tank:	23.75 x 40
Depth of WST:	5
Command area of water storage tank:	9 Acre
No of beneficiaries:	1



Measuring of dimensions of WST (Zubaida bibi)

Water Storage Tank	
WST Owner:	Gazanfar
Name of village:	119-RB Bhulair
Union council:	UC-5 Bhulair

Tehsil & District:	Hafiz Abad
Source of irrigation:	Tube-well
Shape of water storage tank:	Trapezoidal
Size of water storage tank:	32 x 31
Depth of WST:	5
Command area of water storage tank:	17.16 Acre
No of beneficiaries:	1



View of WST (Gazanfar)

Water Storage Tank	
WST Owner:	Muhammad Irfan
Name of village:	Rasool pur
Union council:	Karam Ali Wala
Tehsil & District:	Jalal Pur Peer Wala
Source of irrigation:	Canal+Tube-well
Shape of water storage tank:	Trapezoidal
Size of water storage tank:	92 x 88.5
Depth of WST:	7.5
Command area of water storage tank:	15
No of beneficiaries:	1



Monitoring of WST (Muhammad Irfan)

Water Storage Tank	
WST Owner:	Muhammad Afzal
Name of village:	Mochi Panuaan
Union council:	Ananyat Pur
Tehsil & District:	Jalalpur Pir wala
Source of irrigation:	Non-perennial Canal Tube-well
Shape of water storage tank:	Trapezoidal
Size of water storage tank:	82.6x82.6
Depth of WST:	7.2
Command area of water storage tank:	15
No of beneficiaries:	1



View of WST (Muhammad Afzal)

Water Storage Tank	
WST Owner:	Khawaja Maqbool Mustafa
Name of village:	Kayyian Pur
Union council:	Kayyian Pur
Tehsil & District:	Multan Sadar
Source of irrigation:	Perennial Canal + Tube-well
Shape of water storage tank:	Geo membrane
Size of water storage tank:	105x85
Depth of WST:	7.38
Command area of water storage tank:	5 Acre
No of beneficiaries:	1



View of Geo Membrane WST (Khawaja Maqbool Mustafa)

Water Storage Tank	
WST Owner:	M. Afzal
Name of village:	Rasulpur
Union council:	Rasulpur
Tehsil & District:	Shujabad / Multan
Source of irrigation:	Non Perennial + Tube-well
Shape of water storage tank:	Trapezoidal
Size of water storage tank:	90.1 x 75
Depth of WST:	6.1
Command area of water storage tank:	4 Acre
No of beneficiaries:	1



WST in Sandy Area (M. Afzal)

4.2.3 Regular Monitoring of Interventions in the Field –KP Zone

Detail of monitoring visit by KP Zone survey teams is given below.

Watercourse ID: 159000/L WC

- Date:** 02 Aug 2021
- Team Visit:** Team – 1
- Description:**

Details of the WC/WST	
Name of Watercourse/WST	159000/L WC
Type of watercourse/WST	Parabolic
Category of water course	Additional
Culturable Command Area (CCA) Acers	250
Coordinates	33.9254589, 71.7281103
Sanctioned Length of Watercourse	1406
Measured Length of Watercourse	1406
No. of beneficiaries	15
District	Peshawar
Tehsil	Peshawar
Village	Umar Miana
Cropping pattern Rabi and Kharif	Rabi: Wheat, Vegetable Kharif: Maize, Orchard
Water Logging & Salinity	0
Warabandi System	Pakka
Designed Discharge	90
Main Source of water	Canal
Additional Source of water	No
Date of Technical Sanction	02 Feb 2020
Sanctioned Cost	2,907,958
Demographic information	
Name	Adalat Khan

Age	50
Family size	6
Education	Matric
Tenurial status	Owner cum Tenant
Area owned	7.5
Cultivable land	7.5
Fallow land	0

S. No.	Beneficiary Farmers' Name
1	Adalat Khan
2	habib Rehman
3	Anwar Khan
4	Darwesh Khan
5	Naseer Khan
6	Zaka Ullah

• Observations and Findings:

Back filling is in very bad condition which can damage the water course. The farmers were complaining of shortage of water.

Watercourse ID: 70000/L Hazar Khwani Branch

Date: 06/08/2021

Team Visit: Team.3 (District Peshawar)

Description:

Details of the WC/WST:	
Name of Watercourse	70000/L Hazar Khwani Branch
Type of watercourse/WST	Parabolic
Category of water course	Additional Lining

Culturable Command Area (CCA) Acers	500
Coordinates	33.9555919 71.6885428
Sanctioned Length of Watercourse	700
Measured Length of Watercourse	592
No. of beneficiaries	80
District	Peshawar
Tehsil	Peshawar
Village	Urmari Miana
Cropping pattern Rabi and Kharif	Rabi: Wheat, Vegetables, Fodder Kharif: Orchard, Maize, Vegetables
Water Logging & Salinity	Nil
Warabandi System	Pakka
Designed Discharge	3 Lps
Main Source of water	Canal
Additional Source of water	Nil
Date of Technical Sanction	02/02/2020
Sanctioned Cost	Rs.2845164/-
Demographic information	
Name	Muhammad Naseer
Age	42
Family size	5

Education	Matric
Tenurial status	Owner
Area owned	12 Acres
Cultivable land	12 Acres
Fallow land	Nil

Observations and Findings:

1. Back filling was not proper.
2. Some of the Segments were broken and scratched.
3. No inspection path and the Watercourse covered with vegetation.
4. Water quality was bad. It had a bad smell. It was sewerage water mixed with canal water.

Water Storage Tank ID: 48602/WGC

Date: 04 Aug 2021

Description:

Team Visit: Team 1

Cropping pattern Rabi and Kharif	Rabi: Wheat Kharif: Maize
Water Logging & Salinity	0
Warabandi System	Pakka
Designed Discharge	32
Main Source of water	Canal
Additional Source of water	0
Date of Technical Sanction	13 Feb 2020
Sanctioned Cost	2,563,355
Demographic information	
Name	Ilyas Khan

Details of the WC/WST

Name of Watercourse/WST	48602/WGC
Type of watercourse/WST	Parabolic
Category of water course	Additional
Culturable Command Area (CCA) Acers	332
Coordinates	34.0163054, 71.4606344
Sanctioned Length of Watercourse	1110
Measured Length of Watercourse	1110
No. of beneficiaries	10
District	Peshawar
Tehsil	Peshawar
Village	Palosi

Observations and Findings:

The water course is inside the Agriculture University Peshawar and the WMO Mr Abdul Rahim from OFWM Peshawar has informed us that there is no farmer available. Due to non-availability of farmers only monitoring has been done. Besides our team struggle we were unable to meet Ilyas khan the chairman of WUA so there is no data available regarding the chairman. It is a parabolic water course but as per document from OFWM 28,886 bricks@109.90 per break were used in the construction of the water course.

Water Storage Tank ID: Aqeel Afzal WST

Date: 03 Aug 2021

Team Visit: Team 1

Description:

Details of the WC/WST	
Name of Watercourse/WST	Aqeel Afzal WST
Type of watercourse/WST	Bricks

Category of water course	New
Culturable Command Area (CCA) Acres	15
Coordinates	33.8752619, 71.6798746
Sanctioned Length of Watercourse	N/A
Measured Length of Watercourse	N/A
No. of beneficiaries	7
District	Peshawar
Tehsil	Peshawar
Village	Ghari Chandan
Cropping pattern Rabi and Kharif	Rabi: Wheat, Vegetable Kharif: Maize, Vig
Water Logging & Salinity	0
Warabandi System	Pakka
Designed Discharge	10
Main Source of water	Tube-well
Additional Source of water	N/A
Date of Technical Sanction	19 Apr 2021
Sanctioned Cost	4,31,104
Demographic information	
Name	Ashraf u ddin
Age	42
Family size	10
Education	Illiterate
Tenurial status	Owner

Area owned	23
Cultivable land	12
Fallow land	0

Observations and Findings:

Water storage was recently completed and is in good condition. The farmers were also demanding water course lining.

Water Storage Tank ID: 3900/R

Date: 05 Aug 2021

Team Visit: KP Team 1

Description:

Details of the WC/WST	
Name of Watercourse/WST	3900/R
Type of watercourse/WST	Parabolic
Category of water course	New
Culturable Command Area (CCA) Acres	251
Coordinates	33.9547078, 71.8231448
Sanctioned Length of Watercourse	837
Measured Length of Watercourse	837
No. of beneficiaries	13
District	Nowshera
Tehsil	Pabbi
Village	Shabara
Cropping pattern Rabi and Kharif	Rabi: Wheat Kharif: Sugarcane
Water Logging & Salinity	0

Warabandi System	Pakka
Designed Discharge	80
Main Source of water	Canal
Additional Source of water	0
Date of Technical Sanction	12 Feb 2020
Sanctioned Cost	1,580,000
Demographic information	
Name	Arshad Khan
Age	55
Family size	16
Education	Middle
Tenurial status	Owner cum Tenant
Area owned	35
Cultivable land	35
Fallow land	0

Observations and Findings:

The vegetation needs to be cut down. The water user association was not active. Other than the chairman of WUA no one was aware of the association.

Water Storage Tank ID: Abdullah TW WC

Date: 05 Aug 2021

Team Visit: KP Team 1

Description:

Details of the WC/WST	
Name of Watercourse/WST	Abdullah TW

WC	
Type of watercourse/WST	Parabolic
Category of water course	New
Culturable Command Area (CCA) Acres	45
Coordinates	33.8745848, 71.80769
Sanctioned Length of Watercourse	290
Measured Length of Watercourse	290
No. of beneficiaries	12
District	Nowshera
Tehsil	Pabbi
Village	Dag Ismail Khel
Cropping pattern Rabi and Kharif	Rabi: Wheat, Vegetable Kharif: Orchard
Water Logging & Salinity	0
Warabandi System	N/A
Designed Discharge	9
Main Source of water	Tube-well
Additional Source of water	0
Date of Technical Sanction	17 Apr 2020
Sanctioned Cost	400,000
Demographic information	
Name	Fahad Hussain
Age	54
Family size	5

Education	Inter
Tenurial status	Owner
Area owned	6
Cultivable land	6
Fallow land	0

Observations and Findings:

Abdullah water course is a solar water course and is maintained properly however the WUA members need to be active; they were not at the moment.

Water Storage Tank ID: Sartaj TW WC

Date: 09 Aug 2021

Team Visit: Team 1

Description:

Details of the WC/WST	
Name of Watercourse/WST	Sartaj TW WC
Type of watercourse/WST	Parabolic
Category of WST	New
Culturable Command Area (CCA) Acers	30
Coordinates	34.0870998, 71.93536

4.2.4 Regular Monitoring /Field Visits Details - Balochistan Zone

The routine monitoring consists of , a 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.

During the current month field teams visited 08 districts of Balochistan i.e. Mastung, Kalat, Khuzdar,

Pishin, Killa Abdullah, Quetta, Kachi and Sibi to monitor the works of F.Y. 2019-20.

4.2.4.1 Planning for Regular Monitoring / Spot Checking

The Balochistan team planned to start Regular Monitoring / Sport Checking of F.Y. 2019-20 and 2020-21 phase-wise. In first phase Balochistan Field Team focused on schemes of NPIWC-II, F.Y. 2019-20. In the second phase F.Y. 2020-21 will be covered in upcoming months. The schemes of 2019-20 were started in 2019 and completed in mid of 2020 as per record of OFWM. This programme was initiated in all 33 districts of Balochistan. The OFWM initiated 1819 Watercourses including PVC Pipe, RCC Pipe and Rehabilitation, 20 years old watercourses and 411 Water Storage Tanks of 04 different sizes as per need i.e., 60x60, 50x50, 40x40 and 30x30 with depth of 4'.5".

The regular monitoring / spot check is to be conducted in different phases. The Balochistan field teams have monitored 03 districts i.e., Loralai, Killa Saifullah and Sohbat Pur in June 2021. In July 2021 field teams monitored 08 districts i.e., Jaffarabad, Naseerabad, Zhob, Sherani, Musakhail, Duki, Noshki and Ziarat. During the current months field team assigned further 08 districts i.e., Mastung, Kalat, Khuzdar, Pishin, Killa Abdullah, Quetta, Kachi and Sibi. Up to August 2021 Balochistan field teams have monitored the Watercourse and Water storage tanks of 19 districts, covering 58% districts of Balochistan.

4.2.4.2 Field Visits Schedule:

The field teams conducted the field activities as per schedule mentioned below:

Teams	Districts	WC	PVC Pipe	WST	Total	Dates
Team - 1	Mastung	1	1	1	3	24/08/2021
	Kalat	1	1	1	3	25/08/2021
	Khuzdar	1	1	1	3	26/08/2021
	Total	3	3	3	9	
Team - 2	Pishin	2	0	1	3	25/08/2021
	Killa Abdullah	2	0	1	3	26/08/2021
	Total	4	0	2	6	
Team	Quetta	2	1	1	4	24/08/2021

Teams	Districts	WC	PVC Pipe	WST	Total	Dates
- 3	Kachi	1	0	2	3	25/08/2021
	Sibi	0	0	4	4	26/08/2021
	Total	3	1	7	11	
	G. Total	10	4	12	26	

Districts	WC	PVC Pipe	WST	Total
Quetta	2	1	1	4
Kachi	1	0	2	3
Sibi	0	0	4	4
Total	3	1	7	11

4.2.4.3 Team Composition:

The Balochistan Zone assigned three Field Team for field survey / monitoring as listed below:

Team – 1

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

Team – 2

1. Mr. Naseeb Jan, M&E Expert
2. Mr. Qaisar Tareen, M&E Officer

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 teams-1 started regular monitoring from 24th August 2021 and covered 03 districts with 09 sites. The team-2 started field activities from 25th August 2021 and covered 02 districts with 06 sites. Team-3 started field activities from 26th August 2021 and covered 03 districts with 11 sites.

The summary sheet of sites visited by survey teams, districts and scheme-wise is mentioned below:

Team -1

Districts	WC	PVC Pipe	WST	Total
Mastung	1	1	1	3
Kalat	1	1	1	3
Khuzdar	1	1	1	3
Total	3	3	3	9

Team - 2

Districts	WC	PVC Pipe	WST	Total
Pishin	2	0	1	3
Killa Abdullah	2	0	1	3
Total	4	0	2	6

Team -3

4.2.4.4 Field Visits detail of Regular Monitoring / Spot Checking - Balochistan Zone

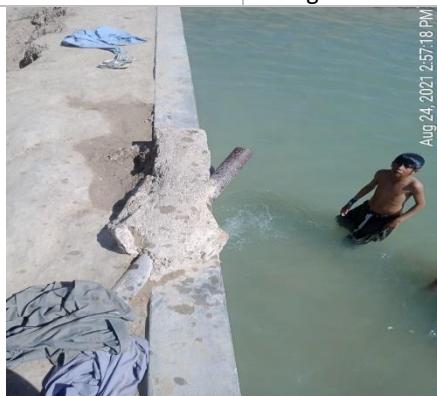
Team – 1: Monitored by Tariq Khosa, M&E Expert and Mr. Saleem Ahmed, M&E Officer

1) Field Visit Date – 24/08/2021

Scheme:	Watercourse
Name of Farmer:	Mohammad Alim
Name of village:	Killi khandwa
Union council:	Mobi
Chairman WUA:	Mohammad Alim
District:	Mastung
Tehsil	Mastung
Coordinates	29.9017708 668254901
Source of irrigation:	Tube-well
Total length of watercourse:	2150
Estimated length of lining:	2152
Command area of watercourse:	70
No of beneficiaries:	6
Starting date:	
Completion date:	24-08-2020
Cost of Construction of WC:	1,548,697/=
Quality of Work	Good
Reduction in Water Logging and salinity	Yes
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries'	No

production is picking up.	
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Increased cropping of vegetables and cotton. Heavy Load shading was affecting agriculture.
	View of watercourse

No of beneficiaries:	3
Completion date:	15/08/2020
Construction Cost of watercourse:	1,285,462/=
Quality of work	Good
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Increased cropping of vegetables and cotton. Heavy Load shading was affecting agriculture.

	Aug 24, 2021 2:57:18 PM
View of Water Storage Tanks	

2) Field Visit Date – 24/08/2021

Scheme	Water Storage Tank
Farmer Name	Rehmat Khan
Name of village:	Pir Kanoo
Union council:	Pir Kanoo
Chairman WUA:	Rehmat
District:	Mastung
Tehsil	Mastung
Coordinates	29.7870443 66.8499555
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:	50 Acre

3) Field Visit Date – 24/08/2021

Scheme:	PVC Pipe
Name of Farmer:	Rehmat Khan
Name of village:	Pir Kanoo
Union council:	Pir Kanoo
Chairman WUA:	Rehmat Khan
District:	Mastung
Tehsil	Mastung
Coordinates	29.7901301 66.8486889

Source of irrigation:	Tube-well
Total length of watercourse:	3006
Estimated length of lining:	3000
Command area of watercourse:	20 Acre
No of beneficiaries:	3
Completion date:	20-9-2020
Cost of Construction of WC:	856,000/=
Quality of Work	Good
Reduction in Water Logging and salinity	NA
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Increased cropping of vegetables and cotton. <p>Heavy Load shading was affecting agriculture.</p>
 <p>Aug 25, 2021 2:56:46 PM</p> <p>Measuring the PVC Pipe</p>	

4) Field Visit Date – 25/08/2021

Scheme	Water Storage Tank
Farmer Name	Saleem
Name of village:	Malangzai
Union council:	Mehmood Gohram
Chairman WUA:	Saleem
District:	Kalat
Tehsil	Mangochar
Coordinates	29.3637443 66.6238931
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:	70 Acre
No of beneficiaries:	3
Completion date:	06/08/2020
Construction Cost of watercourse:	1,245,810/=
Quality of work	Good
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Increased cropping of vegetables and cotton. <p>Heavy Load shading was affecting agriculture.</p>



View of signboard and farmer

5) Field Visit Date – 25/08/2021

Scheme:	Watercourse
Name of Farmer:	Mir Mohammad
Name of village:	Chotank
Union council:	Mehmood Gohram
Chairman WUA:	Mir Mohammad
District:	Kalat
Tehsil	Mangochar
Coordinates	29.3662006 66.6663364
Source of irrigation:	Tube-well
Total length of watercourse:	2202
Estimated length of lining:	2000
Command area of watercourse:	20
No of beneficiaries:	1
Completion date:	26-8-2020
Cost of Construction of WC:	1,240,238/=
Quality of Work	Good
Reduction in Water Logging and salinity	Yes
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and	No

other related industries' production is picking up.	
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Increased cropping of vegetables and cotton. <p>Heavy Load shading was affecting agriculture.</p>



Measuring the watercourse

6) Field Visit Date – 25/08/2021

Scheme:	PVC Pipe
Name of Farmer:	Abdul Qayoum
Name of village:	Dabar
Union council:	Mehmood Gohram
Chairman WUA:	Abdul Qayoum
District:	Kalat
Tehsil	Mangochar
Coordinates	29.3775393 66.5861018
Source of irrigation:	Tube-well
Total length of watercourse:	3842
Estimated length of lining:	3000
Command area of watercourse:	25
No of beneficiaries:	6
Starting date:	Not available
Completion date:	26-08-2020
Cost of Construction of WC:	868,764/25
Quality of Work	Good
Reduction in Water Logging and salinity	Yes
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water	Yes

distribution increased	
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Increased cropping of vegetables and cotton. Heavy Load shading was affecting agriculture.
 <div style="text-align: center;"> Aug 24, 2021 2:44:56 PM View of water source </div>	

and salinity	
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	Yes
Overall feedback of Farmer / Beneficiary	<p>Increased cropping of vegetables and cotton.</p> <p>Heavy Load shading was affecting agriculture.</p>
 <div style="text-align: right;"> Aug 26, 2021 4:08:59 PM View of sign boar </div>	

7) Field Visit Date – 26/08/2021

Scheme:	PVC Pipe
Name of Farmer:	Noor Din
Name of village:	Khadni
Union council:	Peshi Kappar
Chairman WUA:	Noor din
District:	Kalat
Tehsil	Wadh
Source of irrigation:	Tube-well
Total length of watercourse:	2000 Ft
Estimated length of lining:	1300 ft
Command area of watercourse:	18 acres
No of beneficiaries:	1
Starting date:	Not available
Completion date:	15/June/2020
Cost of Construction of WC:	312,466/=
Quality of Work	Good
Reduction in Water Logging	Yes

8) Field Visit Date – 26/08/2021

Scheme:	Watercourse
Name of Farmer:	Arshad Aziz
Name of village:	Noghay
Union council:	Noghay
Chairman WUA:	Arshad Aziz
District:	Khuzdar
Tehsil	Khuzdar
Source of irrigation:	Tube-well
Total length of watercourse:	350 meters
Estimated length of lining:	243.8 meters
Command area of watercourse:	16 acres
No of beneficiaries:	6
Starting date:	

Completion date:	30/June/2020
Cost of Construction of WC:	853545 Rupees
Quality of Work	Good
Reduction in Water Logging and salinity	Yes
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Water Saving Increased Conveyance loss decreased in their Land Facing difficulties due to road breakdown and electricity shortage. Almost 16-20 hours load Sheding.
General Observations	<ul style="list-style-type: none"> Capacity building campaigns for Framers are must.
	
Measuring the watercourse	

9) Field Visit Date – 26/08/2021

Scheme	Water Storage Tank
Farmer Name	Abdul Razzaq
Name of village:	Khandi
Union council:	Peshi Kappar
Chairman WUA:	Abdul Razzaq
District:	Khuzdar
Tehsil	wadh
Coordinates	29.7870443 66.8499555
Source of irrigation:	Tube-well
Shape of water storage tank:	Square
Size of water storage tank:	60x60
Depth of WST:	4.5
Command area of water storage tank:	50 Acre
No of beneficiaries:	3
Starting date:	Not available
Completion date:	15/08/2020
Construction Cost of watercourse:	615235
Quality of work	Good
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	Yes
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Increased cropping of vegetables and cotton. Heavy Load shading was affecting agriculture.



Measuring the Water Storage Tank

General Observations:

- The farmer was quite happy with the projects. The project had contributed enough in increasing their income and yield.
- The farmer was demanding for additional watercourse, PVC pipes and water storage tanks. As they had a large barren land.
- Farmers had demanding water storage tanks
- Heavy Load Shading of 16 to 20 hours per day was badly affected the farms activities.
- Due to absence of proper roads, accessibility of farmers to the market and city area took a lot of time and expense in terms of transportation.
- In most of the areas the lined portion of watercourses provided in this project was insufficient as compared to their total land holdings.
- ME&IE teams could not check the schemes as per design/specification as the files were in the Quetta Office of NWMC as per statement of OFWM staff
- Capacity building campaigns for Framers should be conducted.

1) Field Visit Date – 25/08/2021

Scheme:	Water Course
Name of Farmer:	Mohammad Anwar
Name of village:	Murghakai
Union council:	Khanozai
Chairman WUA:	Mohammad Anwar
District:	Pishin
Tehsil	Karezat
Coordinates	30.5921569 67.3138279
Source of irrigation:	Tube-well
Total length of watercourse:	1000Rft
Estimated length of lining:	1000Rft
Command area of watercourse:	11
No of beneficiaries:	4
Cost of Construction of WC:	829211
Quality of Work	Satisfactory
Reduction in Water Logging and salinity	Not observed in this District
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	Yes
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> • Farmer was happy with the Scheme,
General Observations	Some variations found in design, such as: nacca, Culverts, Siphon, Drop Structure, Washing Bay etc.



Measuring the WC

2) Field Visit Date – 25/08/2021

Scheme:	Watercourse
Name of Farmer:	Mohammad Munawar
Name of village:	Mandi
Union council:	Khanozai
Chairman WUA:	Mohammad Munawar
District:	Pishin
Tehsil	Karezat
Coordinates	30.6010758 67.3055723
Source of irrigation:	Tube-well
Total length of watercourse:	2040.16 Rft
Estimated length of lining:	2000 Rft
Command area of watercourse:	22 Acre
No of beneficiaries:	4
Cost of Construction of WC:	15,47,293
Quality of Work	Satisfactory
Reduction in Water Logging and salinity	Not Observed in this District
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water	Not Observed in this

disputes/thefts	District
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	Yes
Overall feedback of Farmer / Beneficiary	Farmers were found happy with scheme and need more such intervention in streamlining agricultural activities.
General Observations	Some variations found in design, such as: nacca, Culverts, Siphon, Drop Structure, Washing Bay etc.



Measuring WC

3) Field Visit Date – 25/08/2021

Scheme	Water Storage Tank
Farmer Name	Haji Alam Khan
Name of village:	Sorai
Union council:	Margha Zakriazai
Chairman WUA:	Haji Alam Khan
District:	Pishin
Tehsil	Karezat
Coordinates	30.6643355 67.3879452

Source of irrigation:	Tube-well
Shape of WST:	Square
Size of WST:	30x30
Depth of WST:	4.5
Command area of WST:	22 Acres
No of beneficiaries:	3
Starting date:	Unknown
Completion date:	Unknown
Construction Cost of WST:	70,87,00
Quality of work	Good
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	Yes
Overall feedback of Farmer / Beneficiary	farmers are facing difficulties in irrigating their Farms due to the problems of electricity. And are in need of more Schemes.
General Observations	Work was completed, But the WUA doesn't exist.
	
WST of Haji Alam Khan	

Team – 2: Monitored by Naseeb Jan M&E Expert and Qaisar Khan M&E Officer

4) Field Visit Date – 26/08/2021

Scheme	Water Storage Tank
Farmer Name	Abdul Khaliq
Name of village:	Mommin Pir Alizai
Union council:	Jungle Pir Alizai
Chairman WUA:	Abdul Khaliq
District:	Killa Abdullah
Tehsil	Killa Abdullah
Coordinates	30.616776 66.6875713
Source of irrigation:	Tube-well
Shape of WST:	Square
Size of WST:	60.5x60.5
Depth of WST:	4.5
Command area of WST:	130 Acre
No of beneficiaries:	4
Construction Cost of WST:	1594000
Quality of work	Good
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	Yes
Overall feedback of Farmer / Beneficiary	He has a vast agricultural area, so this WST is not enough for irrigating his farm and due to kacah WC most of water is wasting.
General Observations	Found some variations in dimension



increased	
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	Yes
Overall feedback of Farmer / Beneficiary	Farmer was satisfied with scheme but the given length of WC was not enough in irrigating his vast agricultural area.
General Observations	All the specifications of WC were fulfilled and work was very good.



5) Field Visit Date – 26/08/2021

Scheme:	Watercourse
Name of Farmer:	Sana Ullah
Name of village:	Paizi Syedaan
Union council:	Habibzai 2
Chairman WUA:	Sana Ullah
District:	Kila Abdullah
Tehsil	Kila Abdullah
Coordinates	30.6586643 66.6889817
Source of irrigation:	Tube-well
Total length of watercourse:	2000 Rft
Estimated length of lining:	2000 Rft
Command area of watercourse:	45 Acre
No of beneficiaries:	5
Cost of Construction of WC:	1,560,580/=
Quality of Work	Good
Reduction in Water Logging and salinity	Yes
Cropping intensity	Yes

6) Field Visit Date – 26/08/2021

Scheme:	Watercourse
Name of Farmer:	Abdul Ghani
Name of village:	Killi Popalzai
Union council:	Kulazai
Chairman WUA:	Abdul Ghani
District:	Killa Abdullah
Tehsil	Killa Abdullah
Coordinates	30.6066088 66.7576855
Source of irrigation:	Tube-well
Total length of watercourse:	2000Rft
Estimated length of	2000Rft

lining:	
Command area of watercourse:	9
No of beneficiaries:	5
Cost of Construction of WC:	1,502,566/=
Quality of Work	Good
Reduction in Water Logging and salinity	Not Observed in this District
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	Yes
Overall feedback of Farmer / Beneficiary	Farmer was satisfied with this scheme as his water was being saved for irrigating barren land.
General Observations	Scheme was good as per physically checking
 Spot Checking Of WC	

Team – 3: Monitored by Manzoor Kasi, M&E Expert and Mah Gul Noor & Hamza Hassan Qureshi M&E Officer

1) Field Visit Date – 24th August, 2021

Scheme:	Watercourse PVC 4" (3" provided as per farmer's need)
Name of Farmer:	Zubair Ahmed
Name of village:	Khaliqabad
Union council:	Mian Ghundi
Chairman WUA:	Zubair Ahmed
District:	Quetta
Tehsil	Chiltan
Coordinates	N 30.0477288, E 66.96516
Source of irrigation:	Tube-well
Total length of watercourse:	774.0 Meters
Estimated length of lining:	609.57 Meters
Command area of watercourse:	20 Acres
No of beneficiaries:	6
Cost of Construction of WC:	853,126.18
Quality of Work	Satisfactory
Reduction in Water Logging and salinity	No Waterlogging or salinity in this area.
Cropping intensity increased	Yes 5 Acres Increased
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Water Saving Increased Conveyance loss decreased in their Land Increased cropping of vegetables. Heavy Load Shading observed of 18 hours per day
General Observations	<ul style="list-style-type: none"> Capacity building campaigns for Framers

	<p>are must.</p> <ul style="list-style-type: none"> • Farmers should be instructed to maintain the joints of PVC pipes to avoid leakages.
	 

Starting of WC and Leakage in PVC Joint.

2) Field Visit Date – 24th August, 2021

Scheme:	Watercourse 20 Years Old
Name of Farmer:	Abdul Raziq
Name of village:	Mian Ghundi
Union council:	Mian Ghundi
Chairman WUA:	Abdul Raziq
District:	Quetta
Tehsil	Chiltan
Coordinates	N 30.047355, E66.964991
Source of irrigation:	Tube-well
Total length of watercourse:	498.4 Meters
Estimated length of lining:	304.78 Meters
Command area of watercourse:	20 Acres
No of beneficiaries:	6
Cost of Construction of WC:	830,195.87
Quality of Work	Good
Reduction in Water Logging and salinity	No Waterlogging or salinity in this area.
Cropping intensity increased	3 Acres Increased
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water	Yes

disputes/thefts	
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<i>Farmer was not Available</i>
General Observations	<ul style="list-style-type: none"> • Watercourse of 10 years old should also be rehabilitated in this Program.



Scheme Board and Measuring the WC

3) Field Visit Date – 24th August, 2021

Scheme:	Watercourse Regular (New)
Name of Farmer:	Abdul Malik
Name of village:	Khaliqabad
Union council:	Mian Ghundi
Chairman WUA:	Abdul Malik
District:	Quetta
Tehsil	Chiltan
Coordinates	N 30.045974, E 66.965212
Source of irrigation:	Tube-well
Total length of watercourse:	1828.71 Meters
Estimated length of lining:	609.57 Meters
Command area of watercourse:	20 Acres
No of beneficiaries:	6
Cost of Construction of WC:	1,548,697.85
Quality of Work	Good

Reduction in Water Logging and salinity	No Waterlogging or salinity in this area.
Cropping intensity increased	6 Acres Increased
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<i>Farmer was not Available</i>
General Observations	<ul style="list-style-type: none"> Watercourse was not properly maintained by the farmer due to which, back filling in various points was missing.
 	
View of WC and Spot Checking by Field Team	

District:	Quetta
Tehsil	Chiltan
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:	6 Acres
No of beneficiaries:	1
Quality of work	Good
Cropping intensity increased	6 Acres increased
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Water Saving Increased. Income Increased Cropping increased
General Observations	<ul style="list-style-type: none"> He was well aware about farming and was demanding a Watercourse.

4) Field Visit Date – 24th August, 2021

Scheme	Water Storage Tank
Farmer Name	Ghulam Mustafa Shahwani
Name of village:	Muhammad Umer
Union council:	Mian Ghundi
Chairman WUA:	Ghulam Mustafa Shahwani




View of WST and Meeting with Beneficiary	
Scheme	Water Storage Tank

5) Field Visit Date – 25th August, 2021

Scheme	Water Storage Tank
Farmer Name	Imran Khan
Name of village:	Koth Raisani
Union council:	Chotai
Chairman WUA:	Imran Khan
District:	Kachhi
Tehsil	Dhadar
Coordinates	N 29.46365, E67.61178
Source of irrigation:	Tube-well
Shape of water storage tank:	Square
Size of water storage tank:	40x40
Depth of WST:	4.5
Command area of water storage tank:	20 Acres
No of beneficiaries:	5
Quality of work	Satisfactory
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water	Yes

disputes/thefts	
Poverty reduction through generation of employment.	No
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<i>Farmer was not Available</i>
General Observations	<ul style="list-style-type: none"> Back Filling of WST was not properly done.



View of WST and DDA OFWM Kachhi accompanying the field team

6) Field Visit Date – 25th August, 2021

Scheme	Water Storage Tank
Farmer Name	Muhammad Mushtaq
Name of village:	Moza Kamoi
Union council:	Koth Raisani
Chairman WUA:	Muhammad Mushtaq
District:	Kachhi
Tehsil	Dhadar
Coordinates	N 29.47675, E 67.63038
Source of irrigation:	Tube-well
Shape of water storage tank:	Square

Size of water storage tank:	40x40
Depth of WST:	4.5
Command area of water storage tank:	13 Acres
No of beneficiaries:	4
Quality of work	Good
Cropping intensity increased	Yes
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Farmer was demanding a lined WC for his Land.
General Observations	<ul style="list-style-type: none"> Farmers needed guidance about cropping patterns and Pesticides. Improved variety of seeds should also be available and provided to the farmers according to the climate and soil of area.



Meeting with Beneficiary and view of WST

7) Field Visit Date – 25th August 2021

Scheme:	Watercourse Regular (New)
Name of Farmer:	Rabia Maqbool
Name of village:	Mashkaf
Union council:	Mashkaf
Chairman WUA:	Rabia Maqbool
District:	Kachhi
Tehsil	Dhadar
Coordinates	N 29.50783, E 67.67387
Source of irrigation:	Tube-well
Total length of watercourse:	609.57 Meters
Estimated length of lining:	609.57 Meters
Command area of watercourse:	80 Acres
No of beneficiaries:	6
Quality of Work	Good
Reduction in Water Logging and salinity	No Waterlogging or salinity in this area.
Cropping intensity increased	Yes 5 Acres Increased
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry,	No

bricks Killen, Precast Structures Industry and other related industries' production is picking up.	
Overall feedback of Farmer / Beneficiary	<i>Farmer was not Available</i>
General Observations	<ul style="list-style-type: none"> The scheme was of 2000 rft in documents, but the field team observed that there were 2 more schemes/WCs connected with this watercourse without mentioning any identification of where a scheme is starting or completing. The field team felt great difficulties in measuring the scheme. The OFWM looked into the matter. 
Measuring the WC and Source of WC	

8) Field Visit Date – 26th August 2021

Scheme:	Watercourse Regular (New)
Name of Farmer:	Saud Bugti
Name of village:	Gullu Sheher
Union council:	Kurrik
Chairman WUA:	Saud Bugti
District:	Sibbi
Tehsil	Sibbi
Coordinates	N 29.61887, E 67.89665
Source of irrigation:	Tube-well
Total length of watercourse:	709.7 Meters
Estimated length of lining:	609.57 Meters
Command area of	80 Acres

watercourse:	
No of beneficiaries:	15
Quality of Work	Satisfactory
Reduction in Water Logging and salinity	No Waterlogging or salinity in this area.
Cropping intensity increased	20 Acres Increased
Crops yield increased	Yes
Equity in water distribution increased	Yes
Reduction in water disputes/thefts	Yes
Poverty reduction through generation of employment.	Yes
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Need Soil testing center, seed availability, cotton ginning factory. Capacity building are needed Awareness about pesticides by the Department should be provided.
General Observations	<ul style="list-style-type: none"> Joints of Pre-cast Parabolic Segments was not maintained



Starting of WC and its Source

9) Field Visit Date – 26th August, 2021

Scheme	Water Storage Tank
Farmer Name	Saud Bugti

Name of village:	Gullu Sheher
Union council:	Gullu Sheher
Chairman WUA:	Saud Bugti
District:	Sibbi
Tehsil	Sibbi
Coordinates	N 29.61851, E 67.89615
Source of irrigation:	No source Connected
Shape of water storage tank:	Square
Size of water storage tank:	50x50
Depth of WST:	4.5
Command area of water storage tank:	0 Acres*
No of beneficiaries:	0*
Quality of work	Poor
Overall feedback of Farmer / Beneficiary	<ul style="list-style-type: none"> Farmer did not respond about this scheme.
General Observations	<ul style="list-style-type: none"> *The WST was not functional; it was not connected to any source of water. *There was no back filling at any side of WST. *Bed was in poor condition. *There was a huge crack starting from one Side of WST.
 	
Crack in WST and Scheme Board	

10) Field Visit Date – 26th August 2021

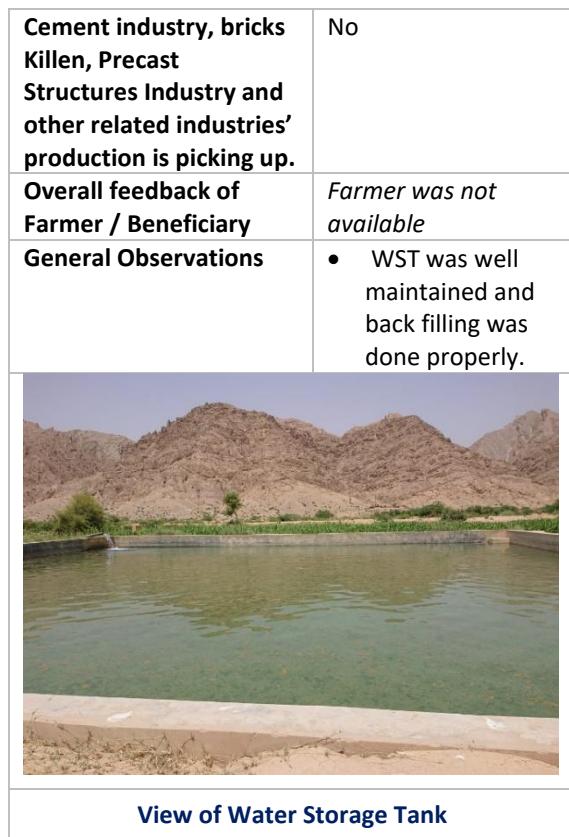
Scheme	Water Storage Tank
Farmer Name	Mazar Khan
Name of village:	Luni
Union council:	Luni
Chairman WUA:	Mazar Khan
District:	Sibbi
Tehsil	Sibbi
Coordinates	N 29.64574, E 67.95129
Source of irrigation:	Tube-well
Shape of water storage tank:	Square
Size of water storage tank:	40x40
Depth of WST:	4.5
Command area of water storage tank:	10 Acres
No of beneficiaries:	4
Quality of work	Good
Cropping intensity increased	Farmer was not available
Crops yield increased	Farmer was not available
Equity in water distribution increased	Farmer was not available
Reduction in water disputes/thefts	Farmer was not available
Poverty reduction through generation of employment.	Farmer was not available
Cement industry, bricks Killen, Precast Structures Industry and other related industries' production is picking up.	No
Overall feedback of Farmer / Beneficiary	<i>Farmer was not available</i>
General Observations	<ul style="list-style-type: none"> WST was in a good condition, back filling and maintenance was done properly. Due to Katcha WC, water losses observed.



Discharge of WST in Katcha WC and Spot measuring of the WST

11) Field Visit Date – 26th August, 2021

Scheme	Water Storage Tank
Farmer Name	Abdul Haroon Rasheed
Name of village:	Luni
Union council:	Luni
Chairman WUA:	Abdul Haroon Rasheed
District:	Sibi
Tehsil	Sibi
Coordinates	N 29.65000, E 67.95028
Source of irrigation:	Tube-well
Shape of water storage tank:	Square
Size of water storage tank:	40x40
Depth of WST:	4.5
Command area of water storage tank:	8 Acres
No of beneficiaries:	2
Quality of work	Good
Cropping intensity increased	Farmer was not available
Crops yield increased	Farmer was not available
Equity in water distribution increased	Farmer was not available
Reduction in water disputes/thefts	Farmer was not available
Poverty reduction through generation of employment.	Farmer was not available



View of Water Storage Tank

4.3 ONLINE DATA ENTRY IN ANDROID BASED APPLICATION

Data collection is being carried out through Android1 Based Application developed by ICT Specialist of ME&IE Consultants NPIWC-II.

Data entry is 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 Expert of ME&IE Consultants.

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

4.4.1 Meetings of ME&IE Consultants with Stakeholders Regarding Project Progress / Issues – Punjab Zone

Date	August 27, 2021
Venue	Directorate of Agriculture (OFWM) Office Gujranwala
Participant	
1.	Dr. Gulam Abbas Tatla Director Agriculture (OFWM), Gujranwala Division
2.	Hafiz Mujeeb ur Rehman Deputy Director Agriculture (OFWM), Lahore Division.

3. Amir Saleem Manghat Deputy Director Agriculture (OFWM) Gujranwala
4. Aaftab Ahmad Assistant Director (Agri) OFWM Wazirabad
5. Muhammad Yousuf Bhatti, Deputy Team Leader ME&IE Consultants Punjab Zone, Lahore
6. Mr. Muhammad Rizwan Suleman, Field Team Incharge (Sub Zone -2) ME&IE Consultants Lahore.

Meeting Agenda

1. Briefing on ME&IE Consultants given by Deputy team leader and discussed with participants particularly in field activities.
2. Review of the OFWM activities given by Director OFWM, Gujranwala and discussed future activities of departments and other relevant issues.
3. The Director informed that improvement of water courses activities in Gujranwala 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 measurement of water flow in water courses ME&IE consultants should consider the schedule of closure of canals.
4. The OFWM director and ME&IE consultants assured and extended each other full cooperation in future for smooth working of the field activities.



4.4.2 Meetings of ME&IE Consultants with Stakeholders Regarding Project Progress / Issues – KP Zone

Date	August 2, 2021.
Venue	Zoom Meeting with National Team Leader of ME&IE Consultants
Participants	
1)	Dr. Humayun Khan DTL KP Zone
2)	Mr. Muhammad Yousaf Bhatti DTL Punjab Zone
3)	Mr. Rizwan Ahmad DTL Baluchistan Zone
4)	DTL Islamabad Zone

Meeting Agenda/Points discussed:

To discuss issues faced by the DTLs of different provinces.

Agenda items that are issues faced by the DTLs were discussed in detail. The findings are reported as below.

The KP and Balochistan DTLs showed great concern over the non-availability of financial logistic support for smooth running of office and field activities. The National team leader assured the DTLs that the matter will be taken up with the management and all genuine demand shall be met on priority basis.

Date	August 12, 2021. Meeting/ Visit of the Team Leader
Venue	DTL KP Zone office, Peshawar
Participants	
5)	Dr. Abdul Quddus Team Leader, National Office Islamabad
6)	Dr. Usman Mustafa, Team leader, Water conservation Project KP
7)	Dr. Humayun Khan DTL KP Zone Peshawar
8)	Mr. Afzal Hayat, Sectoral Specialist, Water conservation Project KP, Peshawar

Meeting Agenda/Points discussed:

To get acquaintance regarding Field Issues

Dr. Abdul Quddus TL ME&IE Consultants and DR. Usman Mustafa Team Leader Water Conservation Project KP Peshawar paid a visit and discussed general issues with the DTL Peshawar. The Team Leader also met with the FTIs and all other field team members and gave guidance regarding the collection of data for the project.

Date	August 12, 2021 – NPCwar Visit to KP Zone Office Pesh
Venue	DTL KP Zone Peshawar Office
Participants	
9)	Mr. Muhammad Tahir Anwar NPC
10)	Rana Usman, Procurement Support Manager to NPC
11)	Dr. Humayun Khan DTL KP Zone Peshawar
12)	KP office Team

Meeting Agenda/Points discussed:

Visit of NPC to KP Zone Peshawar Office

NPC visited KPC Zonal office Peshawar and checked me the consultants' staff in the KP Zone office. The DTL explained the office position and provided the staff list to him. NPC met all the staff of ME&IE consultants and discussed the issues and their solution

Date	August 30 th to 31 st 2021
Venue	National Office Islamabad

Participants

- 1) Dr. Abdul Quddus Team Leader, National Office Islamabad
- 2) Dr. Usman Mustafa, Team leader, Water conservation Project KP
- 3) Dr. Humayun Khan DTL KP Zone Peshawar
- 4) Mr. Muhammad Yousaf Bhatti DTL Punjab Zone
Mr. Rizwan Ahmad DTL Baluchistan Zone
- 5) Mr. Rizwan Saleem Team Leader IT, Islamabad.
- 6) Mr. Imran Zafer
- 7) Mr. Shumail, IT Manager, Lahore Office.

Meeting Agenda/Points discussed:

Discussion on Field Survey / Data Collection by the Survey Teams

A meeting was called from 30th to 31st August 2021 by the Team Leader ME&IE Consultants in the National Office Islamabad from August 30 to September 1, 2021. Detail discussion was held on the field survey activities being carried out by field teams and further recommendations were also discussed for further improvement of the activities.

4.4.3 Meetings of ME&IE Consultants with Stakeholders Regarding Project Progress / Issues – Balochistan Zone

Date	9 th August 2021
Venue	Office of DG, OFWM at Rani Bagh, Sariab Road, Quetta.

Participants

- I. Mr. Ali Raza Jamali, Director General, OFWM, Agriculture Deptt, Balochistan, Quetta
- II. All Deputy Directors, OFWM, Balochistan
- III. Mr. Behram Malghani, Agriculture

Officer, OFWM, Balochistan
IV. Mr. Yasir, Agriculture Officer, OFWM, Balochistan
V. Mr. Khalid Mahmood, DTL, NWMC, Balochistan
VI. Mr. Rizwan Ahmed, DTL, ME&IE Consultants, Balochistan

Meeting Agenda/Points discussed:

- I. All DDs presented the progress of their districts.
- II. The DG, OFWM appreciated the work progress of some DDs and ask to Mr. Behram to issue appreciation letter to them.
- III. The work progress of some DDs was not as per mark or behind the schedule. The DG, OFWM ask to Mr. Behram to issue show cause notices to all those DDs.
- IV. The DTL, NWMC told to form that in future NWMC will not visit/validate any site till provision of complete file by the department.
- V. The DTL, ME&IE Consultants shared the updated progress and told to DG and DDs issues regarding non-availability of proper/complete files, owing to this reason monitoring works are suffering. The DTL also raised the issue of TS (FY 2019-20 and 2020-21) which are not yet issued while works of FY 2019-20 have been completed and FY 2020-21 are near to completion.
- VI. The DG, OFWM directed to all DDs to prepare TS of F.Y. 2019-20 within two days and get approved.





View of meeting held in DG, OFWM Office, Sariab Road, Quetta.

Date	24 th August, 2021
Venue	Office of DDA, OFWM Quetta.
Participants	
i.	Noor Ahmed, DDA OFWM Quetta
ii.	Manzoor Kasi, M&E Expert
iii.	Mah Gul Noor, M&E Officer
iv.	Hamza Hassan Qureshi, M&E Officer
Meeting Agenda/Points discussed:	
<ul style="list-style-type: none"> Discussed the issues faced during sites visits due to incomplete file works. 	



Meeting with DDA OFWM Quetta

Date	24 th August, 2021
Venue	Office of NWMC Consultants, Marri Street, Arbab Karam Khan Road, Quetta.
Participants	
I.	Rehmatullah Khan, Senior Field Engineer
II.	Manzoor Kasi, M&E Expert
III.	Mah Gul Noor, M&E Officer
IV.	Hamza Hassan Qureshi, M&E Officer
Meeting Agenda/Points discussed:	
<ul style="list-style-type: none"> Checked the files of visited Schemes. Discussed about the Validation of Files and Schemes. 	

Date	25 th August, 2021
Venue	Office of DDA OFWM Office, Kachhi.

Participants

- I. Shahid Jamali, DDA OFWM Kachhi
- II. Dost Muhammad, Field Engineer (NWMC Consultants) Kachhi
- III. Manzoor Kasi, M&E Expert
- IV. Mah Gul Noor, M&E Officer
- V. Hamza Hassan Qureshi, M&E Officer

Meeting Agenda/Points discussed:

- I. Checked the files of visited Schemes
- II. Discussed the progress and issued of visited sites by ME&IE Consultants

Date	26 th August, 2021
Venue	DDA OFWM Office, Sibi.

Participants

- I. Dr. Fazal Ahmed, DDA OFWM Sibbi
- II. Muhammad Javaid, Site Engineer, Sibbi
- III. Muhammad Shahid, Field Engineer, Sibbi
- IV. Manzoor Kasi, M&E Expert
- V. Mah Gul Noor, M&E Officer
- VI. Hamza Hassan Qureshi, M&E Officer

Meeting Agenda/Points discussed:

- I. Checked the files of visited schemes
- II. Discussed the progress and issued of visited sites by ME&IE Consultants



Meeting with DDA, OFWM, Kachi

Date	24 th August 2021
Venue	Office of DDA, OFWM, Mastung

Participants

- I. Mr. Shams, Assistant Director, OFWM, Mastung
- II. Tariq Khoso, M&E Expert, ME&IE Consultants
- III. Saleem Abro, M&E Officer, ME&IE Consultants

Meeting Agenda/Points discussed:

- I. Shared the progress and issued of visited

<p>sites.</p> <p>II. Checked the files of visited Schemes.</p>	 <p>Aug 24, 2021 1:29:52 PM</p>
<p>Meeting with OFWM Staff at DD Office, Mastung</p>	

<p>Meeting Agenda/Points discussed:</p> <p>I. Discussed the issues regarding incomplete files and TS issuance.</p>	
<p>Meeting with DD (Technical), OFWM</p>	

Date	31 st August 2021
Venue	Office of DDA, OFWM, Jaffarabad
<p>Participants</p>	
<p>I. Mr. Babal Khan, Site Engineer, OFWM, Jaffarabad II. Mr. Tariq Khosa, M&E Expert, ME&IE Consultants</p>	
<p>Meeting Agenda/Points discussed:</p>	
<p>I. Meeting held with Site Engineer, OFWM to take the data of completed sites of 2020-2021 and status of TS of F.Y. 2019-20.</p>	
	
<p>Meeting with Site Engineer, OFWM at Jaffarabad Office.</p>	

<p>Date</p>	30 th , 31 st Aug. and 1 st Sept. 2021
Venue	National Office of ME&IE Consultants, Islamabad
<p>Participants</p>	
<p>I. Prof. Dr. Muhammad Abdul Quddus, Team Leader / M&E Specialist NPIWC-II II. All DTL of ME&IE Consultants III. Mr. Rizwan Saleem, IT Specialist</p>	
<p>Meeting Agenda/Points discussed:</p>	
<p>I. 03 days' workshop held at Consultants Office, Islamabad to discuss the Baseline Survey Data. II. Discussed the MTs and revised in the light of feedback by Provincial Head and other Core Team Members. III. Worked and prepared 06-month Plan IV. Discussed administrative issues, DTLs shared provincial level problems with TL.</p>	
	

Date	
Venue	DG Office, OFWM, Rani Bagh, Sariab Road, Quetta
<p>Participants</p>	
<p>I. Mr. Muhammad Wali, DD (Tech.), OFWM II. Mr. Manzoor Kasi, M&E Expert, ME&IE Consultants</p>	
<p>A Joint Venture of</p>	



4.5 ME&IE CONSULTANTS' MEETING IN NATIONAL OFFICE ISLAMABAD

Team Leader ME&IE Consultants NPIWC-II called and internal meeting of all the DTLs, ICT Expert and other staff, in National Office Islamabad. Meeting was scheduled from 30th August 2021 to 1st September 2021. Meeting was called to discuss the progress on project activities and discuss progress and any problem faced by field team and its solution. Detail proceedings of the meeting are attached as **Annex-E** to this report.

4.6 ICT ASSIGNMENT

4.6.1 Development of web site of NPIWC-II

The development of Website of NPIWC-II has been started in the month of February 2021. The following activities have been completed:-

- Held meetings with the Stakeholders to identify the requirements
- Website layout structure prepared
- Design & Development of website completed

The Revision/up-dation of the Project website has presented to NPC office and got approval on all changes. Currently all changes has been incorporated accordingly as per requirements of the Client.

As far as activity is concerned it has been complied. Refinement is under process.

4.6.2 Data collection of interventions in MIS/GIS database

The activity regarding data collection of Interventions in MIS/GIS database has been completed.

4.6.3 Designing of dashboard of Project Interventions

The designing/development of MIS/GIS system followed the software engineering methods. Thus, user requirements elicitation, requirements analysis, system design, system implementation and maintenance were done in a circular fashion. Thereafter, evaluation will be done to test the efficacy, effectiveness, and efficiency of the management information system in the real environment. In the system development, both structured system analysis, design, object-oriented analysis, and design approaches will be used.

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

The GIS based MIS will provide the means of:

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

Designing of Dashboard of Project interventions has been completed. According to the quarterly work plan, the final presentation of Web-Based PMIS, integrated with GIS and M&E system was presented to NPC office and received the approvals. By the month of June, the implementation methodology of the MIS system will be presented to NPC office for the approval. Upon that the implementation activities will be started and will lead from the trainings of OFWM's Field Teams of all Zones/Units towards the live field data collection for the live monitoring will be initiated.

CHAPTER 5: WORK PLAN-ACTIVITIES OF THIRD QUARTER

The ME&IE Consultants' activities initiating during the Third Quarter 2021 (July 1, 2021 to September 30, 2021) and activities carried out during the reporting period are listed below. Time span detail is mentioned in the Tentative Work Plan. **Annex-A.**

Pre-Field Activities

Training sessions regarding Testing of Monitoring tools and Android based system and their hands on practice were conducted at ME&IE Zonal offices during the course of reporting period.

Field Activities

- i) Data collection from OFWM Department /NWMC for Baseline survey/regular monitoring
- ii) Training Session of field staff and Key staff on Survey Manual of MTs and Android Base System
- iii) Training of Measurement of water flow-Pygmy current meter
- iv) Determinants of Sample size at District/Tehsil levels with the assistance from ADA/DDA (OFWM)
- v) Baseline survey field visit
- vi) Data entry, Data cleaning, Data processing & data Analysis
- vii) Regular Monitoring

ICT Assignment

- i) Development of website of NPIWC-II.
- ii) Development of Android based Mobile Application.
- iii) Testing of Monitoring tools on Android based system.
- iv) Data collection of interventions in MIS/GIS database.
- v) Designing of dashboard of Project Interventions.

Coordination

- i) Meeting of DTLs with respective DTL of NWMC
- ii) Meetings of Team Leader and for refinement of Monitoring Tools.

Deliverables

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

Document	Status
Draft Inception Report	Submitted
Final Inception Report	Submitted
Monthly Monitoring Report-First (DEC 2020-JAN 2021)	Submitted
Monthly Monitoring Report-Second (FEB 2021)	Submitted
Monthly Monitoring Report-Third (MAR 2021)	Submitted
Quarterly Monitoring & Evaluation Report-First (JAN-MAR 2021)	Submitted
Monthly Monitoring Report-Fourth (APR 2021)	Submitted
Monthly Monitoring Report-Fifth (MAY 2021)	Submitted
Monthly Monitoring Report-Sixth (JUN 2021)	Submitted
Quarterly Monitoring & Evaluation Report-Second (APR-JUN 2021)	Submitted
Monthly Monitoring Report-Seventh (JUL 2021)	Submitted
Baseline Survey Report	Under submission
Annual Monitoring & Evaluation Report	Submitted
Monthly Monitoring Report-Eighth (AUG 2021)	Will be submitted on Stipulated time.
Monthly Monitoring Report-Ninth (SEP 2021)	Will be submitted on Stipulated time.
Quarterly Monitoring & Evaluation Report-Third (JUL-SEPT. 2021)	Will be submitted on Stipulated time.

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

Matrix of Responsibilities

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

CHAPTER 6: 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
- 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 D

ANNEX-A: TENTATIVE WORK PLAN

ANNEX - A: TENTATIVE WORK PLAN OF 3RD QUARTER

TENTATIVE WORK PLANNED FOR 3rd QUARTER (JULY TO SEPTEMBER 2021)												Legend	
No.	ACTIVITIES	3 Months-Year 2021 (Weeks)											
		July				August				September			
		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	Field Activities												
	1.1 Regular Monitoring of Project Interventions in the field												
	1.2 Data collection of the Project interventions in the field												
	1.3 Online data entry in android based application												
2	ICT Assignment												
	2.1 Development of website of NPIWC-II												
	2.2 Monitoring online data collection and Data entry												
	2.3 Monitoring Android based Mobile Application under implementation by field staff.												
	2.4 Data collection of interventions in MIS/GIS database												
	2.5 Designing of dashboard of Project Interventions												
3	Coordination												
	3.1 Meetings of TL with NPC and OFWM Departments regarding Project Progress / Issues												
	3.2 Meeting of DTLs with respective DTL of PC												
4	Desk Studies & Presentations												
	4.1 Preparation of Draft Baseline Survey Report (BSR)												
	4.2 Data compilation for and Preparation of MMRs												
	4.3 Preparation Progress Review Presentation for NPC												
	4.4 Progress Review Presentation to NPC on _____												
5	Deliverable												
	5.1 Monthly Monitoring Report (June 2021)												
	5.2 Quarterly Monitoring Report (March to June 2021)												
	5.3 Submission of Draft Baseline Survey Report												

ANNEX - B: MATRIX OF RESPONSIBILITIES

MATRIX OF RESPONSIBILITIES

SR. NO.	DELIVERABLE / ACTIVITIES
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

LEGEND		
●	Primary Responsibility	
○	Secondary Responsibility	
○	Assistance	

NPC-FPMU	Agriculture	Dept. (OEWMA)	Project Consultants	ME&IE Consultants
O	●	-	-	-
O	○	●	-	-
-	-	-	-	●
-	-	-	-	●
-	-	-	-	●
-	-	-	-	●
-	-	-	-	●
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-	-	-	-	●
-	-	-	-	●
-	-	-	-	●
-	-	-	-	●
-	-	-	-	●
-	-	-	-	●

ANNEX - C: MONITORING LOG-FRAME

Annex-C: Monitoring Log-frame

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

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
	cost sharing basis: 40% farmers in terms of labour, and 60% funded by project.	associations (WUAs); b) Registration of 47,278 WUAs; c) Improvement and realignment of earthen section of 47,278 watercourses; d) Lining of up to 50% length of 47,278 watercourse either by: <ul style="list-style-type: none"> • Precast concrete parabolic lining (PCPL) segments, or • Rectangular brick masonry, or any other method as approved by the project	registered; c) 47,278 watercourses improved and lined;	watercourses decreased by about 15 percentage points. b) 1.654 million households benefited from the activity; c) 11.347 million acres served with improved watercourses	improved watercourses by 5-24%; b) Increase in crop yields. c) Increase in irrigated area d) Increase in agriculture output per unit of water by about 37%	employment for farm labour; c) Reduction in poverty; d) Enhanced food security for the country.	out at before and after watercourse improvement on 2-5% sample basis; b) Agriculture survey before and after watercourse improvement on 2-5% sample basis; c) The survey will determine: <ul style="list-style-type: none"> • Cropping pattern before and after the improvement; • Cropping intensities before and after improvement; • Before and after crop yields; • Before and

Project subcomponents	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
							<p>after employment;</p> <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)	<p>a) Construction of 14,932 water storage tanks</p> <p>b) They agree to contribute 40% of the cost</p> <p>c) Agree to first construct the tank with his/her own</p>	<p>a) 14,932 small farmers mobilized to construct water storage tanks for irrigation</p> <p>b) Agree to first construct the tank with his/her own</p>	<p>a) 14,932 WSTs constructed</p> <p>b) 14,932 WSTs operated and maintained</p>	<p>a) Water which was otherwise largely going to be wasted is saved</p> <p>b) Irrigation provided at critical stages of the crops</p> <p>c) Flexibility achieved for irrigation</p>	<p>a) More area irrigated</p> <p>b) Increased cropping intensities</p>	<p>a) Increased crop yields</p> <p>b) Increased total crop output quantum</p> <p>c) Increased farm income</p> <p>d) Increased farm employment</p>	<p>a) 2-5% sample of WSTs will be surveyed</p> <p>b) A data collection form will be designed to measure water saving due to WSTs</p> <p>c) The forms used for baseline and impact surveys in case of</p>

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

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

ANNEX - D: DELIVERABLES/REPORTING REQUIREMENTS

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