



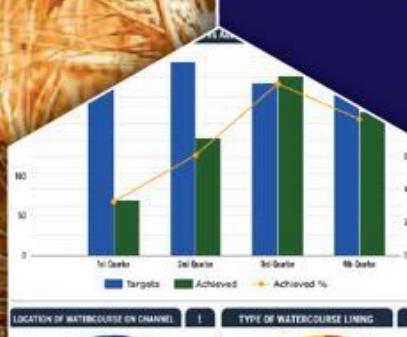
FEDERAL PROJECT MANAGEMENT UNIT  
FEDERAL WATER MANAGEMENT CELL  
MINISTRY OF NATIONAL  
FOOD SECURITY & RESEARCH  
ISLAMABAD - PAKISTAN

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

MONITORING, EVALUATION  
AND IMPACT EVALUATION  
CONSULTANTS

### MONTHLY MONITORING REPORT

MARCH 2024



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



In Association with S&S Associates



**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**  
**MARCH 2024**

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## ACRONYMS

ADA	Assistant Director Agriculture
AES	Agriculture Extension Services
AF	Acre-Feet
AJK	Azad Jammu & Kashmir
AOSM	Adjustable Orifice Semi-Module
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
FTI	Field Team In charge
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
ODK	Open Data Kit
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 “Monitoring Report for the month of March 2024” comprises five chapters:

**Chapter-1** describes the detailed introduction and description of the project. 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, Khyber Pakhtunkhwa (KP), Baluchistan and Gilgit Baltistan (GB), Azad Jammu & Kashmir (AJ&K) as well as Islamabad Capital Territory (ICT). The present project is beneficial for the country.

The NPIWC-II comprises four components to be implemented in Punjab, KP, Balochistan, GB, AJ&K, and ICT project’s targeted areas:

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

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

**Chapter-3** explains the purpose of the Monthly Monitoring Report (MMR). The current MMR covers the period from 1<sup>st</sup> March 2024 to 31<sup>st</sup> March 2024.

This chapter also covers the activities of ME&IE Consultants, carried out during the reporting period. These are summarized below:

- Regular Monitoring of the Interventions in the Field
- Monitoring through Android-based Mobile Application under implementation by field staff.
- Monitoring of online data collection and Data entry
- Data collection of interventions in MIS/GIS database
- Submitted the MMR for February 2024.
- Special Report on Water Saving Through NPIWC-II Project Interventions
- Special Report on Monitoring and Impact Evaluation of Precision (Laser) Land Leveling
- Special Report on Monitoring, Evaluation, and Impact Analysis of The Project “NPIWC-II”.
- Meetings of ME&IE Consultants with the respective Stakeholders about Project Progress / Issues in hand and its prospects.

**Chapter-4** highlights the quarterly work plan for the period of 1<sup>st</sup> January 2024 to 31<sup>st</sup> March 2024. The work plan consists of the following activities:

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

The detailed time for the 3<sup>rd</sup> quarter of year 2023-24 is provided in the Tentative Work Plan **Annex-A**.

**Chapter-5:** Issues / problems faced as well as opportunities availed by the consultants during the reporting period of the assignment are described in this Chapter.

Table-1: Compliance Status of Tentative Work Plan during Reporting Period

No.	Activities Planned for the Reporting Quarter		Status
<b>1</b>	<b>Pre-Field Activities</b>		
1.1	Refresher Training of Field Staff for Baseline Survey & End Line Impact Survey		Completed
<b>2</b>	<b>Field Activities:</b>		
2.1	Regular Monitoring of Interventions in the field		In Progress
2.2	Data collection of the interventions in the field		In Progress
2.3	Baseline & Endline Impact field Survey		In Progress
2.4	Online data entry in android-based application		In Progress
<b>3</b>	<b>ICT Assignment:</b>		
3.1	Improvement of website of NPIWC-II		In Progress
3.2	Monitoring online data collection and Data entry		In Progress
3.3	Monitoring Android based Mobile Application under implementation by field staff.		In Progress
3.4	Data collection of interventions in MIS/GIS database		In Progress
3.5	Capacity Building Trainings / Refresher of Departments		In Progress
3.6	Data Cleaning.		In Progress
<b>4</b>	<b>Coordination</b>		
4.1	Meetings of TL, ME&IE Consultants with NPC regarding Project Progress / Issues		Meetings conducted regularly
4.2	Meeting of DTLs with respective DTL of NWMC		Meetings conducted regularly
4.3	Internal Meetings of ME&IE Consultants		Weekly meetings conducted on regular basis
<b>5</b>	<b>Deliverables:</b>		
5.1	Monthly Monitoring Reports (MMRs)	36 <sup>th</sup> MMR (Dec 2023)	Submitted
		37 <sup>th</sup> MMR (Jan 2024)	Submitted
		38 <sup>th</sup> MMR (Feb 2024)	Submitted
		39 <sup>th</sup> MMR (Mar 2024)	Report in Hand
5.2	Quarterly Monitoring & Evaluation Report (QM&ER)	QM&ER Oct-Dec 2023	Submitted
		QM&ER Jan-Mar 2024	Will be submitted on stipulated time
5.3	Special Reports	Water Saving Through NPIWC-II Project Interventions	Submitted
		Monitoring and Impact Evaluation of Precision (Laser) Land Leveling	Submitted
		Monitoring, Evaluation, and Impact Analysis of The Project "NPIWC-II".	Submitted

## CHAPTER-1: PROJECT INTRODUCTION

### 1.1 PROJECT PROFILE

This section covers the following details of the project:

<b>Project Name:</b>	National Program for Improvement of Watercourses in Pakistan Phase-II (NPIWC-II)
<b>Project Areas:</b>	Punjab, Khyber Pakhtunkhwa, Balochistan, Gilgit Baltistan, Azad Jammu & Kashmir, and Islamabad Capital Territory (ICT)
<b>Sponsoring Agency</b>	Ministry of National Food Security & Research
<b>Executing Agencies (EAs):</b>	Following are different EAs: Federal Project Management Unit (FPMU), i. DGA OFWM Punjab ii. DG OFWM KP iii. DGA OFWM Baluchistan iv. Director Irrigation and Small Dams, AJ&K v. Director WM, GB vi. Director Agriculture Extension Services (AES) ICT
<b>Project Period:</b>	5 Year (2019-2024)
<b>Total Project Cost:</b>	Rs. 154,542.355 million (Umbrella PC-1, including Sindh)
<b>ME&amp;IE Consultancy Period:</b>	4 years
<b>ME&amp;IE Consultant:</b>	JV of G3 Engineering Consultants (Pvt.) Ltd., EASE PAK Engineering Services (Pvt.) Ltd., Centre for Social Research and Development (CSR), ADA Consultants Inc. Canada, and S&S Associates.
<b>ME&amp;IE Consultant Mobilized:</b>	November 07, 2020

### 1.2 PROJECT DESCRIPTION

Project description includes the followings i.e., the project development objectives, project objectives, project benefits, project components, etc.

#### 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

The following are the project's general and quantitative traits illustrated:

##### 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, and
- viii) Increase in crop yield/self-sufficiency in food.

##### 2) Quantitative Objectives' Outputs and Impacts:

The quantitative objectives' outputs and impacts 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 a 60% subsidy through cost-sharing arrangements with the expectation to save about 50% of irrigation water for wheat and about 68% of irrigation water for paddy crops.

#### **Project impacts**

- i) Reduction in Water Logging and salinity in project areas to the extent of 10%.
- ii) Cropping intensity is expected to increase by 5-20%.
- iii) Crop's yield is estimated to increase by 10-15%.
- iv) Equity in water distribution increased by about 30%.
- v) Reduction in water disputes/thefts and litigation amongst the Farmers over water distribution by about 80%.
- vi) Help poverty reduction through the generation of employment.
- vii) Self-sufficiency in food through water-saving, including edible oil seed production.

#### **Project indirect benefits to industry/economic activities**

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

#### **Awareness support to farmers**

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

#### **1.2.3 Project Beneficiaries**

The Majority of the project's direct beneficiaries constitute the number of farmers (owners and tenants) growing crops and orchards on the watercourses improved under NPIWC-II. Assuming 35 farmers on each watercourse, the total number of farmers benefiting from the activity comes to 1.655 million. The same number will be benefited due to Water Users' Associations (WUAs) in terms of cooperative management of irrigation water. Moreover, 14,932 farmers will directly be benefited 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, the total net population benefitting is expected to be 8.34 million people.

#### **1.2.4 Project Components**

The NPIWC-II project comprises four components:

##### **C1: ORGANIZATION OF WATER USERS ASSOCIATIONS:**

Establishment / reactivation of Water Users Associations (WUAs) through a community-driven implementation approach. Following are the scope of WUAs:

- i) Provide a right of way for constructing a 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 by 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 by adopting the following criteria:

- 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:**

The project will construct 14,932 Water Storage Tanks (WSTs). Following will be the benefits of WSTs:

- i) Store water during the rainy season and times of no use in the commands of perennial /

- ii) non-perennial canals for subsequent irrigations at the critical crop growth stages,
- ii) Provide flexibility for storage of plentiful canals and rainfall runoff water for its more expedient use subsequently,
- iii) Collect, store and filter water from:
  - Small Dams, springs, streams, mullahs 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 (LLL) units to the farmers; the component is strengthening LLL services in the country through the provision of LLL Units to farmers/service providers at 50% subsidized rates.

#### 1.2.5 Project Targets

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

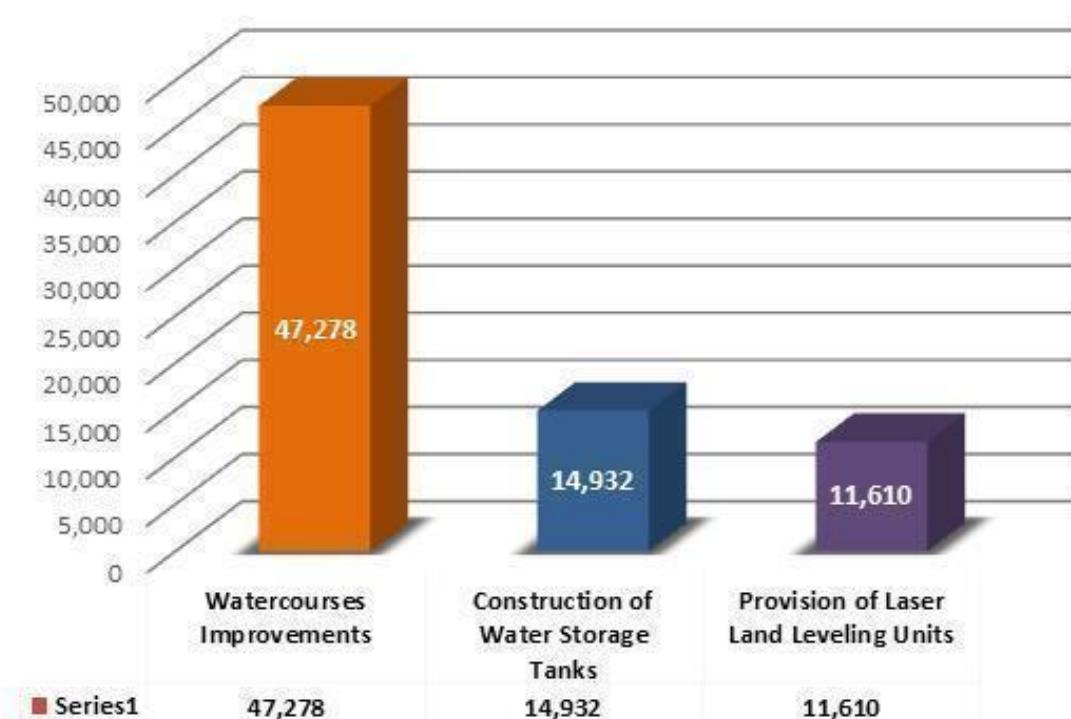


Figure 1.1: NPIWC-II Project WCs, WSTs, and LLL Targets in Pakistan

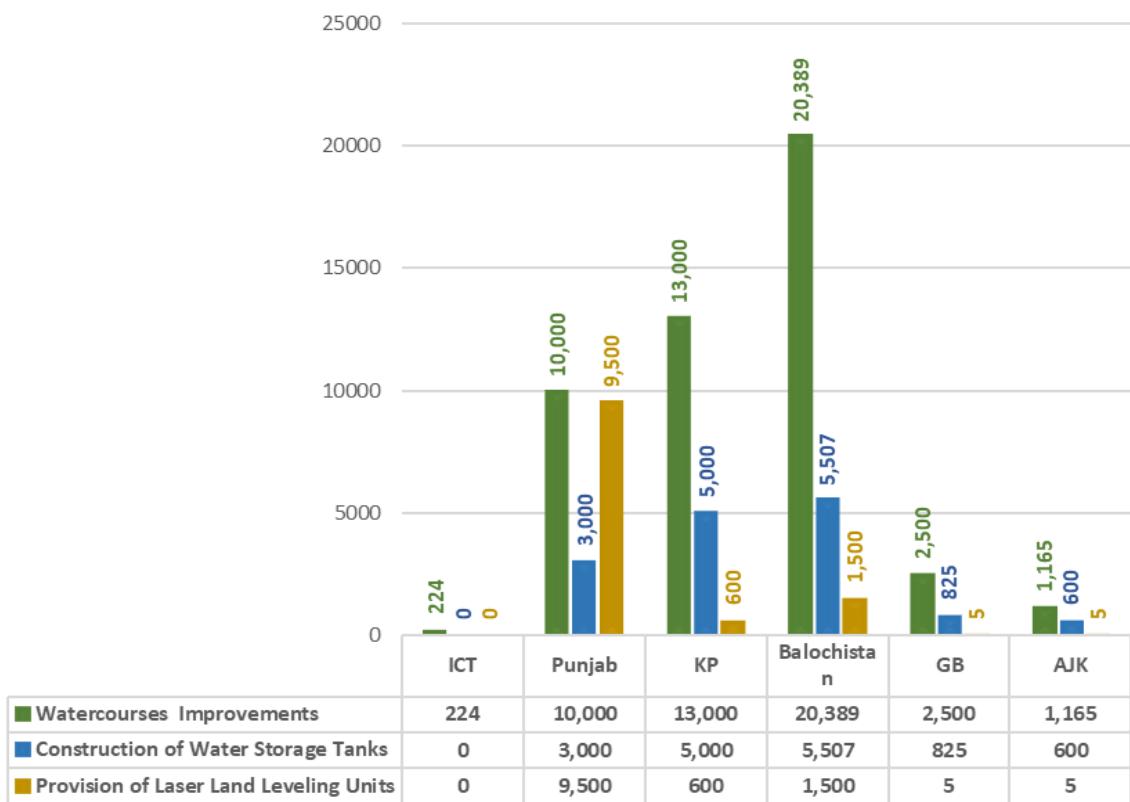


Figure 1 2: Zone-Wise WCs Improvement, WSTs, and LLL Target

## CHAPTER 2: SCOPE AND SERVICES OF ME&IE CONSULTANTS

The ME&IE Consultants' services are designed to be provided through a multi-disciplinary team of qualified professionals. All the firms in the joint venture have rich experience in the field of monitoring and evaluations (M&E). The team deputed for this task in the project, comprises highly qualified professionals having rich practical experience of such projects earlier launched in Pakistan. The consultants are developing a "State-of-the-Art Management Information System" (MIS) with a "Geographical Information System" (GIS) focused on NPIWC-II to monitor progress on project interventions and to carry out an effective monitoring process. The MIS is helping decision makers to make informed decisions.

### 2.1 OBJECTIVES OF CONSULTING SERVICES

The objective of the ME&IE Consultant's services is to carry out M&E of project impacts to ensure the targeted achievements of the project development objectives, timely.

### 2.2 SCOPE OF CONSULTING SERVICES

The ME&IE Consultants are responsible for monitoring, evaluation, and impact evaluation (ME&IE), and in this context are carrying out the following activities:

- i. Undertake baseline, midline, and end-line surveys for the project activities/interventions in all the project areas,
- ii. Develop monitoring strategy, framework, and Result-Based Monitoring (RBM) indicators,
- iii. Preparation of monthly, quarterly, and annual monitoring, evaluation, and validation reports of the project activities,
- iv. Assessing the water saving per annum on watercourses, water storage tanks, and field levels as well as aggregate due to the project interventions,
- v. Assessing the improvement in water availability due to the provision of conveyance system,
- vi. Assessing the economic benefits to agriculture in terms of changes in yields, irrigated command area, cropping pattern, cropping intensity, farm income, and employment in the 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. The 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, laser Levelers database, etc. (while the project's IT staff will maintain the website),
- xi. Provide technical support for the development of a custom-designed mobile application (Android-based) to capture on-site project progress and geo-tagged photos. It should be synchronized with the central MIS/GIS database and application for instant reporting and feedback to the management.

The said requirement is based on the following functional features:

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

### 2.3 MONITORING STRATEGY OF CONSULTANTS

The monitoring strategy planned to be followed by ME&IE Consultants is briefly described in **Table-2.2**. However, detailed methodology and procedures to

carry out the ME&IE of the project interventions were explained in Chapter 6 of the Inception Report.

**Table 2.2: Monitoring Strategy for ME&IE Activities**

Sr. No.	Monitoring Activity	ME&IE Team Responsible	Monitoring Strategy
1	Baseline, midline, and End line surveys	Team Leader, Socio-Economic Expert, Agricultural Economist, and Deputy Team Leader of the respective Province/Unit.	<ul style="list-style-type: none"> <li>Baseline and impact surveys will be carried out on a sample basis.</li> <li>Data will be collected by field teams on pre-designed data collection tools through an Android application on TABs.</li> <li>Baseline and impact surveys will be carried out in phases as target watercourses are not pre-selected.</li> <li>Baseline will be carried out before launching the interventions and the impact one year (two crop seasons) after the completion of the intervention.</li> <li>The midterm study will review the project progress in the middle of the project implementation.</li> <li>The end line study will assess the impact of the project interventions.</li> </ul>
2	Reporting	All core team members	<p>Following periodic reports will be prepared and submitted:</p> <ul style="list-style-type: none"> <li>Draft Inception Report 45 days after the agreement,</li> <li>Final Inception Report one week after the issuance of comments by the client on the draft,</li> <li>Monthly Monitoring Report on 10th of the following month,</li> <li>Quarterly Monitoring Report on 10th of the first month of the following quarter,</li> <li>Annual Monitoring and Evaluation Report during first month of the following year,</li> <li>Baseline Survey Reports (in three phases),</li> <li>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.</li> <li>Impact Survey Reports (in phases) – two months after the data collection completion for the impact phase,</li> <li>Midline report in the middle of the assignment,</li> <li>End line Report at the end of end line Survey,</li> <li>Draft Assignment Completion Report at completion of the physical works,</li> <li>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 the agriculture sector as well as on the GDP of Pakistan,</li> <li>Special Reports, as and when asked by the client.</li> </ul>
3	Water saving assessment	Irrigation Agronomist, Field Team/ Engineers	<p><b>Water Saving on Watercourses:</b></p> <ul style="list-style-type: none"> <li>Water flow will be measured on sample watercourses selected for the baseline and impact surveys</li> <li>The flow will be measured at four points of the selected watercourses: close to water outlet, head reach, middle reach and tail reach.</li> <li>The measurements will be done through current meters.</li> </ul>

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

Sr. No.	Monitoring Activity	ME&IE Team Responsible	Monitoring Strategy
		Expert	<ul style="list-style-type: none"> <li>Project costs and benefits will be compared in economic and financial terms to carry out economic and financial analysis.</li> <li>Parameters like IRR, NPV, and BCR will be estimated.</li> </ul>
7	Impact evaluation on the stakeholders	Team Leader, Agricultural Economist, and Socio-Economic Expert	Analysis as in serial 6 will be carried out concerning 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 land leveling 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"> <li>The processed data for all the interventions will be fed to the MIS/GIS database.</li> <li>Client's field staff and field teams of consultants will furnish data of their activities.</li> <li>The ME&amp;IE will assist in developing mobile application for this purpose</li> <li>From this data reports will be generated for process monitoring</li> <li>All interventions will be fully (100%) covered.</li> </ul>
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"> <li>The State-of-the-art MIS / Progress Monitoring Model will be developed for NPIWC-II.</li> <li>Customized forms will be developed to collect data from the implementing teams on-site for progress monitoring</li> <li>These forms will be made available to the teams on smart phones through an Android application</li> <li>The teams will be adequately trained to use the application</li> <li>Data on physical and financial stages with dates will be fed to the system for process monitoring</li> <li>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</li> <li>The system will be maintained on GOOGLE server so that it is accessible by the management from anywhere in Pakistan and abroad</li> <li>Custom reports will be possible as the user demands / desires</li> <li>The results could be displayed on small as well as large screens.</li> </ul>
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 are further being enhanced and refined in consultation with the client as well as the stakeholders.

The improvement of indicators is a continuous process throughout the project implementation in the light of real and on-ground situations.

## CHAPTER 3: CONSULTANTS' ACTIVITIES DURING THE REPORTING MONTH

As a regular part of the ME&IE assignment, routine field visits & monitoring of project interventions in the field remained continued by ME&IE consultants.

ME&IE assignment, routine field visits & monitoring of project interventions in the field remained continued by ME&IE consultants.

The Consultants also carried out different in-house activities related to ME&IE assignment:

### 3.1 SUBMISSION OF MONTHLY MONITORING REPORT (MMR)

As per contractual obligation, the consultants have submitted thirty-eight MMR (February 2024). While the thirty-nine MMR (the Report in hand) for March 2024 (1<sup>st</sup> March 2024 to 31<sup>st</sup> March 2024) is being submitted.

The Monthly Monitoring Report (MMR) explains the understanding of all activities to be carried out as per TORs of ME&IE consultants' assignment and their completion within the stipulated time frame. The activities include but are not limited to pre-field/ in-house activities, field monitoring activities i.e., monitoring of project interventions, ICT assignments including monitoring of online data collection in the field, and development/improvement of project dashboard and website, etc. Consultants of the ICT Team also remained in contact with Clients' officials to enter data in the Dashboard and provided assistance when and where was required by the client. All the activities of the current month complied with the quarterly work plan of the consultants. Hence, 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 month. Reporting is an integral part of the monitoring and evaluation framework.

### 3.2 SPECIAL REPORTS

#### 3.2.1 Water Saving Through NPIWC-II Project Interventions

Water is life. It has an important role in agriculture. Irrigation water helps to make grow crops, maintain landscapes, and re-vegetate disturbed soils in dry

and arid areas. Also during times of below-average rainfall. Furthermore, to these purpose, irrigation is also employed to protect crops from frost, suppress weed growth in grain fields, and prevent soil consolidation. Irrigation offers moisture required for growth and development, germination and other related functions. The frequency, rate, amount and time of irrigation are different for different crops and also vary according to the types of soil and seasons.

Keeping in view the importance of irrigation water, the Government of Pakistan (GoP) is implementing a National Program for Improvement of Watercourses in Pakistan, Phase-II (NPIWC-II) funded by the Ministry of National Food Security and Research (MNSFR), Islamabad. The executing agencies (EAs) are Federal Water Management Cell (FWMC), Provincial Directorates of OFWM and respective departments of AJ&K, GB and ICT and Water Users Association (WUAs). The Project Consultant (NESPAK & JV Partners) carries out the project supervision. The task of Monitoring Evaluation & Impact Evaluation has been entrusted to ME&IE Consultants. The coordination rests with the Federal Project Management Unit (FPMU) and Federal Water Management Cell (FWMC).

The Project comprises 4 Components: namely (1) Social Mobilization (Capacity building and establishment of Water Users Associations), (2) Reconstruction/ renovation and remodeling of 47,278 watercourses, (3) Construction of 14,932 Water Storage Tanks and (4) Provision of 11,610 Laser Land Levelers.

The Project Covers; Punjab, Khyber Pakhtunkhwa (KP), Balochistan, Gilgit Baltistan (GB), Azad Jammu and Kashmir (AJ&K) and Islamabad Capital Territory (ICT).

Project Direct Benefit includes, cropping intensity to increase by 5-20%, Crops yield to increase by 10-15%, Equity in water distribution to increases by about 30%, water disputes / thefts and litigation amongst the Farmers over water distribution to reduce by about 80%. Help poverty reduction through generation of employment and Self-sufficiency in food through utilization of water saved. The total number of project beneficiaries are estimated 1.668 million farmers (owners as well as tenants). Taking family size at five, total net population benefiting is expected to be 8.34 million people.

In the middle of the assignment, ME&IE Consultants are required to submit Midline Survey/ Mid-term Impact Evaluation report which was produced in 2023 which included impact assessment results up to end December 2022 until unless mentioned otherwise elsewhere. It is to be clarified here that these assessments are, however, not final. Rather these are interim and until all the surveys and studies are completed after the termination of all project activities, these will remain indicative. Thus, these assessments should be taken just as interim or indicative and not final for the time being. The main findings of the report are summarized below:

#### **Impact Evaluation of Component (Improvement of Watercourses)**

Land use intensity due to watercourse improvement on sample farms has increased on an average by 4.1%, meaning thereby an increase of 4.1% in cultivated area. Cropping intensity has increased by 10.9%. These increases in land use and cropping intensities have resulted in about 11.8% increase in cropped area under various crops. The Watercourse Improvement Impact on Crop Yields per acre varied from 4% to 49% averaging at 11.4% on an overall basis.

Cumulative impact of Watercourses Improvement is reflected in total production of various crops. Production of various crops has increased at different rates varying from 11.6% in the case of peaches to 317.6% in case of other vegetables. However, weighted average impact calculates at 23% (11.4% due to yield increase and 11.8% due to area increase and one percent due interaction between the two).

On total completed watercourses up to June 2023, total increases in crop area have also been estimated. On total 12,968 (excluding GB) improved watercourses, increase in the crop area has been estimated around 196 thousand acres.

Impact of WC Improvement on per acre net income varies from crop to crop. It varies from PKR 1,008 for cotton to PKR 37,950 for vegetables per acre averaging at PKR. 4,053 for all crops.

Water Conveyance Efficiency on 20% lined additional improved watercourses increases by 14%age point and on new 50% lined watercourses increase by 29%age point. On piped lined watercourses efficiency increases by 50%. On overall

basis saving in water losses calculates to 30% of 154 AF per watercourse per annum.

Due to 12,968 watercourses improvement (excluding GB), cultivated area increased by 61,144 acres, cropped area by 196,304 acres, gross income increased by 43,352 million PKR and net income by 19,414 million PKR.

#### **Impact Evaluation of Component C3 (Construction of WSTs)**

Land use intensity due to WSTs Construction on sample farms has increased on an average by 6.3%, meaning thereby an increase of 6.3% in cultivated area. Cropping intensity has increased by 15.4%. These increases in land use and cropping intensities have resulted in about 22% increase in cropped area under various crops.

The WSTs construction Impact on Crop Yields per acre varied from 6.6% in the case of Rabi fodder to 16.7% in case of pulses, averaging 10.2% on an overall basis.

Cumulative impact of WSTs reflected in total production of various crops. Production of various crops has increased at different rates varying from 20% in the case of cotton to 86% in the case of sugarcane. However, weighted average impact calculates at 35% (10% due to yield increase and 22% due to area increase and 3 percent due interaction between the two).

On total 5,062 completed WSTs (excluding GB) up to June, 2023, total increases in area have also been estimated 10,604 acres.

The impact of WSTs on per acre net income varies from crop to crop. It varies from 1,008 PKR for cotton to 37,905 PKR for other vegetables per acre averaging at 22,262 PKR for all crops.

As before the construction of tank, there was no such saving of water losses. The total water storage capacity from above mentioned sources of tank along with the reported filing up frequency leads to calculate the water saving impact. On overall basis, saving in water losses calculates to 7.31 AF per Storage Tank per annum.

Due to 5,062 WSTs (excluding GB), cultivated area increased by 3,460 acres, cropped area by 10,604 acres, gross income increased by 3,275 million PKR and net income by 1,780 million PKR.

### Impact Evaluation of Component C4 (Provision of PLL)

PLL Beneficiaries: Total annual PLL beneficiaries calculate to 11,331 farmers including the owners themselves or 71 farmers per equipment.

Impact of PLL on Crop yields: Impact of PLL on crop yield was also assessed through the farmers' perception. The growers were of the view that laser leveling increases yields of various crops ranging from 8% to 14% averaging at 11% on the whole. Economics and economic benefits of PLL use were also estimated. Total number of delivered PLL up to end of June 2023 is 5,928. At the rate of 254 acres per PLL, total area levelled by all the delivered PLL calculates as 1,506 thousand acres. Net benefits per PLL comes to 521 thousand PKR per annum and for total 5,928 delivered PLL these calculate to 3,091 million PKR.

Water Saving Impact of PLL Units: Information was also asked from the growers regarding the saving of water due to Precision Land Leveling. On an average 25% saving in water use has been reported.

#### 3.2.2 Monitoring and Impact Evaluation of Precision (Laser) Land Leveling

**Background:** The history of precision (laser) land levelers (PLL) goes back to the 1960s when the researchers first demonstrated their ability to project a focused Laser beam on the surface of the ground to measure its height. The first endeavor of practical development of PLL materialized in the world during the era of mid-1980s. Theodore Harold Maiman, an Engineer and Physicist innovated and developed the first laser land leveler implement on 16 May 1960 at Huges Research Laboratory in California, USA by employing the high-powered flash lamp on a ruby rod with silver coated surface. Presently, the application of PLL is being commonly practiced in developed and developing countries including Japan, USA, Australia, India, Pakistan, etc. The concept of PLL application has been around globally since the early 1970s, but recently its use was introduced in the subcontinent, India, and Pakistan in 1985s (Website of Nature and Akmal et al. (2020).

**Need for PLL:** Under the prevalent status quo, the need for proven technology like PLL was proved to be highly useful in conserving irrigation water. It is a recognized fact that unevenness of the soil surface has been severely impacting delays tillage, proper seed germination, and subsequently to the crop stand establishment leading to downward yield

trends of targeted crops through the action of nutrient water interaction and soil moisture distribution pattern available for the crops to uptake, accordingly. The use of PLL for the leveling of agricultural fields in South Asia was practiced on over 1.5 million hectares in 2012. However, the PLL implementation has proved to be more efficient technically as well as economically towards the leveling of land and efficient utilization of scarce water resources by removing unessential depression and raised contours. (Website of Nature; Akmal et al., 2020; (Bhatt and Sharma, undated Indian Extension Bulletin). The present special report scope is mainly limited to monitoring and impact evaluation of precision (laser) land leveling in the project areas of Balochistan, Khyber Pakhtunkhwa, and Punjab zones.

The Government of Pakistan is implementing a National Program for Improvement of Watercourses in Pakistan, Phase-II (NPIWC-II) funded by the Ministry of National Food Security and Research (MNFSR), Islamabad. The executing agencies (EAs) are the Federal Water Management Cell (FWMC), Provincial Directorates of OFWM, and respective departments of AJ&K, GB, and ICT and Water Users Association (WUAs). The Project Consultant (NESPAK & JV Partners) carries out the project supervision. The task of Monitoring Evaluation & Impact Evaluation has been entrusted to ME&IE Consultants. The coordination rests with the Federal Project Management Unit (FPMU) and Federal Water Management Cell (FWMC).

**The Project comprises 4 Components:** namely (1) Social Mobilization (Capacity building and establishment of Water Users Associations), (2) Reconstruction/renovation and remodeling of 47,278 watercourses, (3) Construction of 14,932 Water Storage Tanks, and (4) Provision of 11,610 Laser Land Levelers. This part of the special report only discusses the monitoring and impact evaluation of precision (Laser) land leveling (PLL) in three zones viz., Punjab, Khyber Pakhtunkhwa (KP), and Balochistan.

The project's Direct Benefits include an increase in cropping intensity & Crop yield, saving in water. The total number of project beneficiaries from all the interventions including watercourse improvement, construction of water storage tanks, and provision of PLL are estimated at 1.668 million farmers (owners as well as tenants). Taking family size at five, the total net population benefitting is expected to be 8.34 million people.

In the middle of the assignment, ME&IE Consultants are required to submit a Midline Survey/ Mid-term Impact Evaluation report. Thus, in compliance with its contractual requirement, the ME&IE Consultants have also prepared some special reports (i.e., one of these, the monitoring and impact evaluation of PLL) in addition to the report which evaluates the Project's mid-term Monitoring and Impact assessment results up to the end of October 2023 until unless mentioned otherwise elsewhere. It is to be clarified here that these assessments are, however, not final. Rather these are interim and until all the surveys and studies are completed after the termination of all project activities, these will remain indicative. Thus, these assessments should be taken just as interim or indicative and not final for the time being. The main findings of the report are summarized below:

#### Progress Monitoring:

During the Project period (5 years), a total number of 11,610 Precision Laser Land Leveling (PLL) Units were targeted to be delivered. By the end of June, 2023 (during 4 years), 5,928 PLL Units were delivered showing a progress of 51% achievement.

#### Impact Evaluation of Component C4 (Provision of PLL)

**Educational Profile of Sample Beneficiaries:** Most of the beneficiaries (95%) were found literate. About 15% of beneficiaries are primary/middle level, 27% matric, 20% Intermediate, 25% Graduates, and 9% postgraduate.

**Suppliers of Precision (Laser) Land levelers:** About 50% i.e., 80 PLL sample units have been supplied by 4 Supply and Service Companies (SSCs), namely Cross Field Agro (21), Easy Farming (24), Modern Farming (14) and Ruba Digital Laser. Out of these 80 PLL units, 79 were delivered by these companies in the Punjab. In KP, 3 PLLs were delivered by Cross Field Agro, one by Modern Farming PLL Services, and one by Ruba Digital Laser. In Balochistan, all seven PLL units were delivered by Amjad Brothers Zarai Industries.

About 56% of PLL drivers were fully trained for running PLLs in the field and got formal training for this purpose. Around 41% were self-trained and the rest 3% were found un-trained during the monitoring survey.

About 64% of respondents ranked these PLL units as good, 31% as satisfactory and 4% as not satisfactory.

About 1 to 2 percent responded that they do not know. It means that 95% of beneficiaries regarded the quality/durability of the delivered PLL units as satisfactory at least.

Regarding after-sales service facility provision status, 60% regarded it as good, and 13% as poor, 6% as very poor, and 21% responded that they do not know.

About 53% of beneficiaries responded that the complaints attended by SSCs were prompt 16% informed that the complaints were not being attended to promptly, and the rest of the respondents didn't yet need to.

As for the prices of PLL concerned status by the respondents, 9% of respondent beneficiaries informed that the SSCs charged high prices, 54% informed that the prices were normal, while the rest 37% responded that they did not know.

The respondents were also asked about the availability of spare parts by the SSCs. Out of 160 respondents, 30% responded that spare parts were available with SSCs whenever required, 7% informed that it took a long time, whereas the remaining 63% informed that they did not need these spare parts as yet.

As for the prices of PLL spare parts charged by the SSCs, 8% of respondent beneficiaries informed that the SSCs charged high prices, 27% informed that the prices were normal, while the rest 65% responded that they did not need these spare parts as yet.

The respondent beneficiaries were also asked about the availability of spare parts in the open market. About 36% of respondents informed that these spare parts are only available with the SSCs, 7% informed that the spare parts were also available in the market, while the rest 57% informed that they did not know.

While spot-checking, all 160 (100%) respondents were using PLL for agricultural purposes. No respondent was found using PLL for non-agricultural purposes.

The PPLs were also spot-checked concerning their working conditions. Out of the total, 60% were found in good condition and well-maintained. The condition of 35% was satisfactory and the remaining 5% were found in poor/unsatisfactory condition.

**Record keeping status of Laser Land Leveling Services to Other Farmers:** About 97% of PLL owners provided laser leveling servicing to the other fellow farmers. Out of these service providers only 14%

keep a complete or partial record of their lending services. Out of these 14 percent, 55% kept records on logbooks, 36% on loose papers and the rest were not keeping records in writing.

**Land Leveled during last Rabi and Kharif cropping Seasons:** The total laser land leveled by the 160 respondent PLL owners during the last Rabi and Kharif cropping seasons was 40,711 acres or 254 acres per PLL. Out of these total 40,711 acres, 4,092 acres (26 acres per equipment) were owned land, and 36,619 acres (228 acres per equipment) were laser leveled on rent of other fellow farmers.

**PLL Beneficiaries:** Total annual PLL beneficiaries calculate to 11,331 farmers including the owners themselves or 71 farmers per equipment.

**Impact of PLL on Crop yields:** The impact of PLL on crop yield was also assessed through the farmers' perception. The growers were of the view that laser leveling increases yields of various crops ranging from 8% to 14% averaging at 11% on the whole. The economics and economic benefits of PLL use were also estimated. The total number of delivered PLLs up to the end of June 2023 is 5,928. At the rate of 254 acres per PLL, the total area leveled by all the delivered PLLs is calculated as 1,506 thousand acres. Net benefits per PLL come to 521 thousand PKR per annum and for a total of 5,928 delivered PLLs, these calculate to 3,091 million PKR.

**Water Saving Impact of PLL Units:** Information was also asked from the growers on a recall basis regarding the saving of water due to Precision Land Leveling. On average 25% saving in water use has been reported.

### 3.2.3 Monitoring, Evaluation, and Impact Analysis of The Project "NPIWC-II".

**The Project comprises 4 Components:** namely (1) Social Mobilization (Capacity building and establishment of Water Users Associations), (2) Reconstruction/renovation and remodeling of 47,278 watercourses, (3) Construction of 14,932 Water Storage Tanks, and (4) Provision of 11,610 Laser Land Levelers.

The Project Covers Punjab, Khyber Pakhtunkhwa (KP), Balochistan, Gilgit Baltistan (GB), Azad Jammu and Kashmir (AJ&K), and Islamabad Capital Territory (ICT).

Project Direct Benefit includes, a cropping intensity to increase by 5-20%, Crops yield to increase by 10-15%, Equity in water distribution to increase by about 30%, water disputes/thefts and litigation amongst the Farmers over water distribution to

reduce by about 80%, Help poverty reduction through the generation of employment and Self-sufficiency in food through the utilization of water saved.

The total number of project beneficiaries is estimated at 1.668 million farmers (owners as well as tenants). Taking family size at five, the total net population benefitting is expected to be 8.34 million people.

In the middle of the assignment, ME&IE Consultants are required to submit a Midline Survey/ Mid-term Impact Evaluation report. Thus, in compliance with its contractual requirement, the ME&IE Consultants have prepared this report which evaluates the Project's mid-term Monitoring and Impact assessment results up to the end of June 2023 unless mentioned otherwise elsewhere. It is to be clarified here that these assessments are, however, not final. Rather these are interim and until all the surveys and studies are completed after the termination of all project activities, these will remain indicative. Thus, these assessments should be taken just as interim or indicative and not final for the time being. The main findings of the report are summarized below:

#### Progress and Monitoring of the Project (NPIWC-II):

During the Project period (4 years), a total number of 39,510 watercourses were targeted to be improved. By the end of June 2023 (during 4 years), 13,777 watercourses had been improved, showing only 35% achievement. As far as Zone-wise / unit-wise, in Punjab out of 7,600 watercourses, 4063 watercourses 53.5% (3,416 additional linings, 647 unimproved watercourses improved) were constructed.

During the Project period (4 years), a total number of 12,257 Water Storage Tanks were targeted to be constructed. By the end of June 2023, during 4 years, 5,390 WSTs were constructed, thus showing only 44% achievement. As far as zone-wise/unit-wise, in Punjab out of 2,300 WSTs 1,021 WSTs were constructed, showing 44.4% achievement.

During the Project period (4 years), a total number of 10,060 Precision Laser Land Leveling (LLL) Units were targeted to be delivered. By the end of June 2023 (during 4 years), 5,928 PLL Units were delivered showing a progress of 59% achievement. As far as zone-wise/unit-wise, in Punjab out of 8,100 LLLs, 5,844 LLL units were accomplished, which shows 72.1% achievement.

#### Evaluation of Organization of Water Users' Associations - Component C1

On an overall basis, 85% of farmers were aware of the existence/working of WUAs on their watercourses. About 94% of respondents informed that OFWM used to hold awareness meetings before the formation of the WUAs. About 74% of members had been participating in the meeting of WUAs and 98% of members reported that the WUAs were formed through a democratic process. On the whole, 92% of respondent farmers were found to be members of WUAs of which 42% were located at the head of WC reaches, 33% at middle reaches, and 25% at tail reaches and 88% of members were found water users of lined watercourses. About 94% of farmers reported that WUAs were functioning properly.

About half (49%) of the respondent farmers informed that meetings by WUAs were held, 27% informed that no meetings were held and 24% were of the view that these meetings were held to some extent. Moreover, 39% of respondents informed that they always participated in the meetings, 60% participated occasionally and one percent never participated.

Out of the total, 8% of respondents informed that the meetings were held every month, 6% said quarterly, 2% once a year and the remaining 84% informed that these meetings used to be held as and when need arose. About 85% of respondents informed the WUAs were established through a democratic process.

About 97% of member farmers responded that they faced no dispute. Only 3% faced disputes, out of which 50% always got their disputes resolved, 38% to some extent, and 12% never got their disputes resolved.

Out of 3% of respondents who faced disputes, 31% related to Land Acquisition, 59% on the distribution of Naccas, and 10% regarding funding for accounts. About 45% of disputes were solved by WUAs, 50% by OFWM department, and 5% by Irrigation Department.

#### **Impact Evaluation of Watercourses (WCs) - Component C2**

Land use intensity due to watercourse improvement on sample farms has increased by an average of 4.1%, meaning thereby an increase of 4.1% in cultivated areas. Cropping intensity has increased by 10.9%. These increases in land use and cropping intensities have resulted in about an 11.8% increase in cropped areas under various crops.

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The Watercourse Improvement Impact on Crop Yields per acre varied from 4% to 49% averaging at 11.4% on an overall basis.

The cumulative impact of watercourse improvement is reflected in the total production of various crops. Production of various crops has increased at different rates varying from 11.6% in the case of peaches to 317.6% in the case of other vegetables. However, the weighted average impact is calculated at 23% (11.4% due to yield increase 11.8% due to area increase, and 1 percent due to interaction between the two).

action between the two).

Of the total completed watercourses up to June 2023, total increases in crop area have also been estimated. Of the total of 12,968 (excluding GB) improved watercourses, the increase in the crop area has been estimated at around 196 thousand acres.

The impact of watercourse Improvement on agriculture employment has also been significant. Labor man days at the farm have increased ranging from 2 percent to more than 100% after WC Improvement averaging at 15% due to an increase in crop area, crop yields, and crop production.

rop production.

The impact of WC Improvement on per-acre net income varies from crop to crop. It varies from PKR 1,008 for cotton to PKR 37,950 for vegetables per acre averaging at PKR. 4,053 for all crops.

Water Conveyance Efficiency on 20% lined additional improved watercourses increased by 14%age point and on new 50% lined watercourses increased by 29%age point. On piped lined watercourses efficiency increases by 50%. Overall saving in water losses calculates to 30% of 154 AF per watercourse per annum. In total 2.0 MAF water saved from the improvement of watercourses, indicates \$800 million (Rs.224 billion) saved from these improved watercourses.

water saved from the improvement of watercourses, indicates \$800 million (Rs.224 billion) saved from these improved watercourses.

Spot Checking of Trees on Watercourses shows that 3,552 trees were cut down during the process of their improvement. As per the rule, at least three

times (10,656) trees were required to be planted in place of 3,552 cut-down trees, however, during the spot check it was observed that only 5,259 saplings (49% of the required ones) were planted out of which, 2,731 (52%) were survived after one year of their plantation.

d after one year of their plantation.

Spot-checking of Brick Lined Watercourses shows that the compliance of engineering parameters on Rectangular / Brick Lined Watercourses, on the whole, was satisfactory. However, lining length as per design was found on 76% of watercourses. Full-length improved water courses were extremely low; the Katcha portion of only 18% was fully improved. Katcha portions of the remaining 82% of watercourses remained unimproved.

**Spot Checking of PCP Lining Watercourses:** On Parabolic (PCPL) Watercourses, compliance with most of the parameters was found satisfactory. However, lining length as per design was found on 73% of watercourses and full-length improved water courses were extremely low i.e., only 16%.

**Spot Checking of Pipelined Watercourses:** The quality of the pipe was found good in 51% of cases, satisfactory in 45% of cases, and poor in 4% of cases only. Pipeline length was as per design in 93% of cases, bends and flanges were as per design in 68% of cases, tees were as per design in 63% of cases and sockets were 56% as per design.

% as per design.

Due to 12,968 watercourse improvements (excluding GB), the cultivated area increased by 61,144 acres, the cropped area by 196,304 acres, gross income increased by Rs. 43,352 million, and net income by Rs. 19,414 million.

#### **Impact Evaluation of Water Storage Tanks (WSTs) - Component C3**

Land use intensity due to WSTs Construction on sample farms has increased on an average by 6.3%, meaning thereby an increase of 6.3% in cultivated area. Cropping intensity has increased by 15.4%. These increases in land use and cropping intensities have resulted in about a 22% increase in cropped area under various crops.

The WSTs construction Impact on Crop Yields per acre varied from 6.6% in the case of Rabi fodder to 16.7% in the case of pulses, averaging 10.2% on an overall basis.

The cumulative impact of WSTs is reflected in the total production of various crops. Production of

various crops has increased at different rates varying from 20% in the case of cotton to 86% in the case of sugarcane. However, the weighted average impact is calculated at 35% (10% due to yield increase 22% due to area increase, and 3 percent due to interaction between the two).

Of a total of 5,062 completed WSTs (excluding GB) up to June 2023, total increases in the area have also been estimated at 10,604 acres.

The impact of WSTs on agriculture employment has also been significant. Labor man days at the farm have increased ranging from 10% to 69% after WSTs construction averaging at 22% due to an increase in crop area, crop yields, and crop production.

The impact of WSTs on per-acre net income varies from crop to crop. It varies from 1,008 PKR for cotton to 37,905 PKR for other vegetables per acre averaging at 22,262 PKR for all crops.

Before the construction of the tank, there was no such saving of water losses. The total water storage capacity from the sources mentioned above of the tank along with the reported filling-up frequency leads to calculating the water-saving impact. Overall, saving in water losses calculates to 7.31 acre-feet per Storage Tank per annum. It shows that on an overall basis, 39,401 acre-feet (0.0394 MAF) of water was saved. As per the estimated economic value 1 MAF = \$ 400. It means due to Water Storage Tanks water savings the economic value becomes \$15.76 million (Rs. 4.41 billion)

On 222 spot-checked WSTs, 256 trees were reported to be cut down. In their place 922 (more than thrice as per requirement) Saplings were planted out of which 327 survived after one year. WST protection arrangements were about 84% satisfactory and 98% of WSTs were properly maintained.

Out of 222 spot-checked WSTs, satisfactory Excavation Certificates were issued by the Consultants to 192 (87%) WSTs.

About 171 (77%) WSTs were completed before receiving the subsidy amount. The rest 51 (23%) were completed after receiving the subsidy from the department.

Out of a total of 222 spot-checked WST, on an overall basis, 203 (91%) have been completed as per approved standards and specifications.

Due to 5,062 WSTs (excluding GB), the cultivated area increased by 3,460 acres, the cropped area by 10,604 acres, gross income increased by 3,275 million PKR, and net income by 1,780 million PKR.

### Impact Evaluation of Provision of Laser Land Levelling (LLLs) Units (Component C4)

**Educational Profile of Sample Beneficiaries:** Most of the beneficiaries (95%) were found literate. About 15% of beneficiaries are primary/middle level, 27% matric, 20% Intermediate, 25% Graduates, and 9% postgraduate.

**Suppliers of Precision (Laser) Land Levelers:** In Total 160 Laser Land Leveling (LLLs) sample units have been supplied, 148 were delivered in Punjab, 5 in KP, and 7 in Balochistan. The Supply and Service Companies (SSCs), namely Crosfield Agro (21), Easy Farming (24), Modern Farming (14), Ruba Digital Laser (21), and other SSCs (80).

About 56% of LLL drivers were fully trained for running LLLs in the field and got formal training. Around 41% were self-trained and the remaining 3% were found un-trained during the monitoring survey.

About 64% of respondents ranked these LLL units as good, 31% as satisfactory, and 4% as unsatisfactory. About 1 to 2 percent responded that they did not know. It means that 95% of beneficiaries regarded the quality/durability of the delivered LLL units as satisfactory at least.

Regarding after-sales service, 61% regarded it as good, 13% as poor, 6% as very poor, and 21% responded that they did not know.

About 53% of beneficiaries responded that the attended complaints by SSCs were prompt and 16% informed that the complaints were not being attended promptly.

As for the prices of LLL, 9% of respondent beneficiaries informed that the SSCs charged high prices, 54% informed that the prices were normal, and the remaining 37% responded that they did not know.

The respondents were also asked about the availability of spare parts by the SSCs. Out of a total of 160 respondents, 30% responded that spare parts were available with SSCs whenever required, 7% informed that it took a long time, whereas the remaining 63% informed that they did not need these spare parts as yet.

As for the prices of PLL spare parts charged by the SSCs, 8% of respondent beneficiaries informed that the SSCs charged high prices, 27% informed that the prices were normal, and the remaining 66% responded that they did not need these spare parts as yet.

The respondent beneficiaries were also asked about the availability of spare parts in the open market. About 36% of respondents informed that these spare parts are only available with the SSCs, 7% informed that the spare parts were also available in the market, while the rest 57% informed that they did not know.

While spot-checking, all 160 (100%) respondents were using PLL for agricultural purposes. No respondent was found using LLL for non-agricultural purposes.

The LLLs were also spot-checked concerning their working conditions. Out of the total, 60% were found in good condition and well-maintained. The condition of 35% was satisfactory and the remaining 5% were found in poor/unsatisfactory condition.

**Record Keeping of Laser Land Leveling Services to Other Farmers:** About 97% of PLL owners provide laser leveling servicing to the other fellow farmers. Out of these service providers, only 14% keep a complete or partial record of their lending services. Out of these 14 percent, 55% keep records on logbooks, 36% on loose papers.

**Land Leveled during the last Rabi and Kharif cropping Seasons:** The total laser land leveled by the 160 respondent PLL owners during the last Rabi and Kharif cropping seasons was 40,711 acres or 254 acres per LLL. Out of these total 40,711 acres, 4,092 acres (26 acres per equipment) were owned land, and 36,619 acres (228 acres per equipment) were laser leveled on rent of other fellow farmers.

**LLL Beneficiaries:** Total annual LLL beneficiaries calculated to 11,331 farmers including the owners themselves or 71 farmers per equipment.

**Impact of LLL on Crop yields:** The impact of LLL on crop yield was also assessed through the farmers' perception. The growers were of the view that laser leveling increases yields of various crops ranging from 8% to 14% averaging at 11% on the whole. The economics and economic benefits of PLL use were also estimated. The total number of delivered LLLs up to the end of June 2023 is 5,928. At the rate of 254 acres per PLL, the total area leveled by all the delivered LLLs is calculated as 1,506 thousand acres.

Net benefits per LLL come to 521 thousand PKR per annum and for a total of 5,928 delivered LLLs, these calculate to 3,091 million PKR.

**Water Saving Impact of LLL Units:** Information was also asked from the growers regarding the saving of water due to Precision Land Leveling. On average 25% saving in water use has been reported.

**Economic Analysis:** The benefit-cost ratio at a 12% discount factor in the evaluation is calculated (B/C) at 2.5 and the Internal Rate of Return (IRR) is 50%.

**On net and on an overall basis total estimated benefits of all three interventions is Rs. 252.69 billion (i.e., 243.41 WCs + 6.19 WSTs + 3.09 LLLs).**

### 3.3 ACTIVITIES ICT UNIT – MARCH 2024

The Monthly Monitoring Report for March 2024 presents a brief overview of the salient activities and actions performed by the ME&IE consultants of the ICT-UNIT, Islamabad as under:

- Regular Monitoring visits and spot checks of the Watercourse (underground pipeline PVC 3") at Village "Tumair" ICT.
- Submitted the MMR Feb-2024 after editing, verifying, and processing through the respective stakeholders.
- The Team Leader and Deputy Team Leader of the ICT-Unit and National Office at Islamabad supervised admin and Financial liabilities.
- Routine in-house meetings with the M&E consultants, and top of all a special performance review meeting of the NPIWC-II project was held on the call of NPC. The project's team leader gave a presentation to the NPC on the premises of his office in Islamabad.
- Three special reports on this project's impact were prepared and submitted to the client's office for their review and feedback, in line to meet the obligation of deliverables.

#### 3.3.1 Overall Progress:

About address the updated activities of the ME&IE consultants, Islamabad Unit, is presented as they had completed the Baseline- I &II, Midline Impact survey while Baseline-III & Endline survey as well as the ongoing and routine regular monitoring and spot-checking activities are in progress in collaboration with cooperating field operational departments including OFWM, Water Users Associations and beneficiaries of the targeted schemes (i.e., WC, WST).

From inception to date, the ME&IE Consultants ICT field team conducted baseline vis-a' vis impact surveys of **43** watercourses in AJK & ICT as well as baseline vis-a'-vis impact surveys of more than **18**

water storage tanks in AJK and **19** in Potohar region of Punjab Zone. The details about those schemes have already been presented in the tabular and graphic forms in the previous MMRs.

#### 3.3.2 Quarterly Work and Visit Plan – Islamabad Unit

The ME&IE consultants of ICT & AJK Units have revisited the tentative field survey schedule for conducting the remaining baseline, impact/endline survey, regular monitoring, spot checking, and case studies. These surveys will be focused on sampled households and schemes related to WC improvements, WST construction, and provision of Laser Land Levelers. The Tentative field visit plan (March - April 2024) is elaborated in the following matrix:

Table 3.1: Tentative Field Survey Schedule for the Sampled Schemes during the Current Quarter

Sr. #	Date	Zone	District	Village	Wc/WST -ID	Scheme	Purpose
1	1-Mar-24	ICT	ICT	Mauza Nilor	Imran Khan	WC	Impact/End Line survey & Spot Check/ Regular Monitoring
					Adnan Rasheed	WC	
2	4-Mar-24	ICT	ICT	Mauza Chak Shehzad	Ghulam Mustafa	WC	Impact/End Line survey & Spot Check/ Regular Monitoring
					Talib Hussain	WC	
3	5-Mar-24	ICT	ICT	Mauza Chirah	Nafees Azad	WC	Impact/End Line survey & Spot Check/ Regular Monitoring
				Mauza Kinjah	Tariq Hussain	WC	
4	6-Mar-24	Punjab	Rwp	Chakri	Ch. Hassan Mehmood	WST	Impact/End Line survey & Spot Check/ Regular Monitoring
5	7-Mar-24	Punjab	Rwp	Mahota	Muhammad Naveed	WST	
6	11-Mar-24	Punjab	Rwp	Gandian	M. Israar Ahmed	WST	Impact/End Line survey & Spot Check/ Regular Monitoring
7	12-Mar-24	Punjab	Rwp	Salmon	Ch. Tahir Mehmood	WST	
8	13-Mar-24	Punjab	Texila	Kurab Usman	Abdur Rehman	WST	Impact/End Line survey & Spot Check/ Regular Monitoring
9	14-Mar-24	Punjab	Texila	Shah pur	Syed Akhtr Hussain	WST	Impact/End Line survey & Spot Check/ Regular Monitoring
10	18 <sup>th</sup> to 20 <sup>th</sup> Mar-24	AJK	MZD	Musa Agarr	Muhammad Safeer	WC	Impact/End Line survey & Spot Check/ Regular Monitoring
				Tehriyan Bala	Shehar Yar Ali	WST	
				Kanoor	Nasir Abbas	WC	
11	22-Mar-24	AJK	Mirpur	Bung	Sher Abbas	WC	Impact/End Line survey & Spot Check/ Regular Monitoring
12	24-Mar-24	Punjab	Texila	Ghazi Khohli	Muhammad Younas	WST	Impact/End Line survey & Spot Check/ Regular Monitoring
13	1-Apr-24	AJK	Mirpur	Mirpur	Raja Jageer	WST	Impact/End Line survey & Spot Check/ Regular Monitoring
14	2-Apr-24	AJK	Mirpur	Dadyal (darrai West 1)	Nisar Ahmed	Wst	Impact/End Line survey & Spot Check/ Regular Monitoring
15	3-Apr-24	Punjab	Chakwal	Chak Malook	Zaqham Khan	WST	Impact/End Line survey & Spot Check/ Regular Monitoring
16	15 <sup>th</sup> to 17 <sup>th</sup> Apr-24	AJK	Jehlum Valley	Chakhama	Abdul Hameed	WC	Impact/End Line survey & Spot Check/ Regular Monitoring
				Langla	M. Munir Khan	WC	Impact/End Line survey & Spot Check/ Regular Monitoring
17				Kohoriyan	Nasir Abbas	WST	Impact/End Line survey & Spot Check/ Regular Monitoring
18	18-Apr-24	AJK	Kotli	Khoirata	WcBeyal (Munir Hussain)	WC	Impact/End Line survey & Spot Check/ Regular Monitoring
19	19-Apr-24	AJK	Kotli	Nain Sukh	Shabir Ahmed	WST	Impact/End Line survey & Spot Check/ Regular Monitoring
20	12 to 14 Mar-24	AJK	Poonch	Mangar	Manzoor Ahmed	WHS	Impact/End Line survey & Spot Check/ Regular Monitoring
				Arricot Natar	Muhammad Saqib Riaz	WHS	

Sr. #	Date	Zone	District	Village	Wc/WST -ID	Scheme	Purpose
				WC-Kanyann	Muhammad Saleem Khan	WC	
21	22 & 23 Apr-24	AJK	Mirpur	Balloh	shakir Hussain	WHS	Impact/End Line survey & Spot Check/ Regular Monitoring
				Mawa	shakir Hussain		Impact/End Line survey & Spot Check/ Regular Monitoring
22	24 <sup>th</sup> to 26 <sup>th</sup> Apr-24	AJK	Poonch	Mangar	Mazoor Ahmed	WHS	Impact/End Line survey & Spot Check/ Regular Monitoring
				Arricot Natar	Muhammad Saqib Riaz		Impact/End Line survey & Spot Check/ Regular Monitoring
				Wc- Kanayan	M.Saleem Khan	WC	Impact/End Line survey & Spot Check/ Regular Monitoring
23	29 <sup>th</sup> & 30 <sup>th</sup> Apr	AJK	Bhimber	Khol-1	Shakeel Ahmed Khan	WC	Impact/End Line survey & Spot Check/ Regular Monitoring
				Wc-Sakrana	Sikandar Azam	WC	Impact/End Line survey & Spot Check/ Regular Monitoring

**Brief Profile of WC / Owner**

<b>Date</b>	7-03-2024
<b>Scheme</b>	Water Course
<b>Farmer Name</b>	Sher Bahadur Zada khan
<b>Name of village:</b>	Tumair
<b>District:</b>	ICT
<b>Province</b>	-
<b>Source of irrigation:</b>	Mini dam, Nalla
<b>Type of WC:</b>	Pipe line PVC 3"
<b>Command area of WC:</b>	2.75 Acres
<b>No of beneficiaries:</b>	1



**Mix Vegetable Crops grown for Home consumption at Tumair ICT**



**Interview taken from the Beneficiary at his Field**



**Image of Wheat crop grown at Tumair-ICT**

**Observations:**

- The beneficiary has cultivated wheat, Mustard and vegetables on his fields.
- The intervention was properly maintained.
- No damages or leakages were found.
- The farmer was very satisfied with the intervention.
- Before this intervention, he was not cultivating any crop on this land, since it was newly brought under cultivation.
- The land was leveled before the cultivation of the crops.
- He has hired Permanent labor to look after his farming operations. He was living along with his family at the farm on the monthly remuneration basis @ 25000 PKR.

**SOME OF THE CHALLENGES & SUGGESTED MEASURES DISCUSSED AS UNDER:**

• **Some of the Constraints are as Follows:**

The field visits in March could not fully manage as per scheduled plans, and hence rescheduled with revised program as illustrated in earlier section of this report until the entertainment of the bottlenecks such as:

- Provision of updated list of beneficiaries for the on-going and in-process schemes of the targeted interventions (to determine the sample size, the need of sampling frame is prerequisite).

**Key Proposals to Manage the Targeted Field Surveys/ Plans:**

- a. Availability of sampling frame list of the targeted interventions for the schemes including WCs and WSTs as well as LLLs from the respective stakeholders.
- b. First aid box, and necessities like, an umbrella, water with cooler to combat the emergency,
- c. Tablet may be provided to the Field team members for facilitating online data transfer

**3.4 ACTIVITIES PUNJAB ZONE – MARCH 2024**

During March 2024, due to certain unavoidable circumstances particularly the financial crunch, the outdoor activities of the ME&IE consultants remained lower than normal. However, Punjab zone has successfully performed / evaluated various activities of the project as under:

**Pre-Field Activities:**

Discussions of the Deputy Team Leader were held with the Field In-charge/ team members. The main issues related to the remaining upcoming baseline /Monitoring and impact surveys were discussed. Moreover, the other problems relevant to the data collection for the MIS- Dashboard were discussed.

**Field Activities / Field Visits**

From inception to the reporting month, the ME&IE Consultants' Punjab field team conducted baseline vis-a' vis impact surveys on a total of **250** watercourses. In addition, they completed baseline and impact surveys for **80** water storage tanks (**61** by Punjab field team and **19** of Potohar Region by ICT Field team) and conducted impact assessments on **148** PLL interventions.

**1. Visit to Watercourse No 1400/R (Kaur)**  
**Date of visit 25/03/2024**

**Brief profile of Watercourse**

Particular Name/Number

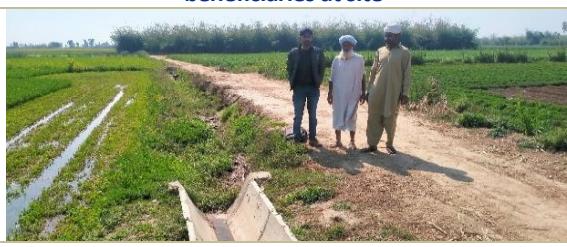
District	Kasur
Tehsil	Kasur
Disty /Minor	Chinna
Watercourse Number	1400/R
Village/Chak	Raja Jang
UC (No)	Raja Jang
PP (No)	176
NA (No)	132
Name of Chairman	Ali Muhammad Khan
Share Holders (Nos)	17
to be around Moga	AOSM
Regular/Additional	Additional
Improvement Year	2021-22
Sanctioned Discharge	60 LPS
Design Discharge	70 LPS
Area (GCA)	250 Acres
Area (CCA)	240 Acres
Total Length of WC	4548 Meters
Length of Lining	2264 Meters
Lining Type	PCPS
Ground Water Quality (Fresh/Saline)	Saline



A view of the lined portion of the Watercourse



The consultants team discussing issues with the beneficiaries at site



At Tail end view of lined Portion of Watercourse

As a result of the field visit and recording the observations of beneficiaries, it could be concluded that,

- Wheat and rice were the main crops grown.
- The average yield of wheat before this intervention was 30 to 35 maunds per acre. Now it is estimated to be around 40 maunds per acre.
- Similarly, the average yield of rice has increased from 10 to 12 maunds per acre during the same period.

#### A. Field Visit of Watercourse

#### 2. Visit to Watercourse No 23400L/L (Kot Radha Kishan)

Date of visit 26/03/2024

#### Brief profile of Watercourse

Particular Name/Number

District	Kasur
Tehsil	Kot Radha Kishan
(Disty /Minor)	Chinna
Watercourse Number	23400/L
Village/Chak	Matta
UC (No)	Matta

PP (No)	175
NA (No)	132
Name of Chairman	Abdul Jabbar
Share Holders (Nos)	37
Moga Type	AOSM
Regular/Additional	Additional
Improvement Year	2021-22
Sanctioned Discharge	55 LPS
Design Discharge	60 LPS
Area (GCA)	345 Acres
Area (CCA)	340 Acres
Total Length of WC	3300 Meters
Length of Lining	1341 Meters
Lining Type	PCPS
Ground Water Quality (Fresh/Saline)	Saline



A view of the improved Portion of the Water Course



A view of Coordinates taken at Moga Point



The watercourse at the end of Pakka Portion

The observations of the field team and the perceptions of Beneficiaries reflected the picture of the impact on major crops viz., wheat and rice. An increase in yield before and after the improvement of the watercourse was about 20 to 25 percent per acre in such crops.

### Post Field Activities

Validation and Rectification of the accumulated data on the PMIS-Dash Board is a regular exercise of the Consultants. For these purposes, the consultant's field team members remained busy in dialogues with the field team of OFWM.

### Coordination / Meetings with Stakeholders / Beneficiaries

The physical meetings and telephonic conversation of the Deputy Team Leader as well as the field team with stakeholders/beneficiaries and concerned staff of OFWM, were positive signs of coordination. As mentioned earlier, nominal outdoor activities were conducted due to certain reasons. During the month no physical meeting could be held but only telephonic coordination was possible.

### Internal meetings

Holding such meetings in the zonal office in Lahore was a regular practice. During this month the main agenda was to review and resolve the day-to-day issues.

### 3.5 ACTIVITIES OF KP ZONE – MARCH 2024

The ME/IE Consultants are committed to achieving the project objectives well in time. So, it is important to keep cordial relations with all the stakeholders including the OFWM Department, beneficiaries of the NPIWC-II, (those farmers who availed water course/water storage tanks construction or improvement facility of the NPIWC-II project), and other relevant departments engaged in agricultural development activities. The ME&IE consultants KP zone keep close coordination with OFWM Directorate, Agriculture Secretariat, and other office work. What follows next is the activities performed by the KP zonal office staff in Peshawar during March 2024.

Major Activities of the ME&IE Consultants, KP:

- ❖ Internal Meetings
- ❖ Meetings (Formal and Informal)
- ❖ Monitoring of data
- ❖ Verification of WC and WSTs through Google Earth
- ❖ Writing of MMR of February 2024
- Internal staff meeting between the DTL and FTIs were held on March 28, 2024. The agenda of the meeting was to discuss the plan of the remaining field visits for the Endline survey.

The following attended.

Prof. Dr. Humayun khan DTL KP Zone  
Mr. Muhammad Bilal FTI  
Mr. Imran Gul FTI  
Mr. Qaiser Khan FO  
Mr. Farhan Tayyab FO



Figure 1: Internal meeting held on March 28, 2028



Figure 2: Internal office meeting held on March 28, 2024.

The agenda of the meeting was to discuss the remaining field survey for the Endline impact. The item was discussed in detail and it was decided that all three teams will be mobilized for this purpose after the release of funds from the concerned quarters.

The DTL also directed the FTIs to visit the coordinator NPIWC-II of OFWM Department KP and update themselves about the progress made so far in the construction of water courses and water storage tanks in different districts of KP.

The meeting was adjourned with a vote of thanks by the DTL.

Meetings were held with OFWM Officials for the collection of relevant information on undergoing schemes. However, it was found that schemes were mostly completed under the NPIW program. New schemes will be initiated when Govt. may allocate the budget.

NPIWC-II KP all watercourse, and water storage tank schemes coordinates were verified through Google Earth and identified incorrect coordinates.

Drafted KP MMR report for February 2024.

### 3.5.1 Updated progress of ME&IE Consultants - KP.

#### Overall Progress:

**Meetings:** During the current reporting month, coordination and meetings both internal and with the OFWM department of KP were held to get acquainted with the ongoing activities of the OFWM Department, KP. The purpose of these meetings was to collect the GPS location-based data for dashboard completion and visits of teams to different destinations for baseline surveys. OFWM directorate extended their usual support and provided all the relevant information. The ME&IE Consultants made frequent visits to the directorate of OFWM to acquaint themselves with the ongoing schemes processing under the NPIWC-II by the concerned department. Some schemes were found stuck due to the lack of funds from the Government. During these meetings, general discussions were also made about the perceptions of the farmers about these schemes. As per the OFWM Department's officials, more than ninety percent of the farmers are satisfied with the benefits of these schemes in terms of increase in crop productivity, cropping intensities, and time-saving. In pursuance of the internal meeting held on March 28, 2024, another meeting was scheduled on March 29, 2024, at 11.00 am with Mr. Hayat Khan Focal Person NPIWC-II at his office.

The agenda of the meeting was to update the ME&IE consultants about the ongoing activities of construction of water courses and water storage tanks under the NPIWC-II project during the year 2023-24 in KP.



Figure 3: Meeting of ME&IE Consultants with Focal Person NPIWC-II of OFWM Department, KP



#### Figure 4: Meeting of ME/IE Consultants with Focal Person NPIWC-II of OFWM Department, KP

Venue of the meeting was Office of the Focal person of the NPIWC-II at the OFWM Department KP. Participants of the meeting were as follows:

1. Mr. Hayat Khan, Focal Person NPIWC-II OFWM Department, KP
2. Mr. Qaiser Khan, FTI ME/IE Consultants
3. Mr. Muhammad Bilal, FTI ME/IE Consultants
4. Mr. Farhan Tayyab, FTE ME/IE Consultants
5. Mr. Ihsan, Irrigation Engineer OFWM Department, KP

The meeting was held in a cordial atmosphere. The Focal person gives a brief note about the general situation of different schemes under the NPIWC-II Project. He also complained about the shortage of funds from the Government side due to which the required targets cannot be achieved. He also showed concern about the slow progress of ME/IE Consultants. In response, the Consultants explained the financial hurdles from the Client side that give rise to such a situation.

#### FIELD SURVEYS:

The monitoring / Baseline pertains to Various interventions of the project viz, improvement of watercourses, water user associations, construction of water storage tanks, and laser land levelers. Such surveys are carried out from time to time as a part of the regular activity of ME&IE Consultants. From inception to date the KP field team of ME&IE Consultants conducted baseline vis-a-vis impact surveys of **205** watercourses in KP and **40** in GB. Moreover, the consultants had completed baseline vis-a-vis impact surveys of **79** water storage tanks in KP and **15** in GB. Impact assessment field visits of **05** PLL interventions were also carried out in KP.

#### Data Entry and GPS validation:

During the reported months, the KP Teams entered and validated the GPS locations for hundreds of schemes of KP province. The activity was distributed among different team members with the help of the ICT team of KP. OFWM directorate extended their usual support and provided all the relevant information.

#### Capacity Building of ME&IE Consultants and OFWM staff on Android Application:

During the current reporting month, informal trainings were imparted to OFWM officials. However, continuous support was provided to

OFWM officials on the telephone for any issue while operating the Android system and/or data collection process. IT team carried out various visits to the Directorate of OFWM, KP and assessed the understanding of field staff for utilization of the Android app to collect the data of GPS coordinates. It was found that there was some negligence from the staff of OFWM in the collection of GPS coordinates, which was planned to overcome.

The gaps were filled in the understanding of the field teams of OFWM and ensured that they may follow the principles of the data collection soon for the quality data gathering.

### 3.5.2 Justification for not Meeting the Targets in time:

Nonpayment of funds by the client was the main hurdle in meeting the targets well in time.

### 3.5.3 Key Challenges & Mitigation Measures Adopted

#### Some Limitations:

- Due to overall economic situation & liquidity crunches prevailing in the country currently, funds release delays were evident leading to slowing down progress of overall project.
- Directorate remains involved in implementation of other funded projects with the NPIW-II. So, they are not able to give much time to ME&IE Consultants.

#### 3.5.4 Suggestions:

For the Smooth operations of field activities following suggestions are forwarded:

- There should be a proper modus operandi for meetings and consistent follow-up among stakeholders to ensure smooth functioning of all aspects and timely resolutions of any impeding hindrances.
- Exposure of Dashboard with its broader perspective and application may present amongst the relevant authorities for its importance and further release of funds for the project activities.

- First aid box and necessities (umbrella) must be provided to the field team to meet any emergency.
- Tablet must be provided at least 2-3 days prior field visit.

### 3.5.5 Quarterly Work Plan – KP Zone

The ME&IE Consultants, KP is committed to accomplishing all deliverables on due dates.

### 3.6 ACTIVITIES DONE BY BALOCHISTAN ZONE – MARCH 2024

#### 3.6.1 Updated Progress of ME&IE Consultants – Balochistan

The ME&IE Consultants, Balochistan, have monitored 17 sites during the pre-testing of Monitoring Tools in different months. A total of 13 sites were monitored during executive visits with high officials. The ME&IE Consultants, Balochistan have conducted three baseline surveys, the first was conducted in 2021, the second was conducted in 2022 and the third was conducted in 2023-24. A total of 351 sites were visited during the baseline surveys, i.e., 203 Watercourses and 148 Water Storage Tanks. The ME&IEC, field teams visited 07 sites of PLL out of 34 total sites; the percentage of monitored sites is 20%. The Impact Assessment Survey was conducted in the 2022-23 and 2024 in which 351 sites (203 Watercourses and 148 Water Storage Tanks) have been visited so far. Regular monitoring/spot-checking is another important activity of ME&IE Consultants in which more than 385 sites of different districts have been visited/monitored till the reporting month. In regular monitoring, ME&IE Consultants monitored ongoing / completed sites covering till date. The district wise updated status of the total activities done is given in the table below:

:

Table-3.1 District-wise Summary of M&E Consultants Field visits till March 2024

Sr. #	District	Baseline Survey		Impact Assessment Survey		Impact Survey (LLL)
		WC	WST	WC	WST	
1	Quetta	4	15	4	15	-
2	Pishin	10	9	10	9	-
3	Killa Abdullah	5	3	5	3	-
4	Ziarat	4	4	4	4	-

Sr. #	District	Baseline Survey		Impact Assessment Survey		Impact Survey (LLL)
		WC	WST	WC	WST	
5	Mastung	9	8	9	8	-
6	Nushki	6	3	6	3	-
7	Sibi	3	3	3	3	-
8	Jhal Magsi	2	4	2	4	-
9	Kachhi	5	10	5	10	-
10	Naseerabad	9	6	9	6	-
11	Jaffarabad	7	1	7	1	4
12	Sohbatpur	10	1	10	1	3
13	Loralai	17	7	17	7	-
14	Dukki	2	2	2	2	-
15	Zhob	4	4	4	4	-
16	Kila-Saifullah	12	6	12	6	-
17	Musa khel	11	2	11	2	-
18	Sherani	4	2	4	2	-
19	Khuzdar	8	7	8	7	-
20	Kalat	13	9	13	9	-
21	Pangur	8	8	8	8	-
22	Awaran	8	4	8	4	-
23	Barkhan	3	3	3	3	-
24	Chaghi	4	3	4	3	-
25	Dera Bugti	5	2	5	2	-
26	Gwadar	2	1	2	1	-
27	Harnai	2	1	2	1	-
28	Kech	6	5	6	5	-
29	Kharan	4	2	4	2	-
30	Kohlu	3	2	3	2	-
31	Lasbela	10	8	10	8	-
32	Surab	2	2	2	2	-
33	Washuk	1	1	1	1	-
<b>Sub-Total</b>		<b>203</b>	<b>148</b>	<b>203</b>	<b>148</b>	<b>7</b>

### 3.6.2 Updated Status of Technical Sanctions

The DG of OFWM issued numerous Technical Sanctions (TS) for different zones in the month of March 2024. The details of TS issuance district-wise are mentioned below:

Detail of TS Shared with Mr, Shumail in March 2024.

S. No,	District	Year
1	Mosa Khail	2021-22
2	Harnai	2021-22
3	Mosa Khail	2022-23
4	Washuk	2021-22
5	Chaghi	2022-23
6	Zhob	2021-22
7	Lasbella	2021-22
8	Quetta	2022-23
9	Kharan	2022-23
10	Sherani	2021-22

S. No,	District	Year
11	Sibi	2022-23
12	Harnai	2022-23
13	Panjgor	2021-22
14	Pishin	2021-22

### 3.6.3 Updated Status of Dashboard Balochistan

The DTL, Balochistan zone has diligently undertaken several visits to the DG, OFWM Office, and these efforts have attained positive results, with the OFWM staff in catapult their response is positive and cooperative.

Furthermore, the On Farm Water Management (OFWM) staff has been extremely supportive, demonstrating a commendable level of responsiveness. Their cooperation has been instrumental in providing the necessary data, covering the fiscal year 2020-21, comprehensively.

The significant data forward by the respective cooperating departments helped in achieving our objectives for fulfilling the Dashboard requirements of Balochistan Zone.

The worthy DG, OFWM, Balochistan is requested to direct the concerned officials to expedite the data validation process of the last three financial years i.e. 2019-20, 2020-21, and 2021-22, and provide the necessary support and resources as required. It was also requested to give the necessary directions to all DDs and concerned staff to upload the beneficiary/ schemes data on "Dashboard, Balochistan" through the Android Based data application of the current F.Y. 2023-24 so that the ME&IE Consultants could update their

field visits plan and complete remaining Baseline and impact field survey activities accordingly.

The updated progress of Dashboard, Balochistan, district-wise is stated below:

**District-wise Progress of Watercourses Improvement for Updates of Dashboard, Balochistan**

Division	District	2019-20		2020-21		2021-22		TOTAL	
		Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM
Kalat	Awaran	140	76	22	22	0	0	162	98
Kalat	Kalat	97	0	28	28	158	123	283	151
Kalat	Khuzdar	139	0	17	0	9	6	165	6
Kalat	Lasbela	110	0	35	0	44	35	189	35
Kalat	Mastung	102	93	30	1	66	60	198	154
Kalat	Surab	20	20	11	11	11	11	42	42
<b>Total</b>		<b>608</b>	<b>189</b>	<b>143</b>	<b>62</b>	<b>288</b>	<b>235</b>	<b>1039</b>	<b>486</b>
<b>(%)</b>		<b>31%</b>		<b>43%</b>		<b>82%</b>		<b>47%</b>	
Loralai	Barkhan	61	0	0	0	3	0	64	0
Loralai	Duki	27	27	15	15	1	1	43	43
Loralai	Loralai	158	157	47	43	132	130	337	330
Loralai	Musakhail	100	99	86	44	1	0	187	143
<b>Total</b>		<b>346</b>	<b>283</b>	<b>148</b>	<b>102</b>	<b>137</b>	<b>131</b>	<b>631</b>	<b>516</b>
<b>(%)</b>		<b>82%</b>		<b>69%</b>		<b>96%</b>		<b>82%</b>	
Makran	Gwadar	12	0	11	0	0	0	23	0
Makran	Kech	68	68	20	20	44	44	132	132
Makran	Panjgur	124	73	25	25	5	5	154	103
<b>Total</b>		<b>204</b>	<b>141</b>	<b>56</b>	<b>45</b>	<b>49</b>	<b>49</b>	<b>309</b>	<b>235</b>
<b>(%)</b>		<b>69%</b>		<b>80%</b>		<b>100%</b>		<b>76%</b>	
Nasirabad	Jaffarabad	53	53	32	32	56	56	141	141
Nasirabad	Jhal Magsi	16	0	6		5	0	27	0
Nasirabad	Kachi	81	81	18	18	3	3	102	102
Nasirabad	Nasirabad	52	0	35	35	82	82	169	117
Nasirabad	Sohbatpur	14	14	20	20	45	41	79	75
<b>Total</b>		<b>216</b>	<b>148</b>	<b>111</b>	<b>105</b>	<b>191</b>	<b>182</b>	<b>518</b>	<b>435</b>
<b>(%)</b>		<b>69%</b>		<b>95%</b>		<b>95%</b>		<b>84%</b>	
Quetta	Killa Abdullah	106	0	2	0	2	0	110	0
Quetta	Pishin	99	97	39	2	52	52	190	151
Quetta	Quetta	41	25	10		33	26	84	51
<b>Total</b>		<b>246</b>	<b>122</b>	<b>51</b>	<b>2</b>	<b>87</b>	<b>78</b>	<b>384</b>	<b>202</b>
<b>(%)</b>		<b>50%</b>		<b>4%</b>		<b>90%</b>		<b>53%</b>	
Rakhshan	Chaghi	49	49	28	28	0	0	77	77
Rakhshan	Kharan	23	23	3		55	55	81	78

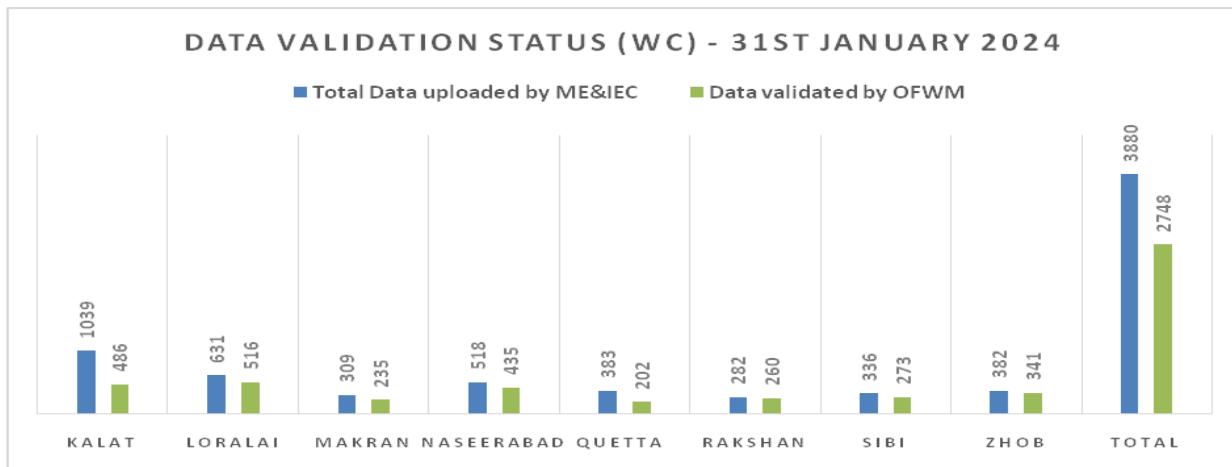
Division	District	2019-20		2020-21		2021-22		TOTAL	
		Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM
Rakhshan	Nushki	38	38	25	25	40	39	103	102
Rakhshan	Washuk	18	0	2	2	0	0	20	2
<b>Total</b>		<b>128</b>	<b>110</b>	<b>58</b>	<b>55</b>	<b>95</b>	<b>94</b>	<b>281</b>	<b>259</b>
<b>(%)</b>		<b>86%</b>		<b>95%</b>		<b>99%</b>		<b>92%</b>	
Sibi	Dera Bugti	34	0	0	0	65	65	99	65
Sibi	Harnai	23	0	19	15	0	0	42	15
Sibi	Kohlu	41	41	17	17	0	0	58	58
Sibi	Sibi	33	33	6	6	25	25	64	64
Sibi	Ziarat	54	54	17	15	2	2	73	71
<b>Total</b>		<b>185</b>	<b>128</b>	<b>59</b>	<b>53</b>	<b>92</b>	<b>92</b>	<b>336</b>	<b>273</b>
<b>(%)</b>		<b>69%</b>		<b>90%</b>		<b>100%</b>		<b>81%</b>	
Zhob	Killa Saifullah	158	124	38	38	39	39	235	201
Zhob	Sherani	19	18	8	8	39	38	66	64
Zhob	Zhob	55	55	23	20	3	1	81	76
<b>Total</b>		<b>232</b>	<b>197</b>	<b>69</b>	<b>66</b>	<b>81</b>	<b>78</b>	<b>382</b>	<b>341</b>
<b>(%)</b>		<b>85%</b>		<b>96%</b>		<b>96%</b>		<b>89%</b>	
<b>GRAND TOTAL</b>		<b>2165</b>	<b>1318</b>	<b>695</b>	<b>490</b>	<b>1020</b>	<b>939</b>	<b>3880</b>	<b>2747</b>
<b>(%)</b>		<b>61%</b>		<b>71%</b>		<b>92%</b>		<b>71%</b>	

• District-wise Progress of Water Storage Tanks Construction for the updates of Dashboard, Balochistan

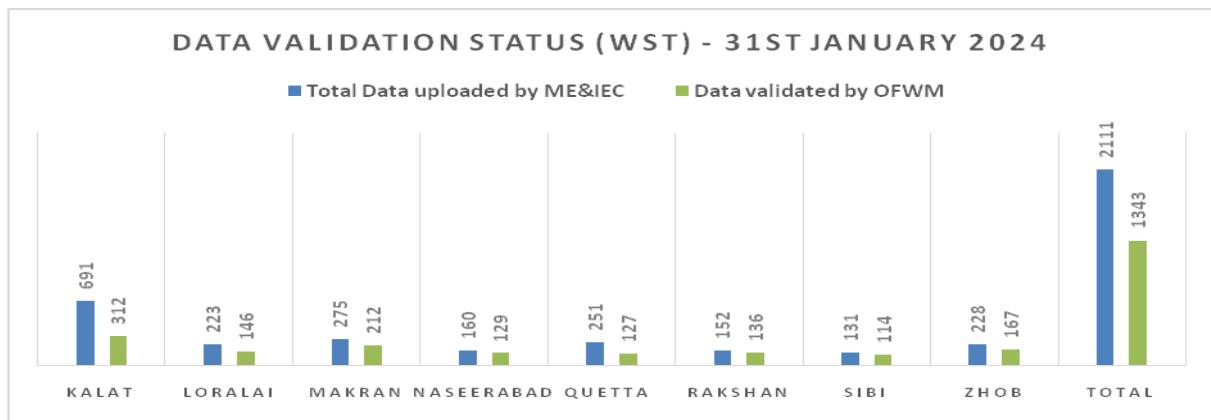
Division	District	2019-20		2020-21		2021-22		TOTAL	
		Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM
Kalat	Awaran	12	12	27	27	48	0	87	39
Kalat	Kalat	20	2	32	32	127	65	179	99
Kalat	Khuzdar	20	0	30	0	89	68	139	68
Kalat	Lasbela	20	0	24	0	106	45	150	45
Kalat	Mastung	20	18	32	2	55	12	107	32
Kalat	Surab	3	3	9	9	17	17	29	29
<b>Total</b>		<b>95</b>	<b>35</b>	<b>154</b>	<b>70</b>	<b>442</b>	<b>207</b>	<b>691</b>	<b>312</b>
<b>(%)</b>		<b>37%</b>		<b>45%</b>		<b>47%</b>		<b>45%</b>	
Loralai	Barkhan	15	0	0	0	39	6	54	6
Loralai	Duki	7	7	9	9	13	13	29	29
Loralai	Loralai	22	22	32	3	59	59	113	84
Loralai	Musakhail	11	11	16	16	0	0	27	27
<b>Total</b>		<b>55</b>	<b>40</b>	<b>57</b>	<b>28</b>	<b>111</b>	<b>78</b>	<b>223</b>	<b>146</b>
<b>(%)</b>		<b>73%</b>		<b>49%</b>		<b>70%</b>		<b>65%</b>	
Makran	Gwadar	3	0	4	0	0	0	7	0
Makran	Kech	29	18	24	0	46	46	99	64
Makran	Panjgur	18	18	29	25	122	105	169	148
<b>Total</b>		<b>50</b>	<b>36</b>	<b>57</b>	<b>25</b>	<b>168</b>	<b>151</b>	<b>275</b>	<b>212</b>
<b>(%)</b>		<b>72%</b>		<b>44%</b>		<b>90%</b>		<b>77%</b>	
Nasirabad	Jaffarabad	0	0	8	8	9	9	17	17
Nasirabad	Jhal Magsi	7	0	0	0	23	0	30	0
Nasirabad	Kachi	18	18	24	24	40	40	82	82
Nasirabad	Nasirabad	0	0	8	8	9	9	17	17
Nasirabad	Sohbatpur	4	4	8	8	2	1	14	13
<b>Total</b>		<b>29</b>	<b>22</b>	<b>48</b>	<b>48</b>	<b>83</b>	<b>59</b>	<b>160</b>	<b>129</b>
<b>(%)</b>		<b>76%</b>		<b>100%</b>		<b>71%</b>		<b>81%</b>	
Quetta	Killa Abdullah	22	0	34	0	0	0	56	0
Quetta	Pishin	22	22	36	33	61	61	119	116
Quetta	Quetta	9	9	17		50	32	76	41
<b>Total</b>		<b>53</b>	<b>31</b>	<b>87</b>	<b>33</b>	<b>111</b>	<b>93</b>	<b>251</b>	<b>127</b>
<b>(%)</b>		<b>58%</b>		<b>38%</b>		<b>84%</b>		<b>51%</b>	
Rakhshan	Chaghi	10	10	23	23	14	14	47	47

Division	District	2019-20		2020-21		2021-22		TOTAL	
		Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM	Total Data uploaded by ME&IEC	Validated by OFWM
Rakhshan	Kharan	3	3	12		14	14	29	17
Rakhshan	Nushki	9	9	23	23	30	30	62	62
Rakhshan	Washuk	4		10	10	0	0	14	10
<b>Total</b>		<b>16</b>	<b>12</b>	<b>45</b>	<b>33</b>	<b>44</b>	<b>44</b>	<b>152</b>	<b>136</b>
<b>(%)</b>		<b>75%</b>		<b>73%</b>		<b>100%</b>		<b>89%</b>	
Sibi	Dera Bugti	11	11	0	0	28	28	39	39
Sibi	Harnai	3	3	6	6	12	0	21	9
Sibi	Kohlu	9	9	18	18	0	0	27	27
Sibi	Sibi	8	8	5	5	10	5	23	18
Sibi	Ziarat	4	4	6	6	11	11	21	21
<b>Total</b>		<b>35</b>	<b>35</b>	<b>35</b>	<b>35</b>	<b>61</b>	<b>44</b>	<b>131</b>	<b>114</b>
<b>(%)</b>		<b>100%</b>		<b>100%</b>		<b>72%</b>		<b>87%</b>	
Zhob	Killa Saifullah	30	20	32	32	56	56	118	108
Zhob	Sherani	4	4	6	6	15	15	25	25
Zhob	Zhob	15	10	24	24	46		85	34
<b>Total</b>		<b>49</b>	<b>34</b>	<b>62</b>	<b>62</b>	<b>117</b>	<b>71</b>	<b>228</b>	<b>167</b>
<b>(%)</b>		<b>69%</b>		<b>100%</b>		<b>61%</b>		<b>73%</b>	
<b>GRAND TOTAL</b>		<b>382</b>	<b>245</b>	<b>545</b>	<b>334</b>	<b>1137</b>	<b>747</b>	<b>2111</b>	<b>1343</b>
<b>(%)</b>		<b>64%</b>		<b>61%</b>		<b>66%</b>		<b>64%</b>	

- Division-wise Graphical Progress Presentation of WC Improvement for Dashboard, Balochistan



- Division-wise Graphical Progress presentation of WSTs for Dashboard Information, Balochistan



### 3.6.4 Meetings:

Date	5 <sup>th</sup> March 2024
Venue	M & E Office, Airport Road, Quetta.

#### Participants

1. Mr. Mohammad Asif Kakar NPC NPIWC-II, Islamabad.
2. Dr, Ali Raza, Project, Team Leader, NPECA, Islamabad
3. Dr, Mohammad Tahir Deputy Director (COORD) NPIWC-II, FPMU, Islamabad
4. Manzoor Ahmed Kasi, DTL, Balochistan, Zone
5. Mr. Naseeb Jan FTI, Balochistan, Zone
6. Mr, Basit Ahmed FTI, Balochistan, Zone
7. MR, Saleem Ahmed FTI, Balochistan, Zone

#### Meeting Agenda/Points discussed:

- The meeting commenced with a comprehensive review of the updated progress with Engineer, OFWM, Balochistan in his good office.
- The DTL, Balochistan provided a detailed overview of the ongoing activities of the projects, highlighted achievements, challenges, and shortlisted areas requiring immediate attention.
- The meeting was adjourned at 2:00 pm, acknowledging the constructive discussions and proposed actions for resolving the identified issues.



A View of Meeting in Progress



View of meeting with Mr. Mohammad Asif Kakar NPC and DTL Mr, Manzoor Ahmed, NPIWC-II held at Quetta Office

Date	05 <sup>th</sup> March 2024
Venue	Office of the DG, Agriculture, GoB, Rani Bagh, Sariab Road, Quetta.

#### Participants

1. Mr. Mohammad Asif Kakar NPC NPIWC-II, Islamabad.
2. Dr, Ali Raza, Project, Team Leader, NPECA, Islamabad
3. Dr, Mohammad Tahir Deputy Director (COORD) NPIWC-II, FPMU, Islamabad
4. Mr, Maqsood Ahmed Director General, Agriculture, OFWM, Balochistan, Quetta
5. Manzoor Ahmed Kasi, DTL, Balochistan, Quetta
6. Khalid Mahmood, ME&IE Consultants, Balochistan, Quetta

#### Meeting Agenda/Points discussed:

- The meeting commenced with a comprehensive review of the updated progress with Engineer, OFWM, Balochistan in his good office.
- Moreover, the discussion was hovering around the achievements, challenges, and areas requiring immediate attention.
- The meeting was adjourned at 11:00 am, by acknowledging the constructive discussions and proposed actions for resolving the identified issues.



View of meeting with Mr. Maqsood Ahmed Baloch, DG, FPMU, NPIWC-II held at Agricultural Office, Quetta

Date	21 <sup>st</sup> March 2024
Venue	Office of the DG, Agriculture, GoB, Rani Bagh, Sariab Road, Quetta.
<b>Participants</b>	
1. Mr. Qasim Shah Sb, DD, OFWM, Quetta. 2. Mr. Manzoor Ahmed Kasi, DTL, ME&IE Consultants, NPIWC-II, Balochistan, Quetta 3. Mr. Saleem, M&E Officer, ME&IE Consultants, NPIWC-II, Balochistan, Quetta	
<b>Meeting Agenda/Points discussed:</b>	
<ul style="list-style-type: none"> <li>The meeting commenced with a comprehensive review of the updated progress within the Balochistan zone.</li> <li>The DD shared the updated status of data validation of Quetta district for Dashboard, Balochistan.</li> </ul>	
	
	
<b>View of meeting with Mr. Qasim Alli Shah, DD, FPMU, NPIWC-II held at Quetta Office</b>	

### 3.7 SOCIAL & GENDER IMPACT REPORT – MARCH 2024

The report presented below provides a brief overview of the significant actions addressed by the Social and Gender team during March 2024.

S&G specialist have been holding frequent meetings on a need-based basis, to monitor progress, plan, and strategize to begin the Project's targeted activities.

The Social & Gender team's main activities for this month included the following:

- The S&G national Expert in collaboration with Zonal S&G specialists prepared a draft-

tentative quarterly work plan (January - April 2024) for conducting baseline/ impact surveys across all Zones/ Units of the project areas.

- Regular meetings with DTL, TL, and Gender experts on Gender-related activities & documents.
- Frequent meetings on gender-related activities and documents with DTL, TL, and gender experts.
- The draft "Social and Gender Impact Report" was shared with the National Gender expert for finalization.

### NEXT PLANNING

- S&G specialist will conduct field visits after Ramzan Mubarak.
- Case studies will be prepared in the next Quarter.

### 3.8 ICT TEAM ASSIGNMENTS

#### 3.8.1 Implementation of MIS Dashboard

The Dashboard has been implemented in Punjab, KP, Balochistan, AJK, and ICT zones:

The progress of Interventions is live on the Dashboard application.

Punjab – WC Data - Summary					
Division	2019-20	2020-21	2021-22	2022-23	Overall
Bahawalpur	167	197	326	15	705
D.G Khan	154	78	263	1	496
Faisalabad	88	61	203	35	387
Gujranwala	63	28	109	1	201
Gujrat	44	30	125	0	199
Lahore	72	42	134	7	255
Multan	168	81	311	2	562
Sahiwal	94	86	222	0	402
Sargodha	100	95	357	3	555
Overall	950	698	2050	64	3762

A total of **3762** Watercourses data have been received from Punjab zone and available live on GIS Dashboard. (Detailed Summary attached as **Annex-F**)

Punjab – WSP Data Summary				
Division	2019-20	2020-21	2021-22	Overall
Bahawalpur	23	46	91	160
D.G Khan	27	30	25	82
Faisalabad	24	48	57	129
Gujranwala	0	4	2	6
Gujrat	2	10	29	41
Lahore	0	9	5	14
Multan	16	25	26	67
Rawalpindi	0	174	194	368
Sahiwal	9	15	15	39
Sargodha	6	32	47	85
Bahawalpur	23	46	91	160
Overall	107	393	491	991

Total **911** Water Storage Ponds data have been received from Punjab zone and available live on GIS Dashboard. (Detailed Summary attached as **Annex-G**)

Punjab – PLL Data Summary					
Division	2019-20	2020-21	2021-22	2022-23	Overall
Bahawalp	81	324	305	78	788
D.G Khan	50	297	190	100	637
Faisalabad	93	378	274	99	844
Gujranwali	49	231	263	17	560
Gujrat	30	106	122	16	274
Lahore	64	271	258	95	688
Multan	102	273	194	79	648
Sahiwal	71	188	231	98	588
Sargodha	78	266	247	38	629
Rawalpindi	22	76	75	15	188
Overall	640	2410	2159	635	5844

So far, Total **5844** PLL data have been received from Punjab zone and available live on GIS Dashboard. All PLL units have been delivered and currently, there's no under progress PLL unit as per received data. (Detailed Summary attached as **Annex-H**)

KP – WC Data Summary						
Division	2019-20	2020-21	2021-22	2022-23	2023-24	Overall
Bajaur	3	19	39	18	4	83
Bannu	75	35	94	28	0	232
D.I Khan	448	12	110	7	0	577
Hazara	86	69	152	67	4	378
Khyber	6	13	7	1	0	27
Kohat	98	40	57	28	18	241
Kurram	3	5	3	0	0	11
Malakand	182	179	479	65	16	921
Mardan	105	64	88	26	23	306
Mohmand	4	40	17	30	0	91
N.W Agency	2	3	5	1	0	11
Orakzai	0	1	0	0	0	1
Peshawar	141	89	89	38	0	357
S.W Agency	3	12	15	7	0	37
Overall	1156	581	1155	316	65	3273

So far, Total **3273** Watercourses data have been received from KP zone and available live on GIS Dashboard. By which **3115** Watercourses have been lined and the remaining **96** watercourses are under progress on different stages like 1st Milestone, 2nd Milestone, and Work Order Issued. The remaining **62** Watercourses are pending Work Order Approval. (Detailed Summary attached as **Annex-I**).

The Watercourses data from KP Zone was last updated on February 26, 2024. However, since then, there has been no further data input received from KP Zone's enumerators via the Android Application. There is still a significant amount of pending data on their end. That needs to be submitted promptly to address the backlog on the PMIS Dashboard.

KP – WST Data Summary						
Division	19-20	20-21	21-22	22-23	23-24	Overall
Bajaur	1	10	9	1	0	21
Bannu	13	10	23	2	0	48
D.I Khan	81	6	35	0	0	122
Hazara	28	47	84	13	1	173
Khyber	1	9	12	0	0	22
Kohat	27	17	32	14	0	90
Kurram	1	1	0	0	0	2
Malakand	74	97	195	11	8	385
Mardan	16	9	26	4	11	66
Mohmand	1	40	69	0	0	110
Orakzai	0	2	0	0	0	2
Peshawar	36	25	65	15	0	141
S.W Agency	0	15	15	2	0	32
N.W Agency	0	8	8	1	0	17
Overall	279	296	573	63	20	1231

Overall Water Storage Tank data submissions are **1231** of which **1140** WST have been completed and **57** are under progress. While, **34** Water Storage Tanks Work Order is Pending. (Detailed Summary attached as **Annex-J**)

**Note:** The Water Storage Tank data from KP Zone was last updated on January 27, 2024. However, since then, there has been no further data input received from KP Zone's enumerators via the Android Application. There is still a significant amount of pending data on their end. That needs to be submitted promptly to address the backlog on the PMIS Dashboard.

KP – PLL Data Summary					
Division	2019-20	2020-21	2021-22	2022-23	Overall
D.I Khan	0	0	50	0	50
Overall	0	0	50	0	50

So far, Total **50** PLL have been delivered and partial data received from KP zone and available live on GIS Dashboard. (Detailed Summary attached as **Annex-K**)

Balochistan – WC Data Summary					
Division	19-20	20-21	21-22	22-23	Overall
Kalat	597	143	287	0	1027
Loralai	344	148	137	37	666
Makran	204	56	49	0	309
Nasirabad	216	111	191	0	518
Quetta	244	50	87	0	381

Balochistan – WC Data Summary					
Division	19-20	20-21	21-22	22-23	Overall
Rakhshan	126	58	82	0	266
Sibi	184	59	88	0	331
Zhob	232	69	81	3	385
<b>Overall</b>	<b>2147</b>	<b>694</b>	<b>1002</b>	<b>40</b>	<b>3883</b>

Total **3883** Watercourses data has been received from Balochistan zone of which **3236** Watercourses has been lined, **253** Watercourses are pending at TS Stage and remaining 394 watercourses are under progress. (Detailed Summary attached as **Annex-L**)

**Note:** The Watercourses data from the Balochistan Zone was last updated on October 17, 2023. However, since then, there has been no further data input received from Balochistan Zone's enumerators via the Android Application. There is still a significant amount of pending data on their end. That needs to be submitted promptly to address the backlog on the PMIS Dashboard.

Balochistan – WST Data Summary					
Division	19-20	20-21	21-22	22-23	Overall
Kalat	95	154	442	0	691
Loralai	54	57	111	11	233
Makran	50	57	168	0	275
Nasirabad	29	48	83	0	160
Quetta	53	87	111	0	251
Rakhshan	26	68	58	7	159
Sibi	35	34	61	9	139
Zhob	49	61	117	0	227
<b>Overall</b>	<b>391</b>	<b>566</b>	<b>1151</b>	<b>27</b>	<b>2135</b>

A total of **2135** Water Storage Tank data has been received from Balochistan zone of which **1636** Watercourses have been lined, **102** Water Storage Tank at TS Stage and remaining **397** Water Storage Tanks are under progress. (Detailed Summary attached as **Annex-M**)

**Note:** The Water Storage data from the Balochistan Zone was last updated on October 24, 2023. However, since then, there has been no further data input received from Balochistan Zone's enumerators via the Android Application. There is still a significant amount of pending data on their end. That needs to be submitted promptly to address the backlog on the PMIS Dashboard.

Balochistan – PLL Data Summary					
Division	19-20	20-21	21-22	22-23	Overall
Kalat	0	4	0	0	4
Makran	0	11	0	0	11
Nasirabad	0	16	0	0	16
Quetta	0	1	0	0	1
Sibi	0	2	0	0	2
<b>Overall</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>0</b>	<b>34</b>

So far, Total **34** PLL have been delivered and partial data received from KP zone and available live on GIS Dashboard. (Detailed Summary attached as **Annex-N**)

GB – WC Data Summary				
Division	2019-20	2020-21	2021-22	Overall
Gilgit	180	236	29	445
Skardu	108	231	25	364
<b>Overall</b>	<b>288</b>	<b>467</b>	<b>54</b>	<b>809</b>

A total of **809** completed schemes data have been received and live on Dashboard. (Detailed Summary attached as **Annex-O**)

GB – WST Data Summary				
Division	2019-20	2020-21	2021-22	Overall
Gilgit	83	95	22	200
Skardu	35	82	11	128
<b>Overall</b>	<b>118</b>	<b>177</b>	<b>33</b>	<b>328</b>

A total of **328** completed Water Storage Tanks data have been received and live on Dashboard. (Detailed Summary attached as **Annex-P**)

AJK – WC Data Summary					
Division	19-20	20-21	21-22	22-23	23-24
MZD	30	84	53	29	44
Poonch	33	32	30	8	44
Mirpur	37	96	72	21	84
<b>Overall</b>	<b>100</b>	<b>212</b>	<b>155</b>	<b>57</b>	<b>173</b>

A total of **697** Watercourses data has been received from AJK zone of which **537** Watercourses have been lined, **28** Watercourses are pending at TS & Work Order Stage, **132** watercourses are under progress. (Detailed Summary attached as **Annex-Q**).

AJK – WST Data Summary					
Division	19-20	20-21	21-22	22-23	23-24
MZD	35	56	61	9	29
Poonch	13	41	62	34	87
Mirpur	2	15	31	6	40
<b>Overall</b>	<b>50</b>	<b>112</b>	<b>154</b>	<b>49</b>	<b>156</b>

A total of **521** Water Storage Tank data has been received from AJK zone of which **387** Water Storage Tank have been lined, **19** Water Storage Tanks are pending at TS Stage, **115** Water Storage Tanks are under progress. (Detailed Summary attached as **Annex-R**)

ICT – WC Data Summary					
Division	2019-20	2020-21	2021-22	2022-23	Overall
ICT	0	20	14	7	41
<b>Overall</b>	<b>0</b>	<b>20</b>	<b>14</b>	<b>7</b>	<b>41</b>

A total of **41** completed Watercourses data have been received and available live on Dashboard. (Detailed Summary attached as **Annex-S**)

### 3.8.2 On-going data Validation & Cleaning

Data submission is an ongoing process & will continue till the end of the project. Zonal Field Staff of AJK is continuously feeding data through customized Android Applications provided & trained by the ICT team of ME&IE consultants.

However, The ICT team is continuously cleaning and validating the received data and communicating mistakes to the concerned Zonal DDs/ADs for correction.

## CHAPTER 4: QUARTERLY WORK PLAN- ACTIVITIES (JANUARY 2024 TO MARCH 2024)

The ME&IE Consultants' activities initiating during the 1st Quarter of the year 2024 (1<sup>st</sup> January 2024 to 31<sup>st</sup> March 2024) are listed below. A tentative Work Plan for the 1<sup>st</sup> Quarter of the year 2024 (1<sup>st</sup> January 2024 to 31<sup>st</sup> March 2024) showing period detail is given as **Annex-A**.

### 4.1 PRE-FIELD-ACTIVITIES

- i. Refresher Training of Field Staff for Baseline & End Line impact Survey

### 4.2 FIELD ACTIVITIES

- i. Regular Monitoring of Interventions in the field
- ii. Data collection of the interventions in the field
- iii. Baseline & Endline Impact field Survey
- iv. Online data entry in android-based application

### 4.3 ICT ASSIGNMENT

- i. Improvement of the website of NPIWC-II
- ii. Monitoring online data collection and Data entry
- iii. Monitoring Android-based Mobile Applications under implementation by field staff.
- iv. Data collection of interventions in MIS/GIS database
- v. Capacity Building Training / Refresher of Departments
- vi. Data Cleaning.

### 4.4 COORDINATION

- i. Meetings of TL with NPC and OFWM Departments regarding Project Progress / Issues
- ii. Meeting of DTLs with respective DTL of P C & concerned OFWM Departments
- iii. ME&IE Consultants Internal Meetings

### 4.5 DELIVERABLES

- i. Monthly Monitoring Reports
- ii. Quarterly Monitoring & Evaluation Report (QM&ER)
- iii. Special Reports (Various)

The detail of deliverables of ME&IE Consultants with the timelines is 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 (JUNE 2021)	Submitted
Quarterly Monitoring & Evaluation Report-Second (APR-JUN 2021)	Submitted
Annual Monitoring & Evaluation Report (1 <sup>st</sup> )	Submitted
Monthly Monitoring Report-Seventh (JULY)	Submitted
Monthly Monitoring Report-Eighth (AUG 2021)	Submitted
Baseline Survey Report-I	Submitted
Monthly Monitoring Report-Ninth (SEPTEMBER 2021)	Submitted
Quarterly Monitoring & Evaluation Report - Third (JULY-SEP 2021)	Submitted
Monthly Monitoring Report-Tenth (OCTOBER 2021)	Submitted
Monthly Monitoring Report-Eleventh (NOVEMBER 2021)	Submitted
Monthly Monitoring Report-Twelfth (DECEMBER 2021)	Submitted
Quarterly Monitoring & Evaluation Report-Fourth Quarter year 2021 (OCTOBER – DECEMBER 2021)	Submitted
Monthly Monitoring Report-Thirteenth (JANUARY 2022)	Submitted
Monthly Monitoring Report-Fourteenth (MARCH 2022)	Submitted
Monthly Monitoring Report-Fifteen (MARCH 2022)	Submitted
Quarterly Monitoring & Evaluation Report-First Quarter year 2022 (JANUARY – MARCH 2022)	Submitted
Monthly Monitoring Report-Sixteen (APRIL 2022)	Submitted
Monthly Monitoring Report-	Submitted

Document	Status	Document	Status
Seventeenth (MAY 2022)		Monthly Monitoring Report-Thirty Sixth (December 2023)	Submitted
Monthly Monitoring Report-EIGHTEENTH (JUNE 2022)	Submitted	Monthly Monitoring Report-Thirty Seventh (January 2024)	Submitted
Quarterly Monitoring & Evaluation Report-2 <sup>nd</sup> Quarter year 2022 (APRIL – JUNE 2022)	Submitted	Monthly Monitoring Report-Thirty Eighth (February 2024)	Submitted
Annual Monitoring & Evaluation Report (2 <sup>nd</sup> ) Jul 2021-June 2022	Submitted	Monthly Monitoring Report-Thirty Ninth (March 2024)	Report in hand
Monthly Monitoring Report-Nineteenth (JULY 2022)	Submitted	Baseline Survey Report -I	Submitted
Monthly Monitoring Report-Twentieth (AUGUST 2022)	Submitted	Baseline Survey Report - II	Submitted
Monthly Monitoring Report-Twenty First (SEPTEMBER 2022)	Submitted	Baseline Survey Report-II (Updated version WC)	Submitted
Quarterly Monitoring & Evaluation Report-3 <sup>rd</sup> Quarter year 2022 (JUL – SEP 2022)	Submitted	Baseline Survey Report -II (Draft version of WSTs)	Submitted
Monthly Monitoring Report-Twenty Second (OCTOBER 2022)	Submitted	Mid-Line Monitoring & Impact Evaluation Report	Submitted
Monthly Monitoring Report-Twenty Third (NOVEMBER 2022)	Submitted	Consolidated Baseline Survey Report (Phase-I&II) Draft	Submitted
Monthly Monitoring Report-Twenty Fourth (DECEMBER 2022)	Submitted	Baseline (Phase I&II) Consolidated Report	Submitted
Monthly Monitoring Report-Twenty Fifth (JANUARY 2023)	Submitted	Mid-Term Monitoring and Impact Evaluation Report	Submitted
Monthly Monitoring Report-Twenty Sixth (FEBRUARY 2023)	Submitted	Special Reports submitted:	
Monthly Monitoring Report-Twenty Seventh (March 2023)	Submitted	1) Monitoring Tools	
Monthly Monitoring Report-Twenty-eighth (April 2023)	Submitted	2) Survey Manual on MTs	
Quarterly Monitoring & Evaluation Report-1 <sup>st</sup> Quarter year 2023 (JAN – MAR 2023)	Submitted	3) PAM	
Monthly Monitoring Report-Twenty-Ninth (May 2023)	Submitted	4) Working Paper on Technology and Methodology for Implementation of Android Based Field Progress Data Collection and GIS Based Progress Monitoring Analytical Dashboard.	
Monthly Monitoring Report-Thirtieth (June 2023)	Submitted	5) Survey Methodology & Questionnaires for Baseline Survey Phase-II	
Monthly Monitoring Report-Thirty First (July 2023)	Submitted	6) Baseline-End Line Manual Survey Manual	Submitted
Monthly Monitoring Report-Thirty Second (August 2023)	Submitted	7) Android Application PMIS Dashboard Manual	
Monthly Monitoring Report-Thirty Third (September 2023)	Submitted	8) Survey Manual on MTs (Updated)	
Quarterly Monitoring & Evaluation Report-1 <sup>st</sup> Quarter year 2023 (Jul – Sep 2023)	Submitted	9) Water Saving Through NPIWC-II Project Interventions	
Monthly Monitoring Report-Thirty Fourth (October 2023)	Submitted	10) Special Report on Monitoring and Impact Evaluation of Precision (Laser) Land Leveling	
Monthly Monitoring Report-Thirty Fifth (November 2023)	Submitted	11) Monitoring, Evaluation, and Impact Analysis of The Project “NPIWC-II”.	

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

#### 4.6 MATRIX OF RESPONSIBILITIES

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

## CHAPTER 5: ISSUES / BOTTLENECKS

The ME&IE Consultants are continuously facing the following issues and constraints for timely instigating the activities:

- Due to non-availability of NWMC (NESPAK) deliverables/reports, ME&IE Consultants are facing problems to monitor & evaluate the working of NWMC. In this regard, the cooperation and coordination of NWMCs as well as the relevant Directorates are required.
- Non-availability of Technical Sanctions of the watercourses.
- Non-availability of complete up-to-date inventory/data of all interventions from the Client, Provincial Agricultural Departments (OFWM) & NWMCs (NESPAK) till to date.
- Irregularity in the fund releases is also one of the key difficulties in the completion of the required project assignments/tasks, on time.
- While reviewing Dashboard during our in-house exercise, we have witnessed some stuck-up cases. Following are different levels/stages in terms of days and area of jurisdiction:

<b>Days</b>	<b>Departments</b>
100 to 119	District
120 to 149	Division
150 to 164	NPC/DDPC

As some of the cases have crossed the third level which is execution agency DG, therefore, you are hereby intimated for your intervention to sort out these stuck ups.

We have already pointed out the Stuck-Up Cases of NPIWC II Watercourses through our office letter No. NPIWC-II / ME&IE / NOISD / 0623-0256 submitted to your office dated 15 June 2023. Your prompt action is required in this matter.

It is also important to mention that when ME&IE Consultants pointed out certain stuck-up cases to FPMU, a quick response was observed from FPMU vide its Letter dated 12 July 2023 and raised the issue with the executing agencies to settle the issue on a priority basis.

# ANNEXES A to S

**ANNEXURE A: TENTATIVE WORK PLAN FOR THE 3<sup>RD</sup> QUARTER OF 2023-24 (JAN TO MARCH-2024)**

TENTATIVE WORK PLANNED FOR THE QUARTER (January 2024 To March 2024)												Legend	
No.	ACTIVITIES	3 Months-Year 2024 (Weeks)											
		January				February				March			
		WK-1	WK-2	WK-3	WK-4	WK-1	WK-2	WK-3	WK-4	WK-1	WK-2	WK-3	WK-4
<b>1</b>	<b>Pre-Field Activities</b>												
	1.1 Refresher Trainings of Field Staff for Baseline & Endline Impact Surveys												
<b>2</b>	<b>Field Activities</b>												
	2.1 Regular Monitoring of Interventions in the field												
	2.2 Baseline Survey Phase-III & Impact field survey visits												
	2.3 Online data entry in android-based application												
<b>3</b>	<b>ICT Assignment</b>												
	3.1 Improvement of website of NPIWC-II												
	3.2 Monitoring online data collection and data entry												
	3.3 Monitoring Android based Mobile Application under implementation by field staff.												
	3.4 Data collection of interventions in MIS/GIS database												
	3.5 Capacity Building Trainings / Refresher of Departments												
	3.6 Data Cleaning.												
<b>4</b>	<b>Coordination</b>												
	4.1 Meetings of TL with NPC and OFWM Departments regarding Project Progress / Issues												
	4.2 Meeting of DTLs with respective DTL of PC & concerned OFWM Departments												
	4.3 ME&IE Consultants Internal Meetings												
<b>5</b>	<b>Deliverable</b>												
	5.1 Monthly Monitoring Report												
	5.2 Quarterly Monitoring & Evaluation Report (Oct-Dec 2023)												
	5.3 Special Reports (Various)												

## ANNEXURE B: MATRIX OF RESPONSIBILITIES

### MATRIX OF RESPONSIBILITIES

LEGEND		
●	Primary Responsibility	
○	Secondary Responsibility	
		○ Assistance

SR. NO.	DELIVERABLE / ACTIVITIES
1	<b>Provision of Pre-requisite data of project components for starting of Field Activities:</b> <ul style="list-style-type: none"> <li>Organization of Water Users Associations,</li> <li>Watercourses Improvement,</li> <li>Water Storage Tanks,</li> <li>Laser Land Levelers,</li> </ul>
2	<b>Certification of operational documents of the project,</b> <ul style="list-style-type: none"> <li>Design, cost estimates, completion reports of watercourses,</li> <li>Design, cost estimates, completion reports of water storage tanks,</li> </ul>
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

NPP-FPMU	Agriculture Dept. (CEMMI)	Project Consultants	ME&IE Consultants
○	●	-	-
○	○	●	-
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●
-	-	-	●

ANNEXURE C: MONITORING LOG-FRAME

Project Sub-components	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
<b>C1: Organization of Water Users' Associations (WUAs)</b>	Reactivation of existing / organization of water users' associations. Ensuring one on each target watercourse. Total WUAs ensured 47,278.	i. Community mobilization at 47,278 watercourses	i. Total 47,278 WUAs reactivated / established/register ed	i. Right of way of 47,278 watercourses available ii. Skilled and unskilled labor required for watercourse improvement available iii. Construction material for civil works of watercourses procured iv. Alternate arrangement for water conveyance during construction made v. Watercourse improved	i. Disputes among the water users settled ii. Farmers branched improved iii. Water allocation made amicably iv. Maintenance of watercourses, WST and laser units done v. Cooperation among farmers increased	i. 47,278 watercourses improved and 15 percentage points conveyance losses reduced ii. Litigation among farmers reduced	i. The functioning of the WUAs will be established through sample interview surveys of WUAs members twice during the project period
<b>C2: Watercourses Improvements</b>	Improvement of 47,278 watercourses on cost sharing basis: 40% farmers in terms	i. Establishment of 47,278 Water users' associations (WUAs); ii. Registration	i. 47,278 WUAs established; ii. 47,278 WUAs registered; iii. 47,278 watercourses improved and lined;	i. Conveyance losses for improved watercourses decreased by about 15	i. Increase in cropping intensity on improved watercourses by 5-24%;	i. Increase in farm income; ii. Increase in employment for farm labor;	i. The water flow measurements will be carried out at before and after watercourse

Project Sub-components	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
	of labor, and 60% funded by project.	<p>of 47,278 WUAs;</p> <p>iii. Improvement and realignment of earthen section of 47,278 watercourses;</p> <p>iv. Lining of up to 50% length of 47,278 watercourses either by:</p> <p>v. Precast concrete parabolic lining (PCPL) segments, or</p> <p>vi. Rectangular brick masonry, or any other method as approved by the project</p>		<p>percentage points.</p> <p>ii. 1.654 million households benefited from the activity;</p> <p>iii. 11.347 million acres served with improved watercourses</p>	<p>ii. Increase in crop yields.</p> <p>iii. Increase in irrigated area</p> <p>iv. Increase in agriculture output per unit of water by about 37%</p>	<p>iii. Reduction in poverty;</p> <p>iv. Enhanced food security for the country.</p>	<p>improvement on 2-5% sample basis;</p> <p>ii. Agriculture survey before and after watercourse improvement on 2-5% sample basis;</p> <p>iii. The survey will determine:</p> <p>iv. Cropping pattern before and after the improvement;</p> <p>v. Cropping intensities before and after improvement;</p> <ul style="list-style-type: none"> <li>● Before and after crop yields;</li> <li>● Before and after employment;</li> </ul> <p>vi. The difference between before and after will be</p>

Project Sub-components	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
							considered the result of the intervention after netting out the contribution of the growth pattern of the crop sector otherwise.
<b>C3: Construction of Water Storage Tanks (WSTs)</b>	i. Construction of 14,932 water storage tanks	i. 14,932 small farmers mobilized to construct water storage tanks for irrigation ii. They agree to contribute 40% of the cost iii. Agree to first construct the tank with his/her own funds and then received subsidy at 40% on issuance of FCR	i. 14,932 WSTs constructed and maintained ii. 14,932 WSTs operated and maintained	i. Water which was otherwise largely going to be wasted is saved ii. Irrigation provided at critical stages of the crops iii. Flexibility achieved for irrigation	i. More area irrigated ii. Increased cropping intensities	i. Increased crop yields ii. Increased total crop output quantum iii. Increased farm income iv. Increased farm employment	i. 2-5% sample of WSTs will be surveyed ii. A data collection form will be designed to measure water saving due to WSTs iii. The forms used for baseline and impact surveys in case of watercourses will also be used for WSTs iv. Same data analysis will be carried out here as in case

Project Sub-components	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
<b>C4: Provision of Land Leveling Units</b>	i. 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.	i. 11,610 laser units provided to farmers / service providers; ii. Farmers trained in using the units.	i. 11,610 farmers / service providers received PLL units; ii. Farmers / service providers received training in using the units.	i. Land leveled on Farmers' / service providers' farms; vi. Land leveled on fellow farmers on rent; vii. Total 3.483million acres leveled by 11,610 units.	i. Water application efficiency increased at field level; viii. Even germination of seed. ix. Field application losses reduced by 10 percentage points x. Water productivity increased by 24%	i. Increased area under irrigated crops; ii. Enhanced crop yields iii. Increased farm income	<p>of watercourses.</p> <p>i. The land leveling 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.</p> <p>xii. The unit will be verified</p> <p>xiii. Area treated during the</p>

Project Sub-components	Targets	Activities	Outputs	Outcome-1	Outcomes-2	Goals / Impact	Methodology for measuring results
							year will be collected xiv. Farmers' feedback collected on quality of the unit, quality of the after-sale service, etc.

## ANNEXURE 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 <sup>th</sup> 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	End line Survey Report	10	At the end of the End line survey
7	Quarterly Monitoring and Evaluation Report	10	10 <sup>th</sup> 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

ANNEXURE E: ECOLOGICAL ZONE PHYSICAL TARGETS OF VARIOUS  
INTERVENTIONS FOR THIS YEAR 2023-24

Ecological zone	Districts	Water Course			Water Storage Ponds/Tanks	Laser Land Leveller
		Regular	Additional	Total		
Barani	Rawalpindi	0	0	0	15	0
	Attock	0	0	0	15	0
	Jehlum	0	0	0	7	0
	Chakwal	0	0	0	22	0
Sub Total		0	0	0	59	0
Partial Irrigated Barani Zone	Bhakkar	15	70	85	20	15
	Mianwali	8	70	78	7	22
Sub Total		23	140	163	27	37
Irrigated (Rice Zone)	Gujranwala	8	83	91	0	36
	Hafizabad	12	40	52	6	35
	Gujrat	0	40	40	6	18
	Narowal	10	32	42	0	20
	Sialkot	12	65	77	0	30
	Mandi Bahu Din	6	50	56	0	23
	Lahore	5	42	47	2	10
	Kasur	6	90	96	2	43
	Sheikhupura	2	75	77	2	40
	Nankana Sahib	0	55	55	9	33
Sub Total		61	572	633	27	288
Irrigated (Mixed Zone)	Sahiwal	8	90	98	3	38
	Okara	14	90	104	3	50
	Pakpatan	7	85	92	3	50
	Faisalabad	0	100	100	3	50
	Jhang	5	80	85	6	35
	Chiniot	3	46	49	0	25
	Toba Tek Singh	0	86	86	6	38
	Khushab	15	116	131	10	20
	Sargodha	15	100	115	1	35
Sub Total		67	793	860	35	341
Irrigated (Cotton Zone)	Multan	14	40	54	5	34
	DG Khan	15	60	75	10	15
	Bahawalpur	24	70	94	10	40
	Bahawalnagar	25	80	105	5	40
	Rahim Yar Khan	24	100	124	7	39
	Lodhran	10	77	87	5	18
	Khanewal	12	80	92	5	30
	Rajanpur	15	50	65	5	20
	Muzaffargarh	12	60	72	10	31
	Layyah	12	68	80	5	28
Sub Total		169	740	909	72	334
Grand Total		320	2245	2565	220	1000

ANNEXURE F: PUNJAB - WATERCOURSE DATA SUBMISSION – SUMMARY

Division	District	Completed	Under Progress				Overall
			1st Milestone	2nd Milestone	Work Order Issued	Work Order Pending	
Bahawalpur	Bahawalnagar	220	0	0	0	0	220
Bahawalpur	Bahawalpur	154	0	0	0	0	154
Bahawalpur	Rahim Yar Khan	331	0	0	0	0	331
<b>Bahawalpur Total</b>		<b>705</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>705</b>
Dera Ghazi Khan	Dera Ghazi Khan	118	0	0	0	0	118
Dera Ghazi Khan	Layyah	126	0	0	0	0	126
Dera Ghazi Khan	Muzaffargarh	133	0	0	0	0	133
Dera Ghazi Khan	Rajanpur	119	0	0	0	0	119
<b>Dera Ghazi Khan Total</b>		<b>496</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>496</b>
Faisalabad	Chiniot	34	0	0	0	0	34
Faisalabad	Faisalabad	130	0	0	0	0	130
Faisalabad	Jhang	99	0	0	0	0	99
Faisalabad	Toba Tek Singh	124	0	0	0	0	124
<b>Faisalabad Total</b>		<b>387</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>387</b>
Gujranwala	Gujranwala	101	0	0	0	0	101
Gujranwala	Narowal	16	0	0	0	0	16
Gujranwala	Sialkot	84	0	0	0	0	84
<b>Gujranwala Total</b>		<b>201</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>201</b>
Gujrat	Gujrat	35	0	0	0	0	35
Gujrat	Hafizabad	85	0	0	0	0	85
Gujrat	Mandi Bahauddin	79	0	0	0	0	79
<b>Gujrat Total</b>		<b>199</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>199</b>
Lahore	Kasur	83	0	0	0	0	83
Lahore	Lahore	23	0	0	0	0	23
Lahore	Nankana Sahib	50	0	0	0	0	50
Lahore	Sheikhupura	99	0	0	0	0	99
<b>Lahore Total</b>		<b>255</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>255</b>
Multan	Khanewal	123	0	0	0	0	123
Multan	Lodhran	154	0	0	0	0	154
Multan	Multan	153	0	0	0	0	153
Multan	Vehari	132	0	0	0	0	132
<b>Multan Total</b>		<b>562</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>562</b>
Sahiwal	Okara	136	0	0	0	0	136
Sahiwal	Pakpattan	121	0	0	0	0	121
Sahiwal	Sahiwal	145	0	0	0	0	145
<b>Sahiwal Total</b>		<b>402</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>402</b>
Sargodha	Bhakkar	183	0	0	0	0	183
Sargodha	Khushab	80	0	0	0	0	80
Sargodha	Mianwali	146	0	0	0	0	146
Sargodha	Sargodha	146	0	0	0	0	146
<b>Sargodha Total</b>		<b>555</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>555</b>
<b>Grand Total</b>		<b>3762</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3762</b>

ANNEXURE G: PUNJAB - WSP DATA SUBMISSION – SUMMARY

Division	District	Completed	Under Progress		Overall
			Work Order Issued	Work Order Pending	
Bahawalpur	Bahawalnagar	51	0	0	51
Bahawalpur	Bahawalpur	42	0	0	42
Bahawalpur	Rahim Yar Khan	67	0	0	67
<b>Bahawalpur Total</b>		<b>160</b>	<b>0</b>	<b>0</b>	<b>160</b>
Dera Ghazi Khan	Dera Ghazi Khan	33	0	0	33
Dera Ghazi Khan	Layyah	18	0	0	18
Dera Ghazi Khan	Muzaffargarh	21	0	0	21
Dera Ghazi Khan	Rajanpur	10	0	0	10
<b>Dera Ghazi Khan Total</b>		<b>82</b>	<b>0</b>	<b>0</b>	<b>82</b>
Faisalabad	Chiniot	8	0	0	8
Faisalabad	Faisalabad	35	0	0	35
Faisalabad	Jhang	31	0	0	31
Faisalabad	Toba Tek Singh	55	0	0	55
<b>Faisalabad Total</b>		<b>129</b>	<b>0</b>	<b>0</b>	<b>129</b>
Gujranwala	Gujranwala	2	0	0	2
Gujranwala	Sialkot	4	0	0	4
<b>Gujranwala Total</b>		<b>6</b>	<b>0</b>	<b>0</b>	<b>6</b>
Gujrat	Gujrat	26	0	0	26
Gujrat	Hafizabad	13	0	0	13
Gujrat	Mandi Bahauddin	2	0	0	2
<b>Gujrat Total</b>		<b>41</b>	<b>0</b>	<b>0</b>	<b>41</b>
Lahore	Kasur	7	0	0	7
Lahore	Lahore	2	0	0	2
Lahore	Nankana Sahib	3	0	0	3
Lahore	Sheikhupura	2	0	0	2
<b>Lahore Total</b>		<b>14</b>	<b>0</b>	<b>0</b>	<b>14</b>
Multan	Khanewal	22	0	0	22
Multan	Lodhran	14	0	0	14
Multan	Multan	17	0	0	17
Multan	Vehari	14	0	0	14
<b>Multan Total</b>		<b>67</b>	<b>0</b>	<b>0</b>	<b>67</b>
Rawalpindi	Attock	79	0	0	79
Rawalpindi	Chakwal	155	0	0	155
Rawalpindi	Jhelum	63	0	0	63
Rawalpindi	Rawalpindi	71	0	0	71
<b>Rawalpindi Total</b>		<b>368</b>	<b>0</b>	<b>0</b>	<b>368</b>
Sahiwal	Okara	19	0	0	19
Sahiwal	Pakpattan	15	0	0	15
Sahiwal	Sahiwal	5	0	0	5
<b>Sahiwal Total</b>		<b>39</b>	<b>0</b>	<b>0</b>	<b>39</b>
Sargodha	Bhakkar	19	0	0	19
Sargodha	Khushab	28	0	0	28
Sargodha	Mianwali	3	0	0	3
Sargodha	Sargodha	35	0	0	35
<b>Sargodha Total</b>		<b>85</b>	<b>0</b>	<b>0</b>	<b>85</b>
<b>Overall</b>		<b>991</b>	<b>0</b>	<b>0</b>	<b>991</b>

ANNEXURE H: PUNJAB - PLL DATA SUBMISSION – SUMMARY

Division	District	Delivered	Under Progress	Overall
Bahawalpur	Bahawalnagar	283	0	283
Bahawalpur	Bahawalpur	246	0	246
Bahawalpur	Rahim Yar Khan	259	0	259
<b>Bahawalpur Total</b>		<b>788</b>	<b>0</b>	<b>788</b>
Dera Ghazi Khan	Dera Ghazi Khan	127	0	127
Dera Ghazi Khan	Layyah	165	0	165
Dera Ghazi Khan	Muzaffargarh	225	0	225
Dera Ghazi Khan	Rajanpur	120	0	120
<b>Dera Ghazi Khan Total</b>		<b>637</b>	<b>0</b>	<b>637</b>
Faisalabad	Chiniot	160	0	160
Faisalabad	Faisalabad	257	0	257
Faisalabad	Jhang	236	0	236
Faisalabad	Toba Tek Singh	191	0	191
<b>Faisalabad Total</b>		<b>844</b>	<b>0</b>	<b>844</b>
Gujranwala	Gujranwala	232	0	232
Gujranwala	Sialkot	190	0	190
Gujranwala	Narowal	138	0	138
<b>Gujranwala Total</b>		<b>560</b>	<b>0</b>	<b>560</b>
Gujrat	Gujrat	114	0	114
Gujrat	Mandi Bahauddin	160	0	160
<b>Gujrat Total</b>		<b>274</b>	<b>0</b>	<b>274</b>
Lahore	Kasur	232	0	232
Lahore	Lahore	94	0	94
Lahore	Nankana Sahib	137	0	137
Lahore	Sheikhupura	225	0	225
<b>Lahore Total</b>		<b>688</b>	<b>0</b>	<b>688</b>
Multan	Khanewal	184	0	184
Multan	Lodhran	145	0	145
Multan	Multan	126	0	126
Multan	Vehari	193	0	193
<b>Multan Total</b>		<b>648</b>	<b>0</b>	<b>648</b>
Sahiwal	Okara	203	0	203
Sahiwal	Pakpattan	178	0	178
Sahiwal	Sahiwal	207	0	207
<b>Sahiwal Total</b>		<b>588</b>	<b>0</b>	<b>588</b>
Sargodha	Bhakkar	171	0	171
Sargodha	Khushab	111	0	111
Sargodha	Mianwali	140	0	140
Sargodha	Sargodha	207	0	207
<b>Sargodha Total</b>		<b>629</b>	<b>0</b>	<b>629</b>
Rawalpindi	Attock	188	0	188
<b>Rawalpindi Total</b>		<b>188</b>	<b>0</b>	<b>188</b>
<b>Grand Total</b>		<b>5844</b>	<b>0</b>	<b>5844</b>

ANNEXURE I: KP - WATERCOURSE DATA SUBMISSION – SUMMARY

Division	District	Completed	Under Progress			Pending		Overall
			1st Milestone	2nd Milestone	Work Order Issued	TS Pending	Work Order Pending	
Bajaur Agency	Bajaur	64	0	0	13	6	0	83
<b>Bajaur Agency Total</b>		<b>64</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>6</b>	<b>0</b>	<b>83</b>
Bannu	Bannu	110	0	0	0	0	0	110
Bannu	Lakki Marwat	122	0	0	0	0	0	122
<b>Bannu Total</b>		<b>232</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>232</b>
D.I. Khan	D.I. Khan	507	3	0	0	0	0	510
D.I. Khan	Tank	67	0	0	0	0	0	67
<b>D.I. Khan Total</b>		<b>574</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>577</b>
Hazara	Abbottabad	30	0	1	0	0	0	31
Hazara	Battagram	49	0	0	0	0	0	49
Hazara	Haripur	74	0	0	0	0	0	74
Hazara	Lower Kohistan	7	0	0	13	1	0	21
Hazara	Mansehra	129	0	14	0	0	0	143
Hazara	Torghar	40	0	0	1	0	0	41
Hazara	Upper Kohistan	9	0	0	0	8	0	17
Hazara	Kolai Pallas	2	0	0	0	0	0	2
<b>Hazara Total</b>		<b>340</b>	<b>0</b>	<b>15</b>	<b>14</b>	<b>9</b>	<b>0</b>	<b>378</b>
Khyber Agency	Khyber	20	0	0	5	2	0	27
<b>Khy Agency Total</b>		<b>20</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>27</b>
Kohat	Hangu	62	0	0	4	1	0	67
Kohat	Karak	82	0	0	0	0	0	82
Kohat	Kohat	92	0	0	0	0	0	92
<b>Kohat Total</b>		<b>236</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>241</b>
Kurram Agency	Kurram	10	0	0	0	1	0	11
<b>Kurram Agency Total</b>		<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>11</b>
Malakand	Buner	109	0	0	0	1	0	110
Malakand	Chitral	94	0	0	0	0	0	94
Malakand	Lower Dir	109	0	2	25	4	1	141
Malakand	Malakand	106	0	0	1	1	0	108
Malakand	Shangla	54	2	1	1	1	1	60
Malakand	Swat	283	0	1	0	0	0	284
Malakand	Upper Dir	121	2	0	0	1	0	124
<b>Malakand Total</b>		<b>876</b>	<b>4</b>	<b>4</b>	<b>27</b>	<b>8</b>	<b>2</b>	<b>921</b>
Mardan	Mardan	150	0	0	2	0	0	152
Mardan	Swabi	130	0	2	1	21	0	154
<b>Mardan Total</b>		<b>280</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>21</b>	<b>0</b>	<b>306</b>
M. Agency	Upper	66	0	0	0	0	0	66

Division	District	Completed	Under Progress			Pending		Overall
			1st Milestone	2nd Milestone	Work Order Issued	TS Pending	Work Order Pending	
	Mohmand							
M. Agency	Lower Mohmand	25	0	0	0	0	0	25
<b>M. Agency Total</b>		<b>91</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>91</b>
Orakzai Agency	Orakzai	1	0	0	0	0	0	1
<b>Orakzai Total</b>		<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
Peshawar	Charsadda	148	0	0	0	1	0	149
Peshawar	Nowshera	127	0	0	1	2	0	130
Peshawar	Peshawar	74	0	0	1	3	0	78
<b>Peshawar Total</b>		<b>349</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>357</b>
S.W Agency	S.W Agency	37	0	0	0	0	0	37
<b>S.W Agency Total</b>		<b>37</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>37</b>
N.W Agency	N.W Agency	5	0	0	0	6	0	11
<b>N.W Agency Total</b>		<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>11</b>
<b>Overall</b>		<b>3115</b>	<b>7</b>	<b>21</b>	<b>68</b>	<b>60</b>	<b>2</b>	<b>3273</b>

ANNEXURE J: KP - WST DATA SUBMISSION – SUMMARY

Division	District	Completed	Under Progress			Pending	Overall
			1st Milestone	2nd Milestone	Work Order Issued		
Bajaur Agency	Bajaur	17	0	0	1	3	21
<b>Bajaur Agency Total</b>		<b>17</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>21</b>
Bannu	Bannu	12	0	0	0	1	13
Bannu	Lakki Marwat	35	0	0	0	0	35
<b>Bannu Total</b>		<b>47</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>48</b>
Dera Ismail Khan	Dera Ismail Khan	83	1	1	5	0	90
Dera Ismail Khan	Tank	32	0	0	0	0	32
<b>Dera Ismail Khan Total</b>		<b>115</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>122</b>
Hazara	Abbottabad	18	1	0	0	0	19
Hazara	Battagram	26	0	0	4	0	30
Hazara	Haripur	40	0	0	0	0	40
Hazara	Kolai Pallas	2	0	0	2	0	4
Hazara	Lower Kohistan	0	0	0	0	1	1
Hazara	Mansehra	42	0	5	1	0	48
Hazara	Torghar	17	0	0	1	0	18
Hazara	Upper Kohistan	7	0	0	0	6	13
<b>Hazara Total</b>		<b>152</b>	<b>1</b>	<b>5</b>	<b>8</b>	<b>7</b>	<b>173</b>
Khyber Agency	Khyber	10	0	0	6	6	22
<b>Khyber Agency Total</b>		<b>10</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>22</b>
Kohat	Hangu	12	0	0	0	0	12
Kohat	Karak	73	0	0	0	0	73
Kohat	Kohat	5	0	0	0	0	5
<b>Kohat Total</b>		<b>90</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>90</b>
Kurram Agency	Kurram	2	0	0	0	0	2
<b>Kurram Agency Total</b>		<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
Malakand	Buner	43	0	0	0	0	43
Malakand	Chitral	21	0	0	0	0	21
Malakand	Lower Dir	21	2	4	11	1	39
Malakand	Malakand	24	0	0	0	0	24
Malakand	Shangla	43	0	0	0	1	44
Malakand	Swat	163	0	0	0	1	164
Malakand	Upper Dir	47	1	1	0	1	50
<b>Malakand Total</b>		<b>362</b>	<b>3</b>	<b>5</b>	<b>11</b>	<b>4</b>	<b>385</b>
Mardan	Mardan	34	0	0	0	0	34
Mardan	Swabi	22	0	1	0	9	32

Division	District	Completed	Under Progress			Pending	Overall
			1st Milestone	2nd Milestone	Work Order Issued		
<b>Mardan Total</b>		<b>56</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>9</b>	<b>66</b>
Mohmand Agency	Lower Mohmand	31	0	0	0	0	31
Mohmand Agency	Upper Mohmand	79	0	0	0	0	79
<b>Mohmand Agency Total</b>		<b>110</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>110</b>
Orakzai Agency	Orakzai	2	0	0	0	0	2
<b>Orakzai Agency Total</b>		<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
Peshawar	Charsadda	13	0	0	1	0	14
Peshawar	Nowshera	71	0	0	0	0	71
Peshawar	Peshawar	53	0	0	3	0	56
<b>Peshawar Total</b>		<b>137</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>141</b>
S.W Agency	S.W Agency	32	0	0	0	0	32
<b>S.W Agency Total</b>		<b>32</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32</b>
N.W Agency	N.W Agency	8	0	0	5	4	17
<b>N.W Agency Total</b>		<b>8</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>4</b>	<b>17</b>
<b>Overall</b>		<b>1140</b>	<b>5</b>	<b>12</b>	<b>40</b>	<b>34</b>	<b>1231</b>

## ANNEXURE K: KP - PLL DATA SUBMISSION – SUMMARY

Division	District	Delivered	Under Progress	Overall
D.I Khan	D.I Khan	50	0	50
	<b>Overall</b>	<b>50</b>	<b>0</b>	<b>50</b>

ANNEXURE L: BALOCHISTAN - WATERCOURSE DATA SUBMISSION –  
SUMMARY

Division	District	Completed	Under Progress			Pending	Overall
			1st Milestone	2nd Milestone	TS Issued		
Kalat	Awaran	150	0	0	0	1	151
Kalat	Kalat	281	0	0	0	1	282
Kalat	Khuzdar	165	0	0	0	0	165
Kalat	Lasbela	154	0	0	35	0	189
Kalat	Mastung	191	0	0	6	1	198
Kalat	Surab	0	0	0	19	23	42
<b>Kalat Total</b>		<b>941</b>	<b>0</b>	<b>0</b>	<b>60</b>	<b>26</b>	<b>1027</b>
Loralai	Barkhan	64	0	0	0	0	64
Loralai	Duki	0	0	0	43	0	43
Loralai	Loralai	335	0	0	0	5	340
Loralai	Musakhail	187	0	0	0	32	219
<b>Loralai Total</b>		<b>586</b>	<b>0</b>	<b>0</b>	<b>43</b>	<b>37</b>	<b>666</b>
Makran	Gwadar	23	0	0	0	0	23
Makran	Kech	59	0	0	9	64	132
Makran	Panjgur	121	0	0	33	0	154
<b>Makran Total</b>		<b>203</b>	<b>0</b>	<b>0</b>	<b>42</b>	<b>64</b>	<b>309</b>
Nasirabad	Jaffarabad	141	0	0	0	0	141
Nasirabad	Jhal Maggi	27	0	0	0	0	27
Nasirabad	Kachi	4	0	0	97	1	102
Nasirabad	Nasirabad	55	0	0	86	28	169
Nasirabad	Sohbatpur	79	0	0	0	0	79
<b>Nasirabad Total</b>		<b>306</b>	<b>0</b>	<b>0</b>	<b>183</b>	<b>29</b>	<b>518</b>
Quetta	Killa Abdullah	110	0	0	0	0	110
Quetta	Pishin	186	0	0	0	1	187
Quetta	Quetta	83	0	0	1	0	84
<b>Quetta Total</b>		<b>379</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>381</b>
Rakhshan	Chaghi	77	0	0	0	0	77
Rakhshan	Kharan	26	0	0	2	40	68
Rakhshan	Nushki	4	0	0	61	36	101
Rakhshan	Washuk	18	0	0	0	2	20
<b>Rakhshan Total</b>		<b>125</b>	<b>0</b>	<b>0</b>	<b>63</b>	<b>78</b>	<b>266</b>
Sibi	Dera Bugti	99	0	0	0	0	99
Sibi	Harnai	42	0	0	0	0	42
Sibi	Kohlu	58	0	0	0	0	58
Sibi	Sibi	60	0	0	0	0	60
Sibi	Ziarat	71	0	0	1	0	72
<b>Sibi Total</b>		<b>330</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>331</b>
Zhob	Killa Saifullah	235	0	0	0	0	235
Zhob	Sherani	51	0	0	0	18	69
Zhob	Zhob	80	0	0	1	0	81
<b>Zhob Total</b>		<b>366</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>18</b>	<b>385</b>
<b>Overall</b>		<b>3236</b>	<b>0</b>	<b>0</b>	<b>394</b>	<b>253</b>	<b>3883</b>

ANNEXURE M: BALOCHISTAN - WST DATA SUBMISSION – SUMMARY

Division	District	Completed	Under Progress			Pending	Overall
			1st Milestone	2nd Milestone	TS Issued		
Kalat	Awaran	84	0	0	1	2	87
Kalat	Kalat	177	0	0	2	0	179
Kalat	Khuzdar	139	0	0	0	0	139
Kalat	Lasbela	105	0	0	39	6	150
Kalat	Mastung	99	0	0	8	0	107
Kalat	Surab	0	0	0	29	0	29
<b>Kalat Total</b>		<b>604</b>	<b>0</b>	<b>0</b>	<b>79</b>	<b>8</b>	<b>691</b>
Loralai	Barkhan	54	0	0	0	0	54
Loralai	Duki	0	0	0	29	0	29
Loralai	Loralai	113	0	0	0	0	113
Loralai	Musakhel	26	0	0	0	11	37
<b>Loralai Total</b>		<b>193</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>11</b>	<b>233</b>
Makran	Gwadar	7	0	0	0	0	7
Makran	Kech	35	0	0	18	46	99
Makran	Panjgur	46	0	1	121	1	169
<b>Makran Total</b>		<b>88</b>	<b>0</b>	<b>1</b>	<b>139</b>	<b>47</b>	<b>275</b>
Nasirabad	Jaffarabad	17	0	0	0	0	17
Nasirabad	Jhal Magsi	30	0	0	0	0	30
Nasirabad	Kachi	36	0	0	46	0	82
Nasirabad	Nasirabad	0	0	0	17	0	17
Nasirabad	Sohbatpur	14	0	0	0	0	14
<b>Nasirabad Total</b>		<b>97</b>	<b>0</b>	<b>0</b>	<b>63</b>	<b>0</b>	<b>160</b>
Quetta	Killa Abdullah	55	0	0	0	1	56
Quetta	Pishin	107	0	0	10	2	119
Quetta	Quetta	75	0	1	0	0	76
<b>Quetta Total</b>		<b>237</b>	<b>0</b>	<b>1</b>	<b>10</b>	<b>3</b>	<b>251</b>
Rakhshan	Chaghi	33	0	0	0	14	47
Rakhshan	Kharan	15	0	0	13	8	36
Rakhshan	Nushki	0	0	0	53	9	62
Rakhshan	Washuk	4	0	0	8	2	14
<b>Rakhshan Total</b>		<b>52</b>	<b>0</b>	<b>0</b>	<b>74</b>	<b>33</b>	<b>159</b>
Sibi	Dera Bugti	38	0	0	1	0	39
Sibi	Harnai	21	0	0	0	0	21
Sibi	Kohlu	35	0	0	0	0	35
Sibi	Sibi	23	0	0	0	0	23
Sibi	Ziarat	21	0	0	0	0	21
<b>Sibi Total</b>		<b>138</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>139</b>
Zhob	Killa Saifullah	117	0	0	0	0	117
Zhob	Sherani	25	0	0	0	0	25
Zhob	Zhob	85	0	0	0	0	85
<b>Zhob Total</b>		<b>227</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>227</b>
<b>Overall</b>		<b>1636</b>	<b>0</b>	<b>2</b>	<b>395</b>	<b>102</b>	<b>2135</b>

### ANNEXURE N: BALOCHISTAN - PLL DATA SUBMISSION – SUMMARY

Division	District	Delivered	Under Progress	Overall
Kalat	Lasbela	4	0	4
Makran	Panjgur	5	0	5
Makran	Turbat	6	0	6
Nasirabad	Jaffarabad	12	0	12
Nasirabad	Jhal Magsi	1	0	1
Nasirabad	Sohbatpur	3	0	3
Quetta	Killa Abdullah	1	0	1
Sibi	Sibi	2	0	2
<b>Overall</b>		<b>34</b>	<b>0</b>	<b>34</b>

## ANNEXURE O: GB - WATERCOURSES DATA SUBMISSION – SUMMARY

Division	District	Completed	Under Progress		Overall
			TS Issued	TS Pending	
Gilgit	Astore	44	0	0	44
Gilgit	Diamer	125	0	0	125
Gilgit	Ghizer	102	0	0	102
Gilgit	Gilgit	109	0	0	109
Gilgit	Hunza	35	0	0	35
Gilgit	Nagar	30	0	0	30
<b>Gilgit Total</b>		<b>445</b>	<b>0</b>	<b>0</b>	<b>445</b>
Skardu	Ghanche	113	0	0	113
Skardu	Kharmang	42	0	0	42
Skardu	Shigar	68	0	0	68
Skardu	Skardu	141	0	0	141
<b>Skardu Total</b>		<b>364</b>	<b>0</b>	<b>0</b>	<b>364</b>
<b>Overall</b>		<b>809</b>	<b>0</b>	<b>0</b>	<b>809</b>

ANNEXURE P: GB - WST DATA SUBMISSION – SUMMARY

Division	District	Completed	Under Progress		Overall
			TS Issued	TS Pending	
Gilgit	Astore	19	0	0	19
Gilgit	Diamer	50	0	0	50
Gilgit	Ghizer	45	0	0	45
Gilgit	Gilgit	60	0	0	60
Gilgit	Hunza	12	0	0	12
Gilgit	Nagar	14	0	0	14
<b>Gilgit Total</b>		<b>200</b>	<b>0</b>	<b>0</b>	<b>200</b>
Skardu	Kharmang	24	0	0	24
Skardu	Shigar	49	0	0	49
Skardu	Skardu	55	0	0	55
<b>Skardu Total</b>		<b>128</b>	<b>0</b>	<b>0</b>	<b>128</b>
<b>Overall</b>		<b>328</b>	<b>0</b>	<b>0</b>	<b>328</b>

ANNEXURE Q: AJK- WATERCOURSES DATA SUBMISSIONS – SUMMARY

Division	District	Completed	Under Progress			Pending		Overall
			1st Milestone	2nd Milestone	Work Order Issued	TS Pending	Work Order Pending	
MJD	MJD	103	0	0	13	7	0	123
	Jhelum	28	1	0	12	0	1	42
	Neelum	61	6	1	7	0	0	75
	<b>MJD Total</b>	<b>192</b>	<b>7</b>	<b>1</b>	<b>32</b>	<b>7</b>	<b>1</b>	<b>240</b>
Poonch	Poonch	43	0	0	11	0	0	54
	Bagh	29	1	0	8	1	0	39
	Haveli	10	1	0	4	0	0	15
	Sudhnoti	23	0	0	14	0	2	39
<b>Poonch Total</b>		<b>105</b>	<b>2</b>	<b>0</b>	<b>37</b>	<b>1</b>	<b>2</b>	<b>147</b>
Mirpur	Mirpur	77	0	0	9	0	14	100
	Bhimber	121	0	0	36	0	0	157
	Kotli	42	0	0	8	0	3	53
<b>Mirpur Total</b>		<b>240</b>	<b>0</b>	<b>0</b>	<b>53</b>	<b>0</b>	<b>17</b>	<b>310</b>
<b>Overall</b>		<b>537</b>	<b>9</b>	<b>1</b>	<b>122</b>	<b>8</b>	<b>20</b>	<b>697</b>

ANNEXURE R: AJK - WST/WHS DATA SUBMISSIONS – SUMMARY

Division	District	Completed	Under Progress			Pending		Overall
			1st Milestone	2nd Milestone	Work Order Issued	TS Pending	Work Order Pending	
MZD	MZD	144	1	0	16	0	0	161
	Jhelum	24	0	0	1	2	0	27
	Neelum	0	0	0	1	1	0	2
	<b>MZD Total</b>	<b>168</b>	<b>1</b>	<b>0</b>	<b>18</b>	<b>3</b>	<b>0</b>	<b>190</b>
Poonch	Poonch	58	0	1	14	0	0	73
	Bagh	48	0	0	31	0	0	79
	Haveli	29	0	0	5	2	0	36
	Sudhnoti	24	1	0	24	0	0	49
<b>Poonch Total</b>		<b>159</b>	<b>1</b>	<b>1</b>	<b>74</b>	<b>2</b>	<b>0</b>	<b>237</b>
Mirpur	Mirpur	12	0	0	4	0	0	16
	Bhimber	12	0	0	8	0	0	20
	Kotli	36	0	0	8	0	14	58
<b>Mirpur Total</b>		<b>60</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>14</b>	<b>94</b>
<b>Overall</b>		<b>387</b>	<b>2</b>	<b>1</b>	<b>112</b>	<b>5</b>	<b>14</b>	<b>521</b>

## ANNEXURE S: ICT - WATERCOURSE DATA SUBMISSION – SUMMARY

Division	District	Completed	Under Progress				Overall
			1st Milestone	2nd Milestone	Work Order Issued	Work Order Pending	
ICT	ICT	41	0	0	0	0	41
Overall		41	0	0	0	0	41