

Halcrow Pakistan (Pvt) Limited

3rd Floor, Nawa-e-Waqt House, Mauve Area, Sector G-7/1, Zero Point, Islamabad, Pakistan

Tel: +92 51 220 3451-55, Fax: +92 51 220 3462

hpk@halcrowpk.com, www.halcrowpk.com



Mr. Muhammad Nawaz

Contracting Officer's Representative

U.S. Agency for International Development

Diplomatic Enclave

Ramna 5, Islamabad-Pakistan

Tel: 051-2015926

Our ref: 501427/240

October 16, 2017

Monitoring and Milestone Verification of USAID-funded Waran Canal and Gomal Zam Dam Command Area Development Project in Khyber Pakhtunkhwa

IQC No. AID-391-I-11-00002 – Contract No: AID-391-TO-16-00001

Submission of Gomal Zam Dam Command Area Development Project Site Visit Report - 7

We are pleased to submit Site Visit Report-7 of the visit conducted from September 18 to September 24, 2017 for Gomal Zam Dam Command Area Development Project of the subject task order. We will dispatch its hard copy on receiving your acceptance.

Kindly convey your acceptance of our submission as per TO Clause C.4.2 (Specific Activities and Responsibilities) sub clause 2.1.

Please do not hesitate to contact the undersigned, should you have any query.

Thanking you.

Yours sincerely,

Fazal Mahmood Khan

Chief of Party



USAID
FROM THE AMERICAN PEOPLE

A-E Services for Monitoring and Milestone Verification of USAID-Funded Waran Canal and Gomal Zam Dam Command Area Development Project (GZD-CADP) in Khyber Pakhtunkhwa

GZD-CADP Site Visit Report No. 7

October 2017



IQC No AID-391-I-11-00002
Contract No AID-391-TO-16-00001

Halcrow Pakistan (Pvt) Limited

3rd Floor, Nawa-e-Waqt House, Mauve Area
Sector G-7/1, Zero Point, Islamabad, Pakistan
tel + 92 51 220 3451 fax + 92 51 220 3462
www.halcrowpk.com

This report is made possible by the support of the American People through the United States Agency for International Development (USAID). The contents are the sole responsibility of Halcrow Pakistan (Pvt) Ltd and do not necessarily reflect the views of USAID or the United States Government.



Document history

A-E Services for Monitoring and Milestone of USAID-funded Verification of Waran Canal and Gomal Zam Dam Command Area Development Project in Khyber Pakhtunkhwa.

GZD-CADP Site Visit Report No. 7

This document has been issued and amended as follows:

Ver	Date	Description	Prepared by	Reviewed by	Approved by
1	October 16, 2017	Site Visit Report No. 7	MYK, SRS, MZM, MMS, FR, ZQ, AM	MZD, AQ, FMK	FMK

FMK Fazal Mahmood Khakwani

MMS Muhammad Munawar Saeed

MYK Muhammad Yousaf Khattak

MZD Mian Ziauddin

FR Fasih ur Rahman

AM Atif Murtaza

AQ Abdul Qayyum

SRS Saifur Rahman Sherani

ZQ Zulqarnain

Contents

1	Executive Summary of the Project Site Visit	1
1.1	Component-A: On-Farm Water Management and Command Area Development	1
1.2	Component-B: Enhancing Productivity of field crops, horticulture and Livestock:	2
1.3	Component-C: Value Added Processing:	2
1.4	Component-D: Marketing of Products:	2
1.5	Implementation Progress:	2
1.6	Implementation Issues:	2
1.7	Environmental Compliance	6
2	Particulars of Site Visit	7
2.1	Scope of this Report	7
2.2	Site Visit Reference	7
2.3	Purpose of visit	7
2.4	Visit locations	7
2.5	Dates of visit	8
3	Monitoring and Verification of Non-Engineering Activities (Soft Component)	10
3.1	Institutional Development	10
3.2	Verification of Invoice No. 1 and 3 of WUAs formation and Registration	10
3.3	Terms of Partnership	10
3.4	Enhancing Productivity of Field Crops, Horticulture and Livestock	10
3.5	Value added processing	11
3.5.1	Cattle Breed Improvement	11
3.5.2	Chicken and Egg Distribution	11
3.6	Marketing of products	12
4	Monitoring and Verification of Engineering Activities (Infrastructure Component)	13
4.1	Construction of Watercourses	13
4.2	Sequence of Site Construction Activities of Watercourses	15
4.3	Progress on Watercourses Implementation	16
4.4	Contract Management	17
4.5	Contract Management by PIU	18
4.6	Contract Management by Design and Supervision Consultant	18
4.6.1	Conclusion	18
4.7	Potential Problem in Implementation	19
4.7.1	Recommendation	19
4.8	Test-Run of Unlined Watercourse	20
4.9	Command Area Development	20
4.10	Engineering and Revenue <i>Chakbandi</i> of Watercourses	20
4.10.1	Challenges	21

4.11	Survey, layout, design and construction of watercourses	21
4.12	Multipurpose Pond	21
4.13	High Efficiency Irrigation System	22
4.14	Precision Land Levelling	22
4.15	Link Road	22
5	Implementation Progress	23
5.1	Procurement of Consultancies	23
5.1.1	Master Plan and Feasibility Consultancy	23
5.1.2	OFWM Consultancy	23
5.1.3	Detailed Design & Construction Supervision Consultancy	23
6	Implementation Issues	24
6.1	Contract Management:	24
6.2	Job Description of PIU Staff	24
6.3	Project Area Visits by PIU Staff	24
6.4	Work Plans / Contractor Work Schedules	25
6.5	Project Office Accommodation	25
6.6	Project Logistics	26
6.7	Lack of Project Monitoring Reports by PIU and Design and Supervision Consultant	26
6.8	Lack of Coordination	26
6.9	GZID and Canal Management	27
7	Environmental Compliance	30
7.1	Environmental Compliance Status	30
7.2	Environmental compliance field visit report	31

List of Tables

Table 1:	Summary of Site Visit Observations and Recommendations	3
Table 2:	Detail of Participants	9
Table 3:	Detail of Progress on Contract Packages as on September 15, 2017.	13
Table 4:	Details of Watercourses Implementation Status	14
Table 5:	Updated Implementation Progress of the Awarded Watercourse Packages	16
Table 6:	Environmental compliance field visit report	32

Appendices

Appendix A	Photographs
Appendix B	Invoices
Appendix C	MOM Meeting with NESPAK GZD-CADP
Appendix D	Field Density Report

List of Abbreviations

AWP	Annual Work Plan
BoQs	Bill of Quantities
CAD	Command Area Development
DSC	Design and Supervision Consultant
DI Khan	Dera Ismail Khan
ECMR	Environment Monitoring and Compliance Report
EDP	Environmental Document Form
EMMP	Environmental Mitigation and Management Plan
FGD	Focus Group Discussions
FWUA	Federation of Water Users Association
GZD-CADP	Gomal Zam Dam – Command Area Development Project
GZID	Gomal Zam Irrigation Division
HS	Health and Safety
HSE	Health Safety and Environment
KP	Khyber Pakhtunkhwa
MC	Management Consultant
MoU	Memorandum of Understanding
OFWM	On-Farm Water Management
PD	Project Director
PIU	Project Implementation Unit
PMU	Project Management Unit
PSC	Provincial Steering Committee
WIG	Women Interest Group
WUA	Water Users Association

1 Executive Summary of the Project Site Visit

Dates of the Field Visit: Field visit was conducted from September 18 to September 24, 2017.

A summarized status of four components of GZD-CADP is as below;

1.1 Component-A: On-Farm Water Management and Command Area Development

A total of 160 WUAs (140 in DI Khan district and 20 in Tank district) were organised and registered by OFWM Department up to September 19, 2017. The number of 160 WUAs was verified from the comprehensive list of WUAs provided by the PIU during the site visit. Though, verification of 138 WUAs have been received and cleared as per the received invoices.

The list of 22 WUAs included in the Invoice No. 1 for which verification was conducted through document review and field visit to sample WUAs appeared to have been included in the Invoice No. 2 as well because of clerical mistake.

The Invoice No. 3 for 30 WUAs was verified through 20% documentation sample and meeting with 10% WUAs.

Progress on *Chakbandi* and List of Landowners: Engineering *chakbandi* was completed by WAPDA for all outlets. Revenue *chakbandi* of 255 outlets out of 393 (65%) has been completed by Irrigation Department. Cadastral maps of outlet command area have been prepared for 243 outlets (62%). List of landowners of outlets has been prepared on 197 outlets (50%). List of landowners are reportedly incomplete in different degrees for many outlets.

There is adequate progress on design, BoQs and bidding documents of infrastructure components.

Lining and Construction of Watercourses: A total of 12 Contract Packages were awarded from April 6, 2017 to August 29, 2017. Progress on construction of watercourses is just in the mobilization stage and is negligible on all the packages. Award of three packages was challenged in the court by one of the bidder on the ground of being low bidder though technically declared non-responsive. The court has issued stay order to stop work on these three contract packages.

A package-wise detailed analysis on lack of construction progress and its causes are given in Section 4.1.

Memorandum of Understanding (MOU) with OFWM: MOU for formation and registration of WUAs with OFWM Department expired in the end of April 2017 which was extended to end of December 2017.

Project is expected to hire NGO for social mobilisation by the end of October 2017.

1.2 Component-B: Enhancing Productivity of field crops, horticulture and Livestock:

None of the staff under this component has joined the project. Memorandum of Understanding is being prepared for provision of Agriculture and Livestock services with the line departments.

1.3 Component-C: Value Added Processing:

Three Livestock specialists were transferred to the project from Livestock and Dairy Development Department. The Project shall work with private sector for extension of Artificial Insemination (AI) services. The Jersey dairy cow has preference for Artificial Insemination for which services are already being provided by private sector in the command area.

The project may prepare criteria for distribution of layer birds and eggs. These shall be distributed by NGO instead of Livestock Department.

1.4 Component-D: Marketing of Products:

None of the staff under this component has joined the project and there is no progress on this component.

1.5 Implementation Progress:

The Master Plan Consultant has completed the stipulated time of assignment in January 2017 and final Master Plan is awaited due to incorporation of the already shared comments.

Consultancy for social mobilisation and training is expected to be awarded by the end of October 2017.

Design Supervision Consultancy contract was awarded in August 2016.

1.6 Implementation Issues:

Contract Management: PIU and Design and Supervision Consultant need to improve contract management considerably.

Job Descriptions of PIU Staff: Prepare job descriptions of PIU to enhance their performance. As earlier indicated a Project Monitoring Plan need to be prepared to streamline the project monitoring by PIU staff.

Project Area Visit: It is recommended that PIU staff shall increase their visit to project area to facilitate smooth implementation of the project. Implementation of watercourses is in its initial stage and do require periodic monitoring visit of PIU staff.

Office Accommodation: Project Office will be shifted to a rented building but the PD office will remain in the old premises and detached from the PIU Office.

Logistics: All nine vehicles purchased for the project need to be handed over to the PIU for smooth operation / monitoring of project activities.

Lack of Monitoring and Communication: PIU and Design and Supervision Consultant do not prepare regular monthly or quarterly progress and monitoring reports. These reports help in updating on project implementation status, appraising and highlight issues that could be hurdle in smooth implementation process of the project together with suggested mitigation measures to address the observed issues.

Improve Coordination between line departments and Consultants

Gomal Zam Irrigation Division and Canal Management: Canal Management needs improvement and Gomal Zam Irrigation Division field staff shall carry it out for the handed over irrigation infrastructure.

Table 1: Summary of Site Visit Observations and Recommendations

No.	Component	Activity	Observations	Recommendations	Status
1	Project Management	Project Director is part-time and non-resident.	Project staff efficiency is questionable	Full-time and resident Project Director would be helpful in raising staff efficiency	Open
2	Project Management	Shortage of professional staff	More than 50% professional staff positions at PIU are vacant	Recruit professional staff for PIU without delay	Open
3	Project Management	Project Implementation	Lack of coordination between PIU, consultants and line departments	Develop coordination and flow of information between PIU, Consultants and line departments	Open
4	Project Management	Project Monitoring	There is no monthly or quarterly monitoring report. Only data without explanation presented in bi-weekly updates	Project shall prepare monthly and quarterly monitoring reports to update the status of implementation progress with adequate description and reliable data.	Open
5	Project Management	Construction Monitoring	Design and Supervision Consultant (DSC) did not provide quarterly and monthly monitoring report which they committed in Inception Report	DSC shall fulfil contractual obligation	Open

No.	Component	Activity	Observations	Recommendations	Status
6	Project Management	Field Visit by PIU staff	In August-September no field visit was undertaken and no field visit report was shown	PIU staff must prepare Field Visit Report after every visit (in Urdu) on the format recommended in this report	Open
7	Project Management	Project staff do not visit project area	Project had only five vehicles, two with OFWM and three with Officers	Provide vehicles to PIU as per PC-1 so that staff can monitor implement progress	Open
8	Project Management	Watercourse construction	Contractors have closed canal outlets and refuse irrigation to farmers for wheat crop on the pretext of lethargic and lacklustre construction activity.	DSC must ensure that contractors restore irrigation supplies for wheat cultivation according to contractual obligations.	Open
9	Project Management	There are very meagre funds at the disposal of PD	Activities cannot be undertaken due to lack of advance availability of funds	Provide funds in advance to the PD in imprest account	Open
10	Project Resources	Office Accommodation	Project Management offices will continue in the same building. Project Component offices will be shifted to another building about two km away	Project office shall be at one place	Open
11	CAD and OFWM	Formation and registration of WUA	MoU with OFWM Department expires in the end of December 2017	PD to expedite hiring of NGO for social mobilisation	Open
12	CAD and OFWM	Terms of Partnership (ToP) with WUA	ToP without incorporating suggestions of HPK prepared in English is signed by WUA	Prepare Urdu Translation of recommended ToP for signing of WUA	Open

No.	Component	Activity	Observations	Recommendations	Status
13	CAD and OFWM	Construction contracts for watercourses	Negligible progress on all nine packages awarded to contractors	Contract Management needs considerable improvement and efficiency	Open
14	CAD and OFWM	DO	DO	Resolve the issue of 20% Farmers' contribution	Open
15	CAD and OFWM	DO	DO	Apply liquidated damages on contractors	Open
16	All Four Project Components	Training of WUAs	After one livestock training in May - June 2017, no training activity was planned. Project objectives cannot be translated into practice without robust training programme	Develop extensive training programme, prepare training schedule, prepare proper training modules, select trainers, monitor training for improvement, and measure training effectiveness.	Open
17	Do	Project Staff Training	Most of existing staff came from surplus pool. They lack project implementation experience and need training to perform.	Prepare training Needs Assessment and arrange training of PIU staff in project management and implementation.	Open
18	Productivity Enhancement and Value Addition Components	Out-sourcing implementation of activities to line departments	Draft MoUs with line departments being prepared without details of tasks and timeline, resources required, implementation strategy and monitoring mechanism.	Prepare complete plan with details of activities, resources required, procurement procedures and responsibilities for each component and with arrangements for monitoring implementation progress.	Open
19	Value Addition Component	Transfer of productive assets (chicken/ bulls) to WUA and Women	Unconditional transfer of assets (chicken/ bulls) through line departments planned	Prepare strategy, define criteria and its verification method and transfer assets through NGO with under PIU approval and monitoring	Open

No.	Component	Activity	Observations	Recommendations	Status
20	CAD and OFWM	Draft final master plan by Master Plan Consultant	Comments provided by A-E Contractor and not yet responded.	Suggestions given shall be incorporated	Closed

1.7 Environmental Compliance

Master plan of the projects was shared by M/s AAB for review and comments submitted. Sensitive environmental receptors were not incorporated in the master plan study. It was suggested to execute the project activities keeping in view the sensitive receptors (Listed in Annexure - 8 of EDF) of the project.

During the current reporting period, bidding documents for watercourses were shared by M/s NESPAK to HPK for review and found satisfactory with respect to incorporation of environmental requirements.

Construction sites were visited and found that implementation status of EMMP is unsatisfactory. The main cause was unawareness of sub-contractor(s) about the environmental requirements of the project. No environmental records provided for ongoing activities.

A detailed training session was carried out for sub-contractors senior management to augment the capacity in implementation of project EMMP. There was week coordination among the project stakeholders and contractors regarding implementation of EMMP, resulting in implementation constraints. Further, WUA's member were complaining that they are not taken into confidence during alignment of watercourses.

Environmentalism was not deputed by supervision consultant (M/s NESPAK), upon highlighting the issue, environmentalism was deputed. Environmental non-compliances highlighted in current site visit report and pending open non-compliances of previous visit reports must be taken up by the responsible parties for their close out to improve the EMMP compliance status of the project.

2 Particulars of Site Visit

2.1 Scope of this Report

This report covers the verification of 22 WUAs formed in DI Khan district during the period ending December 31, 2016 and such other WUAs formed and registered. Monitoring and verification of training, Watercourse construction and other command area development activities (if required).

2.2 Site Visit Reference

The visit was carried out with reference to the email instruction from the Contracting Officer's Representative (COR) dated August 31, 2017.

2.3 Purpose of visit

The purpose of visit was to monitor progress on the following aspects;

- Verification of 10% sample of WUAs out of 22 WUAs organised and registered by On-Farm Water Management Department in district DI Khan before December 31, 2016 through focused group discussion (FGD) on site.
- Verification of 10% sample of eight WUAs organized and registered by OFWM Department in Tank district through FGD on site.
- Verification of WUAs formed and registered after site visit # 6 conducted on July 28-29, 2017.
- Review of Training Plans prepared for Productivity Enhancement and value addition.
- Monitoring the progress on watercourse construction and quality of construction work in the field.
- Any other social issues, Engineering and Non-Engineering activities.

2.4 Visit locations

The following visits were made:

- Office of Project Director, PIU at DI Khan;
- Office of the Design and Supervision Consultant (M/S NESPAK).
- WUA of Watercourse (W/C) # 38332/L Distributary (D)-3 village Mamraiz Phattan district Tank.
- WUA of W/C # 15798/L D-5 village Rori/Naskoor Tehsil Kulachi.
- WUA of W/C #23739/L D-6 village Garah Bakhtiar Tehsil Kulachi.
- WUA of W/C # 14227/R D-11 Village Kot DaulatTehsil Kulachi.
- WUA of W/C # 45304/R D-3 Village Mohabat and Garah Aslam Tehsil Kulachi
- WUA of W/C # 11395/R D-10 Tehsil Kulachi.
- WUA of W/C # 16650/R D-7 Village Garah Hayat Tehsil Kulachi.
- WUA of W/C # 27517/R D-11 Tehsil Kulachi.
- Package I MW-01/D-6 W/C #100/L Tehsil Kulachi.
- Package I MW-09/D-6 W/C # 8385/L Tehsil Kulachi.
- Package I MW-10/D-6 W/C # 9258/L Tehsil Kulachi.
- Package II MW-38/D-6 W/C # 22341/R Tehsil Kulachi.

- Package III MW-23/D-6 W/C # 23097/L Tehsil Kulachi.
- Package III MW- 01/D-7 W/C # 2379L Tehsil Kulachi.
- Package VII M/W-14/D-8 W/C # 15781/R Tehsil Kulachi.
- Package VIII MW- 01/D-10 W/C # 472/R Tehsil Kulachi.
- Package V MW-01/D-11 W/C # 174/L Tehsil Kulachi.

2.5 Dates of visit

Activities carried out are detailed below.

September 19, 2017: Meetings at PIU with

- Component Leader OFWM and CAD, Component Leader Value Added Agriculture & Livestock and Deputy Team Leader Nespak
- Monitoring and Evaluation Officer GZD-CADP PIU
- Water Management Officers OFWM Department DI Khan and Tank districts

September 20, 2017: Meeting with WUAs

- One WUA in Tank District and Three WUAs in Tehsil Kulachi.
- Training session was carried out by environmental compliance expert HPK for GZD-CADP contractors at PIU office.
- September 21, 2017.
- Meeting with Project Director GZD-CADP and his staff in PIU office.
- Meeting with Design and Supervision Consultant in NESPAK office. Minutes of meeting is attached as **Appendix-C**.

September 22, 2017

- FDG conducted with four WUAs, randomly selected out of 30 WUAs organized and registered by OFWM Department DI Khan. These WUAs were formed and registered after the last site visit of HPK in July, 2017.
- Monitored the progress on Watercourse construction under Package 1 to 4.

September 23, 2017

- Monitoring of construction progress on Package I to VII.

Table 2: Detail of Participants

S. No	Visiting Team Participant	Designation
1	Fazal Mahmood Khakwani	Chief of Party
2	Mian Zia uddin	Irrigation Engineer
3	Muhammad Yousaf	Agronomist
4	Saifur Rahman Sherani	Sociologist
5	Fasih Ur Rahman	Environmental Expert
6	Zulqarnain	Junior Sociologist
7	Atif Murtaza	Field Monitor
8	Muhammad Munawar Saeed	Field Supervisor
9	Haroon Latif	Security Coordinator
10	Security Guards 4 Nos & 1 security supervisor	
11	Drivers 4 Nos	

3 Monitoring and Verification of Non-Engineering Activities (Soft Component)

3.1 Institutional Development

Institutional Development activities comprise organisation and capacity building of WUA, FO and WIG. The overall project target for this activity is the formation and registration of 393 WUAs under WUA Ordinance 1981 of KP Government.

Currently, OFWM is doing a Consultancy for formation and registration of WUAs. OFWM will be replaced by NGO whose hiring is in process. WUAs formation and registration process is moving at a slow pace. From July 1, to September 15, 2017, 30 new WUAs were organised in DI Khan district. A total of 160 WUAs (140 in DI Khan and 20 in Tank) have been organised by September 19, 2017, that is 41% of the total target.

3.2 Verification of Invoice No. 1 and 3 of WUAs formation and Registration

Invoice No. 1 of 2016 comprised 22 WUAs, whose document verification was carried out in July 2017 and three sample WUAs were visited on September 20, 2017. The list of 22 WUAs appeared to have been included in the Invoice No. 2 as well because of clerical mistake therefore no separate verification certificate was issued.

The invoice No 3 comprised 40 WUAs while documents of 30 WUAs were presented during visit to PIU on September 19, 2017. Sample of nine randomly selected WUA documents were examined and found complete in all respects. Three of the WUAs from this list of 30 WUAs was visited. Certificates of verification for Invoice No. 3 (30 WUAs) was issued.

Extract of both invoices is attached as **Appendix-B**.

3.3 Terms of Partnership

Suggestions for improvement of Terms of Partnership between the project and WUA were given in April 2017 which were not complied. The sixth Site Visit Report of August 2017 reiterated recommendations about it. It was informed that the Terms of Partnership with incorporation of suggestions is being translated in Urdu.

3.4 Enhancing Productivity of Field Crops, Horticulture and Livestock

The component leader and staff for this component is yet to be appointed and no activities have commenced.

In May-June 2017 under this component 551 farmers from 42 WUAs were provided livestock training. After that Project Director has instructed to stop further training activities.

3.5 Value added processing

This component had three staff members at present; i) Component Leader, ii) Milk and Meat Expert and iii) Field Officer. The staff are planning activities for cattle breed improvement and poultry bird distribution to women interest groups. This component is for value addition but it is apparently more focused on productivity enhancement.

During discussions it was also found that the component staff had no experience in delivery of services.

3.5.1 Cattle Breed Improvement

Component has prepared plan for supply of artificial insemination services for cattle breed improvement. They are preparing Memorandum of Understanding with Livestock Department for provision of Artificial Insemination (AI) service. The breed selected for propagation is Friesian cow which is one of the highest milk yielding cattle breed. Discussion was held on this matter and they were suggested to reconsider this idea. The Friesian is large cattle with longer body length and height. The local cattle breed is small in size and perhaps not suitable for AI of Friesian cattle breed.

Jersey is much smaller cow compared to Friesian and its milk yield is little less than Friesian but has highest level of butterfat. It can survive the hot climate as well. Private AI service for Jersey breed is available in the project command area villages. In Dabara village there is advertisement for this service for Jersey breed. We are of the opinion that the project should re-consider their decision on engaging in procurement and signing of memorandums of understanding for the Friesian AI. Instead, it would be better to focus on Jersey breed which appears to be well suited with the small sized cows of local breed and hot climate of the project area.

We suggest that the project *must explore* possibility of private public partnership in AI services for breed improvement. It must not be dependent on the Livestock Department because bureaucratic procedures and bottlenecks may hinder the delivery services. The most important thing in cattle breeding through AI is time bound activity related to heat period of cow that lasts for one or two days at the maximum. Private Service provider can be available at any time but the line department staff cannot provide services beyond their working hours and availability of government vehicle.

These are very important considerations and we suggest that the Project authorities do consider in a timely manner.

3.5.2 Chicken and Egg Distribution

This component also proposes to distribute chicken and fertile eggs to women in the area. The Project management is of the opinion to appoint Livestock Department for delivery of this service. The plan envisages to provide about two dozen layer birds and two dozen fertile eggs to women per household. These poultry birds and eggs will be distributed by the Livestock Department.

This is very strange idea and point to lack of experience. The project must work through Women Interest Groups (WIG) for poultry services. Livestock Department shall not be involved at all in this service. The NGO will organise WIG and the component leader and its team shall prepare strong criteria for distribution of birds and eggs. They can also include household poverty in the criteria and take data from Poverty Scorecard survey conducted for Benazir Income Support Program. The criteria for this purpose must have several elements so that it is transparent to exclude the vested interests. For example, one criterion could be that recipient is landless tenant household or small landowners with less than 5acre of land, etc.

It was also suggested that not more than half a dozen poultry birds shall be given to any household. Distribution shall be made by the NGO to WIGs households already identified and approved by the component leader and Field Officer of the PIU.

3.6 Marketing of products

Marketing of products includes four main activities: i) access to market through FO, ii) small scale enterprise development, iii) network with private sector; and, iv) support the government for required policy changes. According to project phasing these activities will commence in the third year of the project.

The project has not recruited staff for this component.

4 Monitoring and Verification of Engineering Activities (Infrastructure Component)

Gomal Zam Irrigation System comprises of a main canal with 17 distributaries and 7 minors; and Waran canal with 8 minors to irrigate the entire command area under the Gomal Zam dam. The command area was originally planned to be irrigated with the help of 393 outlets while 8 new outlets have been added and the total number of outlets are 401 as of August, 2016.

About 246 outlets are already being constructed under Gomal Zam Dam Component-2 while remaining about 147 outlets are under implementation stage.

4.1 Construction of Watercourses

The project awarded 12 contract packages for construction of watercourses to date. Package -I was awarded on April 6, 2017, its completion date was June 5, 2017 that has been extended to August 8, 2017. Package II, III and IV were awarded on June 9, 2017 and their completion date is October 8, 2017. Package No. V, VI, VII, VIII and IX were awarded on August 1, 2017 and their completion date is December 1, 2017. Packages X, XI and XII were awarded on August 16, 2017 and their completion date is December 9, 2017. One of the bidders for Packages X, XI and XII went into litigation before mobilisation of the contractor.

There are total of 130 watercourses in Contract Packages No I to IX, a summary of progress on these contracts is shown in Table No. 1 below.

As per information provided by the Design and Supervision Consultant work on 41 watercourses started and is in progress out of the total 130 watercourses. Currently, work is in progress on seven packages out of the nine, while work on Packages VI and IX is yet to start.

Table 3: Detail of Progress on Contract Packages as on September 15, 2017.

Contract Package No.	Contract signing date	Completion date of Contract	Extended date of completion	Number of Watercourses in Package	Work Started on Number of watercourse	Physical Progress	Financial Progress
I	April 6, 2017	June, 5 2017*	August,8 2017	15 (D-6)	9	Negligible	0
II	Jun 9, 2017	Oct 8, 2017		13 (D-6)	8	Negligible	0
III	Jun 9, 2017	Oct 8, 2017		15 (D-6 & 7)	5	Negligible	0
IV	Jun 9, 2017	Oct 8, 2017		12 (D-7)	2	Negligible	0
V	Aug 1, 2017	Dec 1, 2017		14 (D-7 & 11)	8	Negligible	0
VI	Aug 1, 2017	Dec 1, 2017		14 (D-8 & 11)	0	Negligible	0

Contract Package No.	Contract signing date	Completion date of Contract	Extended date of completion	Number of Watercourses in Package	Work Started on Number of watercourse	Physical Progress	Financial Progress
VII	Aug 1, 2017	Dec 1, 2017		15 (D-8)	5	Negligible	0
VIII	Aug 1, 2017	Dec 1, 2017		12 (D-9 & 10)	4	Negligible	0
IX	Aug 1, 2017	Dec 1, 2017		20 (D-10, 12, 13)	0	0	0
Total				130	41 (31%)	0	0

Detail visit was carried out to the watercourse sites mentioned in table 4 below for monitoring of the undergoing activities at each site. Work status on all the watercourses visited was almost at the same level of natural ground clearance and compaction in the head reach proposed for lining except two watercourses; one inaugurated by the Chief Minister KP and the other constructed by the contractor according to his own will without the supervision of the Design and Supervision Consultant.

Table 4: Details of Watercourses Implementation Status

S#	WC #	Disty/ Minor	Package	Contractor	Remarks
1	100L	D-6	I	M/s Stately Eng:	Clarence and compaction of natural ground surface and 2 nd layer was in progress. Field Density Test (FDT) was conducted for checking 2 nd layer compaction at RD 0+250 of the watercourse and was found satisfactory. Test result is attached as Appendix-D
2	8385L	D-6	I	M/s Stately Eng:	Ground surface cleared up 200 m, further work not in progress as community not agreeing with the alignment given by the Design and Supervision Consultant according to engineering <i>chakbandi</i> and demanded alternate route for watercourse construction.
3	9298L	D-6	I	M/s Stately Eng:	644 m watercourse lined by the contractor with PCPS on his own will without the involvement and instructions / supervision of the Design and Supervision Consultant.
4	17142L	D-6	I	M/s Stately Eng:	120 m watercourse lined with PCPS and inaugurated by CM, KP further work was not in progress

S#	WC #	Disty/ Minor	Package	Contractor	Remarks
5	17142R	D-6	I	M/s Stately Eng;	Work was initially started by the contractor independently without the involvement of Design and Supervision Consultant, now re-started after instruction and proper alignment by Design and Supervision Consultant.
6	2379L	D-7	III	M/s Pir Azmat Shah	Diversion channel was constructed by the community themselves, work on watercourse construction not in progress.
7	472R	D-10	IV	M/s Pir Azmat Shah	Layer wise watercourse compaction at RD 0+720 was in progress, it was noted during survey check that levels observed at site was not matching with level record sheet. The record was also not properly checked and maintained by Design and Supervision Consultant supervisory staff at site.
8	174R	D-11	V	M/s Hizbullah & Co.	NGC completed up to 300m, contractor was not available at site and no further work was in progress.
9	15781R	D-8	VII	M/s Nasrullah MianKhel	Natural ground clearance completed and compaction was in progress. Contractor fully mobilized and actively working at this site.

4.2 Sequence of Site Construction Activities of Watercourses

Sequence of watercourse construction follows below mentioned pattern and is considered for better understanding of construction activities process:

- **Layout of the watercourse:** under this activity Design and Supervision Consultant marks the layout of watercourse on ground at the request of Contractor according to the design route of the watercourse.
- **Bed Clearance:** This activity comprises clearing and grubbing of vegetation, bushes and excavation of variable depths depending on site condition, land topography and designed layout of the watercourse.
- **Natural Ground Compaction (NGC):** This activity envisages levelling of the watercourse bed with compaction at natural ground level.
- **Compacted Earth-filling:** Layer-wise compacted earth-filling up to designed embankment top level to prepare earthen pad, wherever required.
- **Watercourse trench excavation:** Trench excavation after marking the centreline on the prepared compacted earthen pad.
- **Precast Nacca and Fall Structures:** Installation of precast *Nacca* structures, fall structures, culverts and social structures as designed.

- **Test Run:** Test run of watercourse will then be carried out to confirm its fulfilling the designed requirements.
- **20% Lining of Watercourse:** After clearance of test run, 20% of watercourse will be lined as per design.

4.3 Progress on Watercourses Implementation

There is virtually no progress on any of the Watercourse construction packages as of September 15, 2017 according to statistics provided by the PIU CAD and OFWM Component Leader. This lack of progress also accounts to gaps in the Contract Management of Design Consultants. During the coordination meeting with the Design Consultants it was agreed that an Overall Implementation Plan will be prepared and submitted for PIU review. Similarly, all the implementation sites will be assigned to their engineers and site visit plan to supervise the activities should be prepared and shared with the PIU PD before the start of the week. In same manner, PIU PD will assign PIU staff to conduct weekly implementation monitoring visit to address site matters in a timely manner.

Currently, an update implementation status regarding design and construction progress is prepared by Design and Supervision Consultant which is reflected in the PIU Bi-weekly update. It is suggested to include name of the agency issuing this update.

Layout of Watercourses Alignment: On the first Contract Package whose date of completion has expired two months ago layout alignment was not yet requested by contractor on two of the 15 watercourses of the package.

Table 5: Updated Implementation Progress of the Awarded Watercourse Packages

Construction Packages	Number of watercourses	Layout	Bed Clearance WCs (Nos)	NGC WCs (Nos)	First Layer WCs (Nos)	Second Layer WCs (Nos)	Third layer WCs (Nos)
I	15	13	9	3	1	1	0
II	13	10	8	1	1	0	0
III	15	5	5	1	0	0	0
IV	12	5	2	2	0	0	0
V	14	11	8	3	0	0	0
VI	14	0	0	0	0	0	0
VII	15	6	5	0	0	0	0
VIII	12	9	4	3	0	0	0
IX	20	1	0	0	0	0	0
TOTAL	130	60	41	13	2	1	0
Completion Percentage		46%	31%	10%	2%	1%	0%

The statistical summary presented in table 5 reflects negligible progress on the watercourse implementation.

4.4 Contract Management

The review of contracts awarded and time left against work progress achieved clearly indicate lack of ownership of contracts by PIU and Design and Supervision Consultant. This indicate gaps in contract management process by all the stakeholders.

- Improper assessment of Contractors during the process of pre-qualifications.
- Contractors have been awarded more than one packages, but are not capable of working simultaneously due to shortage of staff and equipment
- Non-availability of an updated overall implementation plan together with its monitoring to ensure timely completion of contracts.
- No progress records are being maintained for timely remedial measures to be undertaken by issuing notices to the non-complying Contractors.
- No record of site visit plan was shared to confirm the site supervision visit in a proper manner to address site related problems affectively.

Suggested remedial measures to be undertaken on priority basis to address the negligible implementation progress by improving the Contract Management are as below;

1. Design Consultant to guide PD Office to streamline the methodology for contractor with more than one package for efficient resourcing & equipment.
2. Design Consultant to ensure that where farmers having already constructed earthen channels must be provided with diversion channels for smooth implementation of watercourse activities.
3. Contract clause 17.3 will help in implantation of diversion channels where earthen water course exists
4. Design Consultant staffing issue to be addressed. They have to assign watercourse packages to their field teams together with preparing site visit plans for proper implementation supervision.
5. Design Consultant should prepare daily progress reports (DPRs), weekly progress report and based on these reports prepare monthly progress report to be submitted to PIU PD.
6. Contractor's list of equipment to be checked with work schedule and activities to be planned accordingly.
7. Realistic work schedule to be prepared and implemented;
8. Time of completion to be addressed with realistic schedule and addendum to be issued for existing contracts.
9. PIU PD to schedule the site visit plan of his staff for monitoring site activities.
10. Social issues need to be resolved by PIU staff. Social mobilization team hiring in process and will be on-board by November.
11. Design Consultant environmental team to be deputed at site to ensure environmental compliance.
12. Design Consultant should ensure that borrow pits coordinates and pictures to be submitted by the contractor.
13. Quality assurance plan preparation should be expedited and submitted for review of all concerned.

4.5 Contract Management by PIU

On same grounds Contract Management process needs to be improved within PIU as well. It is observed that PIU staff are not visiting the implementation sites regularly and are believing the reports submitted by the Design and Supervision Consultant. PIU is the representative of the Project owner and we suggest that PIU staff should visit the implementation sites on regular basis and submit their reports to PIU PD.

On our request, we received two site visit reports of PIU staff in July 2017, where Monitoring Officer has visited Distributary No. 6 with PMU staff on July 27, and with Design and Supervision Consultant on 31 July. No other field visit report of PU staff was presented. This clearly indicates that none of the PIU staff visited project sites for field supervision and progress monitoring in the month of August and during the first 20 days of September 2017.

We suggest presence of PIU Project Director within the project area to have better control on the implementation and monitoring of the project activities through his team.

4.6 Contract Management by Design and Supervision Consultant

Design and Supervision Consultant is responsible for preparing design, BoQs contract documents and construction supervision. The lack of progress on all packages indicate weak performance of the Design and Supervision Consultant in fulfilling their contractual requirements. Design and Supervision Consultant (TOR) Terms of Reference in Appendix-B of their Contract includes:

“The Consultant will provide services for verification and certification of quantity and quality of all categories of works in the project and monitoring of the implementation of works on behalf of the project.” (Appendix-B, Page No. 21)

Not only that the Design and Supervision Consultant in their Inception Report clearly stated that:

“ 3.1.5 Physical Progress Monitoring According to Work Plan

The Design and Supervision Consultant will ensure that physical progress on works is going according to the action plans / agreed schedule. The Design and Supervision Consultant shall facilitate for timely completion of works. The progress will be reported to the Client on fortnightly/ monthly/ annual basis and shall include, inter alia, reasons of low progress and suggestion of remedial measures.” (Inception Report, Page 3-3)

These statements clearly indicate that the Design and Supervision Consultant has to review their performance indicators mentioned in their Description of Services with a view to take timely remedial measures on priority basis. .

4.6.1 Conclusion

The Project Director and project staff appear to be unconcerned with the construction progress. The PIU rely on the reports of the NESPAK which so far

have not taken concrete steps in improving their performance in implementation monitoring of construction projects and by suggesting remedial measures in addressing the unacceptable delays in implementation. We consider this as a serious violation of their scope of work and commitment shown in the Inception Report.

4.7 Potential Problem in Implementation

The most serious problem is faced by the farmers of all outlets where contractor has started work. The contractors have closed the canal outlets on the pretext of watercourse construction and instructed farmers to refrain from opening it for irrigation as this will cause disruption of construction activities. The contractors on watercourses where they have obtained layout have informed farmers to stop irrigation as they will not be able to work. Farmers are more concerned than anybody else about speedy construction of watercourses. Farmers are cooperating with contractors in their own interest. But now farmers are worried that contractors will not allow them to irrigate fields for the coming wheat crop. Farmers have requested contractors to complete the work or allow them to irrigate fields for the coming wheat crop. Contractors have blatantly refused this request and threaten them for consequences if they try to irrigate their fields.

The farmers are scared that the contractors will not allow them to cultivate wheat crop this year. Farmers requested A-E contractors to plead their case with the contractor. Farmers were advised to request contractor to make provisions for irrigation of their command area for wheat crop. If contractors keep threatening then the farmers will not be able to irrigate their land for wheat crop on 60 watercourses where they have obtained layout.

We have suggested that the Design and Supervision Consultant should communicate with the Contractors together with PIU staff to address this problem. Contractually, the construction contractor is bound to allow irrigation supplies by providing a diversion arrangement so that during the construction period the irrigation supplies of the farmers are not interrupted. In same manner, we are of the opinion that watercourse layout should be given for limited watercourses based on the Contractor available / operational construction equipment. Also construction activities should be planned and executed in a sequential manner to avoid farmers' genuine problem.

If timely steps are taken then we fear that a disaster is in the offing perpetrated by the contractors but apparently no effort is being made by the Design and Supervision Consultant and the project to avert it.

4.7.1 Recommendation

The Project Director must ensure that construction work by contractors must not deprive farmers from irrigation and cultivation. The contractor must be held responsible to facilitate irrigation of land. Where farmers are deprived of irrigation by contractor the project shall levy fine on contractor equivalent to the loss of farmers and recover this from their bills. All farmers who were deprived of

irrigation by contractor shall be compensated from this fine collected from the contractors.

4.8 Test-Run of Unlined Watercourse

The most important aspect is test run of watercourse for which clear guidelines are provided in PC-I. The situation appears that this may get neglected in haste. We suggest that PIU and Design and Supervision Consultant must ensure that test-run of watercourse is carried out as envisaged in the PC-1 for which budget allocation is already available.

4.9 Command Area Development

Following activities comprise Command Area Development under the project:

- (i) preparation of engineering and revenue *chakbandi*,
- (ii) survey, layout, design and construction of watercourses,
- (iii) lining of 20% of watercourses and completion of earthen watercourses,
- (iv) provision of multipurpose ponds, High Efficiency Irrigation system installation per outlet, 20 km link road,
- (v) preparation of operation and maintenance manual of watercourse for WUA, and;
- (vi) training of WUA in construction and maintenance of watercourse.
- (vii) Precision land levelling of the command area

4.10 Engineering and Revenue *Chakbandi* of Watercourses

There are some discrepancies in engineering and revenue *chakbandis* which is causing confusion among farmers. Watercourses are being designed according to the engineering *chakbandi* that is based on topographic survey. Watercourse designed on engineering *chakbandi* will command the area for which it is designed.

The revenue *chakbandi* is prepared by revenue section of Irrigation Department. The revenue staff locate the outlet on cadastral map on the spot and map the total size of area for the command of outlet. The revenue staff prepare cadastral map for command area of the outlet by writing plot numbers (*khasra* number) given on the map to tally with the total size of command area. The revenue staff neither use cadastral map of the mouza on large size cloth (*shajra parcha*) for this purpose. The *shajra parcha* is an approximate map which identifies field boundaries by number. This map is roughly according to scale. The main utility of this map is that for every plot number name of the landowner is written in the Record of Rights commonly known as *jamabandi*. Revenue Department have more accurate cadastral maps with exact field layout measured according to scale that is known as *massavee*. Preparing revenue *chakbandi* from these maps may take much longer time and effort, therefore, *shajra parcha* is used for this purpose.

The apprehensions expressed by farmers are that their land cannot be irrigated with this watercourse and they are confused about engineering and revenue *chakbandi*. If watercourses are designed after fresh topographic surveys then the watercourses could irrigate the designated command area. If watercourses are designed on 2007 topographic surveys (referring to WAPDA's Engineering *Chakbandi*) taken at the time of canal system design then it might create conflicts rather than addressing the irrigation problem.

Ideally fresh topographic surveys of command area should have been used for design of watercourses. As mentioned, above watercourses are designed on the engineering *chakbandi*, curves and angles on the WAPDA Engineering *chakbandi* are not properly marked with angles on the sheet. Resultantly, it's difficult in implementation to adopt the deflection angles shown on the engineering *chakbandi*. Further, shifting of the given angles on site will not be possible without using the Total Station while the Design and Supervision Consultant staff are practicing use of "D" for measuring site angles. Survey data along the designed routes of the watercourses with coordinates of the ongoing packages has already been requested by the A&E contractor confirming the actual site status which is still awaited from Design and Supervision Consultant.

4.10.1 Challenges

Watercourses are being designed according to engineering *chakbandi* which is about one decade old. Most parts of the command area had been irrigated with flood water since then which has changed the levels of land since past decade. The most important need is topographic surveys of command area for designing of watercourse where Design and Supervision Consultant performance appears lax. Watercourses designed without fresh topographic surveys may lack the ability to irrigate the designated command area.

The performance of Design and Supervision Consultant is very poor in supervision of construction packages. Design and Supervision Consultant may need more staff and vehicles to provide supervision of construction packages.

4.11 Survey, layout, design and construction of watercourses

M/S NESPAK was appointed as Design and Supervision Consultant in August 2016 to carry out survey, layout, design and construction of watercourses and allied engineering components.

Survey and detailed design has been started for earthen as well as 20% lining of the watercourse and link road. Engineering surveys, design and BoQ are completed for 227 watercourses (58%). Bidding documents have been prepared for 212 watercourses (54%).

4.12 Multipurpose Pond

Design and Supervision Consultant has to design multi-purpose pond for each of the 393 watercourses. Engineering survey, design and BoQ of 227 (58%) multi-purpose ponds have been completed, and 212 bidding documents (54%) were prepared.

4.13 High Efficiency Irrigation System

Design and Supervision Consultant has to design high efficiency irrigation system for all 393 watercourses. Currently, design of this activity has not started.

4.14 Precision Land Levelling

Design and Supervision Consultant has not started any work on this activity.

4.15 Link Road

Design and Supervision Consultant has to design 20km of link roads for the project. Detailed design of about 8.7 km (44%) length of earthen link road has been completed. Design, BoQ and bidding documents were prepared for 7.5 km road.

5 Implementation Progress

There are 21 professional staff positions at the PIU and out of these, 12 positions were vacant till the end of September 2017. Interviews for recruitment against these posts were conducted and appointment orders will be issued in early October 2017.

5.1 Procurement of Consultancies

Procurement of all consultancies was completed and the consulting firms were on board. The MoU of OFWM Department was expired on April 30, 2017 which has been extended up to December 2017. The Project intends to hire NGO for social mobilisation and formation of WUAs. The NGO hiring process will be completed by October 2017.

5.1.1 Master Plan and Feasibility Consultancy

The Master Plan Consultant M/S AAB (Pvt) Ltd has completed the stipulated time of assignment in January 2017.

Comments of A-E Contractor on the Final Feasibility Reports and Baseline Survey were incorporated while comments and improvement in draft final Master Plan are yet to be addressed by the Master Plan Consultant.

5.1.2 OFWM Consultancy

The MOU with OFWM expired in the end of April 2017. The Director General OFWM has extended the MOU up to end of December 2017.

5.1.3 Detailed Design & Construction Supervision Consultancy

The Design and Supervision Consultant has achieved 58% of the target of design, BoQ and Bidding documents and work is in progress.

6 Implementation Issues

Following are the main issues which need attention to streamline the project implementation.

6.1 Contract Management:

All construction packages are extremely delayed as analysed in detail in Section 4.1 above. PIU and Design and Supervision Consultant are responsible for lack of contract management. This issue needs to be resolved without delay to avert deprivation of large area from irrigation due to blockage of outlets by contractors on the pretext of construction without any progress.

6.2 Job Description of PIU Staff

Most of the PIU staff came from Surplus Pool of the Agriculture Department and need training to understand their tasks in the project and perform accordingly. Detailed Job descriptions and distribution of responsibilities of every staff member shall be prepared and they shall carryout the tasks assigned in the job descriptions.

6.3 Project Area Visits by PIU Staff

The PIU is owner of the project and its staff is responsible for successful and timely implementation of all activities included in the PC-1. The Site Visit Reports have reiterated that PIU shall prepare annual work plan and project duration work plan, each with quarterly targets following the result based management approach together with Project Monitoring Plan. Unfortunately, the project staff have no experience in project implementation and are not aware of these methodologies. This is one of the major reason for inordinate delays in every activity of the project.

The Project shall hire some professional with project management qualification to streamline smooth implementation of the project.

It is stated earlier that project has only five vehicles in DI Khan, two in the field with OFWM Department and three with officers for use in the city. The project staff rarely visit project area to appraise the situation and solve problems. Project has given watercourse construction packages and all of them are non-performing. While we have observed that only two site visits were conducted by PIU staff in July, 2017.

WE propose that all PIU staff from Component Leaders to Field Officers do prepare field visit plan for the month before that start of month. Plan visits to understand issues and take decisions to solve problems, if any. This field visit report will create sense of responsibility in the staff towards project implementation.

We suggest that after field visit every staff member shall prepare a one page field visit report in Urdu according to the format provided below. These reports shall be kept in file by every component leader. The monthly monitoring report shall include data provided in these field reports.

Project Area Visits by Design and Supervision Consultant Staff

Format of the Field Visit Report

**Gomal Zam Dam Command Area Development
Project
Field Visit Report**

- 1 Site Visit by Project staff:
- 2 Name of the Officer
- 3 Date of Visit
- 4 Package No.
5. Purpose of Visit
- 6 Discussions held with (name of person and designation)
- 7 Observations
- 8 Action Taken /Recommended

The Design and Supervision Consultant staff is required to adopt a proactive approach and visit construction sites on regular basis and submit daily progress reports (DPR) on their return and should not wait for the contractor's request of site visit. The DPR must indicate record of daily work supervised, in progress and completed work of all the ongoing contracts / packages respectively with detail record of labours, technical and non-technical staff engaged and machinery available on each site. The DPR must be signed from the contractor representative present at site and supervision staff along with responsible Manager of the Design and Supervision Consultant team.

6.4 Work Plans / Contractor Work Schedules

Realistic work plans / schedules must be submitted and received from the contractors according to the contract duration and must be closely monitored by the Design and Supervision Consultant supervision staff for timely achieving the desired targets within stipulated time. Similarly, an updated implementation scheduled should be submitted by the Contractors with minimum required resources both human and machinery to materialize the updated schedule.

6.5 Project Office Accommodation

The project office accommodation was inadequate and insufficient. PIU hired a building somewhere else in the town where office will be shifted partially. The office of Accounts Officer and Project Director will remain in the exiting building.

This is strange that the Project Director is stationed at Peshawar and visits PIU for few days a month. The PIU is making every effort to keep PD detached from staff even when he is in DI Khan.

A new building (FO office) was under construction in vicinity of the existing office. When completed the PIU office will be shifted to this building. Contractor for this building is also contractor of four watercourse construction packages. The contractor's progress on watercourse construction indicate that this building may be completed years after the completion of this project.

6.6 Project Logistics

The PIU had only four Cultus cars and one double cabin pick-up at DI Khan. Out of four Cultus cars, two are with OFWM Department for WUA formation, one Cultus car is with OFWM-CAD Component Leader and one with Accounts Officer. The double cabin pick-up is meant for field activities and is allocated to Component Leader Value-Added agriculture and livestock.

The PIU staff rarely visit field despite availability of vehicles.

6.7 Lack of Project Monitoring Reports by PIU and Design and Supervision Consultant

Project prepares bi-weekly update of three pages with statistics of progress in different activities divided into following three sections: 1) soft component, 2) hard component and 3) miscellaneous. The soft component includes statistics on WUAs and designs. The hard component includes statistics on construction and productivity enhancement, value addition and marketing. The miscellaneous includes one line summary of different issues and meetings. There is no narrative about progress or lack of it and actions taken to improve progress are not mentioned.

The project shall prepare monthly and quarterly progress to report on project performance in month and quarter. This report shall be based not only on figures but narrative to explain the situation. If there is any problem for project staff to write report in English they shall prepare report in Urdu highlighting all issues and progress.

The Design and Supervision Consultant committed monthly progress report but none is prepared by them. At this stage when watercourse construction has commenced monthly report on progress, issues and causes of delays and problems encountered must be prepared and submitted by Design and Supervision Consultant.

6.8 Lack of Coordination

There is need to improve coordination between line departments, consultants and the PIU.

6.9 GZID and Canal Management

Gomal Zam Irrigation Division (GZID) has taken over the barrage and parts of the canal system in October 2016 and appointed 70 field personnel to manage and operate the canal. One person is made responsible for every 3 km length of canal operation and maintenance. The canal distribution system appears as abandoned where no one is responsible for its care.

Sections of distributaries are obstructed regularly for raising water by farmers and several distributaries are permanently blocked by upstream outlets to deprive water to downstream outlets. Consequences of these actions are well known to GZID.

On some distributaries, bushes and thickets have submerged canal to the extent that it appears that water is flowing through bushes instead of lined canal..

The large field staff where every individual is assigned a three km stretch shall be made responsible to ensure removal of temporary and permanent obstructions and to maintain canal berms.

7 Environmental Compliance

This section presents the findings of environmental compliance monitoring intervention with respect to EDF/EMMP of project. Environment compliance visits were carried out at five packages sites to monitor the environmental compliance. Stakeholder consultation meetings were also carried out to assess the environmental compliance. The agenda of current site visit was environmental compliance monitoring of Package I to Package IX. Requirements of EDF/EMMP were discussed with PD PIU, M/s NESPAK and sub-contractors representatives at PIU and NESPAK offices.

7.1 Environmental Compliance Status

- Field visit were carried out to five package sites to monitor the implementation of environmental mitigation and monitoring plan of the project. During field visit, members of few WUA's were observed complaining that they were not involved in alignment of watercourses. Design and Supervision Consultant (M/S NESPAK) and PIU field staff were advised to involve WUA's during alignment of watercourses to avoid social conflicts.
- It was noted that environmentalist was not deputed by Design and Supervision Consultant at GZD-CADP. Issue discussed with PD (PIU) and Team leader of Design and Supervision Consultant to depute environmentalist for supervision at site to ensure the compliance of EDF/EMMP. Upon highlighting the issue, environmentalist was deputed.
- During field visit, implementation status of EMMP was found unsatisfactory as sub-contractors are not well aware with requirements of EDF/EMMP. To ensure the compliance at site, a detailed training session was carried out with senior management of sub-contractors at PD office and all requirements mentioned in EDF/EMMP were discussed in detail.
- Borrow areas used for filling of watercourses are not designated and documented. Advised to obtain approval from consultant environmentalist prior to use a borrow area. Environmentalist should provide his expert opinion in selection of borrow area keeping in view the sensitivity of selected borrow area site. After approval, the sub-contractor should make an agreement with land owner for borrowing material by following procedure mentioned in EMMP. Supervision consultant shall ensure the implementation of EMMP at site.
- No reports has been generated by Design and Supervision Consultant for ongoing activities to date. Design and Supervision Consultant is advised to ensure supervision, training/guidance of field staff and generate biweekly/monthly reports, reflecting the compliances and noncompliance of EDF/EMMP. Such compliance monitoring reports must be shared with PD on monthly basis.
- During meeting with Design and Supervision Consultant, contract clause 17.3, 17.4 and 17.5 were highlighted which state that all existing stream courses, agricultural lands, grazing areas and drains within and adjacent to the site are to be kept safe and free from any debris and any excavated materials arising

from the works. Design and Supervision Consultant must ensure the compliance at site to avoid any conflict. In case of any conflict, PD office must be informed and issue must be logged and resolved.

- Other issues observed at site were, non-availability of social complaint register, HSE (Health Safety and Environmental) plan, local employment record, waste management plan, training record, emission tests, noise recording, first aid kits etc. Advised to close all stated Non-Compliance (NCs) to prevent damage to environment, to avoid social conflicts and ensure safety of workers at site.

7.2 Environmental compliance field visit report

Detail of Environmental Compliance is presented in below table.

Table 6: Environmental compliance field visit report

S.No.	Activity	Potential Impacts	Mitigation Measures	Field Observation With Respect to Accomplishment of the Mitigation Measures Required in the EDF EMMP and recommendation	Responsibility / Package	Target Date	Compliance status
DESIGN AND PLANNING PHASE							
1	Formulation of the water distribution mechanism (<i>Warabandi</i>) and assisting WUAs and FOs to implement and enforce equitable water distribution system	<ul style="list-style-type: none"> Improper formulation of water distribution mechanism will result into serious social conflicts due to water rights issues. 	<ul style="list-style-type: none"> Ensure proper formulation of water distribution mechanism in consultation with farmers especially the area of land covered by a water course. The distribution mechanism will be developed in collaboration with WUAs, FOs and KPK Department of Irrigation and Power. 	During visit, it was observed that WUA's formation is in progress. WUA members were complaining that they were not associated during alignment of water courses. Issue discussed with Design and Supervision Consultant and advised to coordinate with WUA's members during alignment of water courses to avoid conflicts during construction phase of the watercourses.	PIU & Design and Supervision Consultant All packages	20 th Oct,, 17	Open
	Feasibility and formulation of Master Plan for development of command area, canal irrigated	<ul style="list-style-type: none"> Design and Project Sustainability Issues 	<p>Feasibility should consider the following:</p> <ul style="list-style-type: none"> During the field survey and public consultations 	<ul style="list-style-type: none"> In design of watercourses, average 2-3 bridges has been proposed on each water course having an 	PIU	N/A	N/A

	<p>agriculture with irrigation facility for the use of perennial water, Earthen (Katcha) rural link roads, land forming and other related works</p>		<p>the population in the area requires crossing bridges at a distance of 2 km, however the initial design (PC-1) recommend the distance of 3-4 km. According to the current maps and the information given in PC-1 the distance of bridges provided are sufficient and they cover all the roads & track crossings. Apart from this the increase in number of bridges will impact the cost of the project.</p> <ul style="list-style-type: none"> About 323 numbers of <i>moghas</i> shall be placed in the distribution system according to PC-1. Rough design calculations were made upon the available data which shows numbers of <i>moghas</i> are ok. However, it is tried to combine the fall structures and regulators to avoid extra structures. However, where unavoidable they are being kept separate. Spacing of watercourses has generally been kept 	<p>average length of 2~3 Kms.</p> <ul style="list-style-type: none"> Total 393 outlets have been constructed/under construction by WAPDA taking off from Canal, distributaries and minors. During field visit, it was noticed that the farmers are not comfortable with the present number of outlets and approaching WAPDA, Irrigation Department and PIU for additional outlets. 			
--	---	--	--	---	--	--	--

			as 1,000m and not exceeding 1,500m. However, at places when unavoidable, the criteria have slightly been modified. The discharge in watercourses has been kept within the maximum limit of 0.11cumec. The lengths of watercourses are generally kept within 3.5 km, however at places they are extended to maximum length of 5 km considering the topographic constraints. Only one watercourse (MW-34/6) is 6.33 km long as its' command area is away from the watercourse outlet.				
PROCUREMENT, CONSTRUCTION AND IMPLEMENTATION PHASE							
1	Construction contractor mobilization and establishment of campsite and machinery/ equipment Yard	<ul style="list-style-type: none"> Changes in land use pattern Influx of external work force Social conflicts 	<ul style="list-style-type: none"> Site for camp site shall be selected keeping in view the cultural norms of the area to avoid undue interference of the contractor's staff with the local residents. Local residents will be given priority in the employment 	<ul style="list-style-type: none"> Contractor informed that camp site will be selected away from local community. No record provided by sub-contractors at time of visit. Advised to hire local unskilled labours and maintain the record of hiring. 	<p>All packages /All contractors</p> <p>All packages /All sub-contractors</p>	<p>N/A</p> <p>15th Oct, 17</p>	<p>Closed</p> <p>Open</p>

			<p>opportunities generated during construction and operations phase</p> <ul style="list-style-type: none"> The land will be rented for the camp site and equipment yard. No resettlement is envisaged for this purpose. 	<ul style="list-style-type: none"> No rental agreement were provided by any contractor at time of visit. Advised to provide the rental agreement on legal stamp paper to avoid social conflicts in future. 	All packages /All sub-contractors	15th Oct, 17	Open
		<ul style="list-style-type: none"> Workshop facilities will spread oils & chemicals 	<ul style="list-style-type: none"> Proper disposal of used oil and chemical waste in accordance with MSDS will be ensured. Efficient Use of Chemicals will be ensured. Good housekeeping practices will be ensured at workshop areas. Mixing of waste into fresh water sources will not be allowed. 	<ul style="list-style-type: none"> No record of waste provided at time of visit. No workshop developed by contractor at site. 	All packages /All sub-contractors N/A	15th Oct, 17 N/A	Open N/A
		<ul style="list-style-type: none"> Deterioration of air quality due to machinery & equipment 	<ul style="list-style-type: none"> Proper engine tuning of machinery/equipment to meet National Environmental Quality Standards of Pakistan limits and USEPA Tier 4 standards 2014 will be ensured. NEQS for ambient air quality is attached as annexure-III. Water should be sprinkled where needed and appropriate, particularly at work 	<ul style="list-style-type: none"> No emission test were provided by any contractor during field visit for machinery/equipment. Advised to carry out emission test of the machinery. No dust emission observed at site at time of visit 	All packages /All sub-contractors All packages /All sub-contractors	20th Oct, 17 N/A	Open N/A

			sites near the communities.				
		<ul style="list-style-type: none"> Noise 	<ul style="list-style-type: none"> Equipment with high levels will be fitted with noise reduction devices. Regular inspection, maintenance and lubrication of the construction vehicle and equipment will be performed Use of PPEs such as ear plugs and ear muffs by the workers will be ensured. Avoid night time activity 	<ul style="list-style-type: none"> No issue related to noise observed at site. No procedure developed by contractor for inspection of vehicles at site. Advised to carry out periodic inspection of vehicles and equipment to ensure maintenance in case of abnormalities. Records of such inspections should be maintained. No night activity is being carried out at site 	<p>All packages /All sub-contractors All packages /All sub-contractors</p> <p>All packages /All sub-contractors</p>	<p>N/A</p> <p>15th Oct, 2017</p> <p>N/A</p>	<p>N/A</p> <p>Open</p> <p>N/A</p>
		<ul style="list-style-type: none"> Water contamination 	<ul style="list-style-type: none"> Waste management plan to be prepared for appropriate disposal of sewage –such as septic tank and soaking pits. 	<ul style="list-style-type: none"> Waste management plan was not prepared by any contractor. Design and Supervision Consultant environmentalist is advised to guide in preparation of waste management plan and ensure its implementation at site. 	<p>All packages /All sub-contractors</p>	<p>15th Oct, 17</p>	<p>Open</p>
		<ul style="list-style-type: none"> Land degradation due to solid waste disposal of camp site 	<ul style="list-style-type: none"> Ensure proper disposal of camp site waste at designated landfill/disposal sites. If the project area does not have any disposal site the contractor shall use 	<ul style="list-style-type: none"> Record of waste generated in result of camp operation not provided at time of visit. No such record was maintained by sub-contractors. All 	<p>All packages /All sub-contractors</p>	<p>15th Oct, 17</p>	<p>Open</p>

			<p>any depression for waste dumping. Prior to dumping the contractor should get the NOC from local authorities for disposal of solid waste. An impervious liner shall be laid to waste sites before the dumping of solid waste. The impervious liner shall be approved by the supervision consultant. After the dumping of solid waste the depression should be covered by scarified material. The approval for impervious liner shall be granted by supervision consultant on a form attached in annexure-V.</p> <ul style="list-style-type: none"> • Good housekeeping practices within the camp site shall be adopted to minimize waste generation. • Disposal of campsite waste near residential colonies or in agricultural fields shall not be allowed 	<p>contractors and Design and Supervision Consultant environmentalist were advised to maintain the record and ensure the disposal of waste as per recommended procedure.</p>			
--	--	--	--	--	--	--	--

		<ul style="list-style-type: none"> Loss of vegetation 	<ul style="list-style-type: none"> The construction crew will be provided with LPG as cooking (and heating, if required) fuel. Use of fuel wood will not be allowed. 	<ul style="list-style-type: none"> No wood burning observed at any site. 	All packages /All sub-contractors	N/A	N/A
		<ul style="list-style-type: none"> Health and Safety issues 	<ul style="list-style-type: none"> Protective fencing to be installed around the Camp to avoid any accidents Fire fighting equipment will be made available at the camps The camp staff will be provided fire fighting training. All safety precautions will be taken to transport, handle and store hazardous substances, such as fuel. Health & safety plan should be prepared by contractor and get it approved by supervision consultant 	<ul style="list-style-type: none"> No camp site visited during current field visit. Temporary arrangements have been made by project contractor. However final camp sites must be selected fulfilling requirements of EMMP. No record for training provided at time of visit. Advised to conduct trainings for field and camp staff to cater with emergency situations. Sub-contractor informed that no storage of fuel being practiced at camp site. No HSE plans was submitted by any sub-contractor at time of visit. Advised to prepare HSE plans and ensure its implementation at camp and work site. 	<p>N/A</p> <p>All packages /All sub-contractors</p> <p>All packages /All sub-contractors</p> <p>All packages /All sub-contractors</p>	<p>N/A</p> <p>15th Oct, 17</p> <p>N/A</p> <p>15th Oct, 17</p>	<p>N/A</p> <p>Open</p> <p>N/A</p> <p>Open</p>

2	Transportation of construction material	<ul style="list-style-type: none"> Soil erosion and contamination 	<ul style="list-style-type: none"> Vehicular traffic on unpaved roads will be avoided as far as possible. Vehicles and equipment will not be repaired in the field. If unavoidable, impervious sheathing will be used to avoid soil and water contamination. 	<ul style="list-style-type: none"> No off tracking observed at any construction site. No maintenance of equipment observed at any construction site. 	<p>All packages /All contractors</p> <p>All packages /All contractors</p>	<p>N/A</p> <p>N/A</p>	<p>N/A</p> <p>N/A</p>
		<ul style="list-style-type: none"> Air pollution 	<ul style="list-style-type: none"> Vehicular traffic on unpaved roads will be avoided as far as possible. Operation of vehicles and machinery close to the water channels, water reservoir will be minimized. Vehicles will be kept in good working condition and properly tuned, in order to minimize the exhaust emissions 	<ul style="list-style-type: none"> Watercourse construction site is approached via roads developed along canals and minors. No vehicle parking is practiced along water channels. Vehicle/equipment were observed in satisfactory conditions but no inspection of equipment was carried out by sub-contractors. Advised to ensure inspection of vehicles and maintained the records as well. 	<p>All packages /All contractors</p> <p>All packages /All sub-contractors</p>	<p>N/A</p> <p>Continue process</p>	<p>N/A</p> <p>Open</p>
		<ul style="list-style-type: none"> Noise pollution 	<ul style="list-style-type: none"> Vehicles will have exhaust mufflers (silencers) to minimize noise generation Night time traffic will be avoided near the communities. Local population will be taken 	<ul style="list-style-type: none"> No abnormal sound observed from vehicles under use of sub-contractors. Sub-contractors informed that no night activity is being carried out at sites. 	<p>All packages /All sub-contractors</p> <p>All packages /All sub-contractors</p>	<p>N/A</p> <p>N/A</p>	<p>N/A</p> <p>N/A</p>

			in confidence if such work is unavoidable.				
		<ul style="list-style-type: none"> Health and Safety issues 	<ul style="list-style-type: none"> Road signage will be fixed at appropriate locations to reduce safety hazard associated with project-related vehicular traffic Project drivers will be trained on defensive driving Vehicle speeds near / within the communities will be kept low, to avoid safety hazard and dust emissions. 	<ul style="list-style-type: none"> Safety/caution signs were observed missing at all construction sites. No training has been conducted by sub-contractors for drivers. During field visit, no issue observed with respect to over speeding. 	<p>All packages /All sub-contractors</p> <p>All packages /All contractors</p> <p>All packages /All sub-contractors</p>	<p>15th Oct, 17</p> <p>20th Oct, 17</p> <p>N/A</p>	<p>Open</p> <p>Open</p> <p>N/A</p>
		<ul style="list-style-type: none"> Damage to infrastructure 	<ul style="list-style-type: none"> All damaged infrastructure will be restored to original or better condition. 	<ul style="list-style-type: none"> During field visit, no damage to infrastructure observed at all sites. 	<p>All packages /All sub-contractors</p>	<p>N/A</p>	<p>N/A</p>
<ul style="list-style-type: none"> 3 	<ul style="list-style-type: none"> Construction of watercourses, Pacca Naccas and culverts 	<ul style="list-style-type: none"> Soil erosion and contamination 	<ul style="list-style-type: none"> Material borrowing and disposal plan should be prepared. Cultivation fields should be avoided for borrowing material to the extent possible. Written consent of the land owner should be obtained for material (soil) borrowing Photographic record (before, during, after) should be kept for the 	<ul style="list-style-type: none"> Procedure for borrowing filling material was not available with any contractor at time of visit. Advised to prepare borrow area management plans and ensure its implementation at site. Agreement of borrowing fill material was not available with any contractor. Advised to select 	<ul style="list-style-type: none"> All packages /All sub-contractors All packages /All sub-contractors 	<ul style="list-style-type: none"> 15th Oct, 17 Continue process 	<ul style="list-style-type: none"> Open Open

			<p>borrow and disposal areas.</p> <ul style="list-style-type: none"> • Levelling of borrow sites. 	<p>borrow area with consent of land owner and approval of supervision consultant environmentalist. Photographic record and deed agreement shall be available with sub-contractor to avoid any conflict in future. Moreover, area should be rehabilitated to its original position. Most suitable area for borrow site is the land which is included in CCA but topographically it's above the FSL of watercourse.</p>			
		<ul style="list-style-type: none"> • Loss of natural vegetation 	<ul style="list-style-type: none"> • Compensatory tree plantation (five times the trees cut down for construction) should be carried out at appropriate locations within the project area 	<ul style="list-style-type: none"> • It was informed by supervision consultant representative that no cutting of tree has been carried out at any construction site. Advised to make the record of trees cutting if trees cutting to be carried out for construction activities. 	All packages /All sub-contractors	N/A	N/A
		<ul style="list-style-type: none"> • Site overburden 	<ul style="list-style-type: none"> • Wind direction shall be considered while selecting sites for stock piles. • Stockpiles of overburden shall be 	<ul style="list-style-type: none"> • No material has been stock piled at any site. • Record for waste generated at site and its disposal not provided by any sub-contractor. 	All packages /All sub-contractors	N/A	N/A

			<p>kept covered where possible. Proper disposal of waste material. Demarcate the waste site and provide details of land use. Finally take approval from supervision consultant on the form attached in Annexure-V.</p> <ul style="list-style-type: none"> An impervious liner shall be laid to waste sites before the dumping of solid waste. The impervious liner shall be approved by the supervision consultant. After the dumping of solid waste the depression should be covered by scarified material. The approval for impervious liner will be granted by supervision consultant on a form attached in Annexure-V. Dismantled asphalt pavement shall be dumped to the waste site. As far as possible wasteland or natural areas with a high elevation will be demarcated for 	<p>Advised to maintain the record and ensure disposal as per recommendation of EMMP.</p> <ul style="list-style-type: none"> No dismantling of road/asphalt observed at any site. Design and Supervision Consultant representative were informed to guide sub-contractors in implementation of all mitigation measures mentioned in EDF/EMMP of the project. 	<p>All packages /All sub-contractors</p> <p>All packages /All sub-contractors</p> <p>All packages /All sub-contractors</p>	<p>20th Oct, 17</p> <p>N/A</p> <p>Continuous process</p>	<p>Open</p> <p>N/A</p>
--	--	--	---	---	--	--	------------------------

			<p>borrowing earth material.</p> <ul style="list-style-type: none"> • Where the use of agriculture land is unavoidable, the top 300 mm of the plough layer will be stripped and stockpiled for redressing the land after the required borrow material has been removed. • Where deep ditching is to be carried out, the top 1 m layer of ditching area will be stripped and stockpiled. The ditch will initially filled with scrap material from construction and then levelled with the stockpiled topsoil. • Ditches or borrow pits that cannot be fully rehabilitated will be levelled. Design and Supervision Consultant to minimize the erosion and to avoid creating hazards for people and livestock. • Land owners will be compensated according to the terms of lease agreement negotiated with the land owners, 				
--	--	--	---	--	--	--	--

			and restoration action agreed upon by the contractor will be duly carried out. The approval forms are attached as Annexure-V.				
		<ul style="list-style-type: none"> Damage to infrastructure 	<ul style="list-style-type: none"> All damaged infrastructure shall be restored to original or better condition. 	<ul style="list-style-type: none"> No damage to infrastructure observed at time of visit. 	All packages /All sub-contractors	N/A	N/A
		<ul style="list-style-type: none"> Sites of Historical, Cultural, Archeological or Religious Significance 	<ul style="list-style-type: none"> WAPDA shall ensure that the contractor staff is educated about the location and importance of the cultural sites that exist in the Project area. The contractor shall ensure that these sites are not affected by the construction related activities including movement of the project vehicles and obtaining borrow material for construction. These aspects shall be included in the trainings to be conducted for the contractor's staff. In case of chance find of any sites or artefacts of historical, cultural, archaeological or religious significance, contractor shall ensure 	<ul style="list-style-type: none"> Training session was carried out during current visit for sub-contractors senior management. All mitigation measures suggested in EMMP were discussed. Moreover, PIU and design & supervision consultants were advised to ensure implementation of mitigation measure suggested in EMMP. 	PIU/ M/s NESPAK	Continue process	N/A

			<p>that the work is stopped at that site, the provincial and federal archaeological departments are notified immediately, and their advice is sought before resumption of the construction activities at such sites.</p> <ul style="list-style-type: none"> Graveyards shall not be disturbed during the construction activities including movement of the project vehicles and obtaining borrow material for construction. 				
		<ul style="list-style-type: none"> Noise pollution 	<ul style="list-style-type: none"> Equipment with high levels shall be fitted with noise reduction devices Regular inspection, maintenance and lubrication of the construction vehicle and equipment shall be performed. Use of PPEs such as ear plugs and ear muffs by the workers shall be ensured. 	<ul style="list-style-type: none"> No issues related to noise observed at site. No procedure has been developed by sub-contractors for inspection of vehicles. Advised to carry out inspection of vehicles and equipment to ensure maintenance in case of abnormalities and to avoid damage to environment. No night activity is being carried out at site 	<p>All packages /All sub-contractors</p> <p>All packages /All sub-contractors</p> <p>All packages /All sub-contractors</p>	<p>N/A</p> <p>20th Oct, 17</p> <p>N/A</p>	<p>N/A</p> <p>Open</p> <p>N/A</p>

			<ul style="list-style-type: none"> Avoid night time activity. 				
		<ul style="list-style-type: none"> Air pollution 	<ul style="list-style-type: none"> Proper engine tuning of machinery/ equipment to meet National Environmental Quality Standards of Pakistan limits and USEPA Tier 4 standards 2014 shall be ensured. NEQS for ambient air quality is attached as Annexure-III. Water should be sprinkled where needed and appropriate, particularly at work sites near the communities. 	<ul style="list-style-type: none"> Sub-contractors were observed unaware of the environmental component of the project. Advised to maintain their equipment and carry out emission test of the machinery/equipment to meet the requirement of NEQS USEPA Tier 4 standard 2014. 	All packages /All sub-contractors	20th Oct, 17	Open
		<ul style="list-style-type: none"> Blocked of access due to <ul style="list-style-type: none"> Construction works. 	<ul style="list-style-type: none"> A bypass route should be constructed at the project site to divert the through traffic, thus avoiding the public traffic passing through the site. 	<ul style="list-style-type: none"> No blockage of access track observed due to construction activities. 	All packages /All sub-contractors	N/A	N/A
		<ul style="list-style-type: none"> Blocked of natural drainage systems 	<ul style="list-style-type: none"> Proper temporary diversion arrangements shall be made for storm water flows to avoid flooding of nearby areas. 	<ul style="list-style-type: none"> Construction is in initial phase and no any blockage observed at any site. 	All packages /All sub-contractors	N/A	N/A

		<ul style="list-style-type: none"> Health and Safety issues 	<ul style="list-style-type: none"> Protective fencing to be installed around the construction site to avoid any unauthorized entry Personal protective equipment should be made available at site and the usage of the PPEs should be ensured. Health & safety plan should be prepared by contractor and get it approved by supervision consultant. 	<ul style="list-style-type: none"> Installation of fence around construction site (watercourse) is not possible, however barricading will be carried out for construction of structures (bridges). PPE's were not provided to workers as sub-contractors were observed unaware about the safety of workers at site and project protocols. Advised to provide and ensure use of PPE's at site. HSE plans has not been developed by sub-contractors. HSE plan shall be developed and approved by supervision consultant. Approved HSE plan should be implemented at site for safety of workers, dwellers and to protect environment. 	<p>All packages /All sub-contractors</p> <p>All packages /All sub-contractors</p> <p>All packages /All sub-contractors</p>	<p>N/A</p> <p>15th Oct, 17</p> <p>15th Oct, 17</p>	<p>N/A</p> <p>Open</p> <p>Open</p>
Component-2: Productivity Enhancement of Crops, Horticulture and Livestock							

• 1	• Assessment of effectiveness of all demonstration activities performed for agricultural purposes	• System sustainability	• Ensure proper assessment of effectiveness of demonstration activities	<ul style="list-style-type: none"> • Training of 42 WUA's was carried out for livestock enhancement covering following activities • Improvement of breed for cattle and small ruminants, • Improving nutrition for cattle and small ruminants, • Cost effective livestock, housing and management. • Improved veterinary care 	• PIU	• In progress	
-----	---	-------------------------	---	--	-------	---------------	--

Appendix A

Photographs



Dense vegetation at Main Canal and head reach of Distributary #4



Bushes at distributary # 4



Preparation of NGC at package-7 MW-14/8 RD-15781-R



Damaged bank of canal at Makali Wah distributary left side



Silt at head reach of Right bank distributary



Meeting with NESPAK & PIU



Package #1 Field density test conducted at
MW-01/6 RD-100-L Distributary#6



Package #3 Natural ground compaction layer
view at MW-01/7 RD-2379-L Distributary#7



Package #8 Levels checking of embankment
layer at MW-01/10 RD-472-R Distributary#10



HPK team collecting update progress of
package-5 at MW-11/11 RD-2080-R
Distributary#11

Appendix B

Invoices

No 783 DD OFWM / Dated DIKhan the 14/12/ 2016.

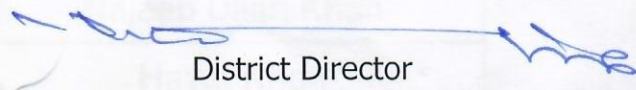
To

The Project Director,
GZD-CADP,
Dera Ismail Khan,

Subject: **Payment of Water Users Association**

Memo:

The following water users associations have been formed, registered and hereby submitted to your good office for further necessary action and Payment please.
List of 22 W.U.A attached here with.


District Director
On Farm Water Management,
Dera Ismail Khan

No _____ DD OFWM / Dated DIKhan the ____/____/ 2016.

Copy to:-

Director General Water Management Please for information please

District Director
On Farm Water Management,
Dera Ismail Khan

LIST OF 22 WUAs for Invoice-1

District Dera Ismail Khan

S.No	Name of WUA	Disty Name	Chairman Name
1 ✓	30395/L ✓	D-6	Faiz Ullah Khan
2 ✓	27512/L ✓	D-6	Muhammad Akram Khan
3 ✓	56239/L ✓	D-6	Shamas udin
4 ✓	56239/R ✓	D-6	Habib Ullah Khan
5 ✓	23739/L ✓	D-6	Ajmal Khan
6 ✓	15798/L ✓	D-5	Ghulam Jilani Khan
7 ✓	12432/L ✓	D-5	Qutab Din
8 ✓	209/L ✓	D-5	Najeeb Ullah Khan
9 ✓	8937/L ✓	D-5	Hayat Khan
10 ✓	7240/L ✓	D-9	Muhammad Tariq
11 ✓	19322/L ✓	D-5	Muhammad Tariq
12 ✓	25780/L ✓	D-6	Ajmal Khan
13 ✓	9266/L ✓	D-5	Muhammad Shafi
14 ✓	33616/L ✓	D-6	Muhammad Aslam Khan
15 ✓	6188/L ✓	D-5	Shaer Zaman
16 ✓	435/R ✓	D-9	Muhammad Iqbal Khan
17 ✓	21196/R ✓	D-11	Asmat Ullah
18 ✓	17708/R ✓	D-11	Inam Ullah Khan
19 ✓	571/L ✓	D-11	Muhammad Sabir Shah
20 ✓	14227/R ✓	D-11	Meraj Udin
21 ✓	10642/L ✓	D-11	Ghulam Hashim
22 ✓	6823/R ✓	D-11	Abdul Majeed

District Director
On Farm Water Management
D.I.Khan



PROJECT IMPLEMENTATION UNIT
GOMAL ZAM DAM COMMAND AREA DEVELOPMENT PROJECT
GOVT. OF KHYBER PAKHTUNKHWA AGRICULTURE, LIVESTOCK AND COOPERATIVES
DEPARTMENT

Ref: No. PD/GZD-CADP/ 496 /17

Dated: 26th September, 2017

To

The Project Manager
GZD-CADP, USAID
Islamabad.

SUBJECT: - REVISED REQUEST FOR REIMBURSEMENT OF INVOICE-3 IN RESPECT OF SOCIAL MOBILIZATION (WUA FORMATION & REGISTRATION) TO OFWM DEPARTMENT

Please find enclosed herewith the request for reimbursement of the following amount in respect of WUAs formed/registered by OFWM D.I.Khan.

Budget Code	Activity	District	Cost per Activity (PKR)	No. of Activities	Amount (PKR)
5.1	Social Mobilization and WUA Formation				
5.1.2	Formation/Registration of WUAs	D.I.Khan	10585/-	40	423,400/-
Total			10585/-	40	423,400/-

The OFWM department has submitted invoices through its sub office at D.I.Khan for payment of PKR 423,400/- (Rupees: Four Hundred Twenty Three Thousand and Four Hundred Only) for payment.

According to Clause-2(i) of the MoU signed with OFWM department and subsequent Addendum-I, 40 WUAs documents have been received by this office, therefore the request is submitted herewith for processing of Invoice-3 accordingly please. This payment will cover in Clause-1(i) of the MoU signed and subsequent Addendum-I with OFWM Department. A copy of the said invoice, deliverable certificate, quarter-wise budget break-up, SF-1034 form & exchange rates sheet is enclosed.

(Dr. Rabnawaz)
Project Director

CC:

To the P.S. to Chief Coordinator PMU/Secretary Agriculture Livestock and Cooperative Department, Peshawar for Information.

OFFICE ADDRESS: Project Directorate Gomal Zam Dam Command Area Development Project
OFWM Training Center, Bannu Road, D.I.KHAN

Phone No. 0966-9280387, 730091, Fax # 0966-852650, E-mail. Pd.gzd.cadp@gmail.com

LIST OF 40 WUAs for Invoice-3

District Dera Ismail Khan

S.No	Name of WUA	Disty Name	Chairman Name
1	11395/R	10	Abdul Qayyum
2	43959/L	6	Ghulam Jillan Khan
3	19590/R	7	Iqbal Subhani
4	88982/L	6	Nazar Din
5	31853/R	10	Muhammad Younas
6	81799/R	6	Naimatullah
7	3444/L	4	Inamullah
8	13184/L	7	Salim Khan
9	26630/R	7	Ghulam Sarwar
10	1549/R	10	Muhammad Sohaib
11	39378/L	7	Qutab-ud-din
12	16650/R	7	Inam
13	27517/R	11	Ghulam Abbas
14	51838/R	8	Mahar Bakhsh
15	2650/L	12	Fahimullah
16	6037/L	12	Asfandyar
17	1957/L	10	Hafiz Imdadullah
18	14953/R	10	Faizullah Khan
19	26199/L	5	Muhammad Ramzan
20	32808/L	5	Muhammad Sharif
21	35893/L	5	Saeed Ahmad
22	1180/L	4	Muhammad Ajmal
23	8405/L	4	Salaud-din
24	8487/L	4	Saif-u-Rehman
25	8620/L	4	Ikramullah
26	48420/R	8	Saif-u-Rehman
27	36131/L	5	Muhammad Ilyas
28	22662/L	4	Hayatullah Khan
29	60718/L	3	Amir Zaman
30	64589/L	3	Masood-ur-Rehman
31	45304/L	3	Salim Khan
32	36101/R	7	Amir Zaman
33	15818/L	4	Aziz-u-Rehman
34	33133/R	11	Zar Khan
35	36600/R	11	Ibrahim Khan
36	51623/L	3	Muhammad Yaqoob
37	54956/L	3	Gul Zaman
38	58175/L	3	Ghulam Rasool
39	48382/L	3	Muhammad Aslam
40	45304/L	3	Muhammad Ismail

District Director
On Farm Water Management
D.I.Khan

Appendix C

MOM Meeting with NESPAK GZD-CADP

Halcrow Pakistan (Pvt) Limited

3rd Floor, Nawa-e-Waqt House, Mauve Area, Sector G-7/1, Zero Point, Islamabad, Pakistan
Tel +92 51 220 3451-55 Fax +92 51 220 3462
hpk@halcrowpk.com, www.halcrowpk.com



USAID
FROM THE AMERICAN PEOPLE



Meeting Record

Project	A-E Services for Monitoring and Milestone Verification of USAID-Funded Waran Canal and Gommal Zam Dam Command Area Development Program in Khyber Pakhtunkhwa	Date	September 21, 2017
----------------	--	-------------	--------------------

		Ref	
Subject	Progress Review Meeting – Site Visit # 7	Page	1 of 5

Venue NESPAK Office, DI Khan

Date held September 21, 2017

Present NESPAK

Muhammad Irshad, Team Leader (TL)
Abdul Qadir, Deputy Team Leader (DTL)
Mati-ur-Rehman, Field Engineer (FE)
Omer Nasir, Senior Engineer (SE 1)
Ab. Mannan Murtaza, Senior Engineer (SE 2)
Sohail Mumtaz, Junior Engineer (JE)

PIU Staff

Dr. Rabnawaz, Project Director (PD), GZD-CADP
Wasim Ullah, Agriculture Engineer (AE)
Muhammad Yaseen, Field Officer (FO)
Faizullah, Accounts Officer (AO)
Munir Ahmed Khan, M & EO PIU
Nisar Ahmed, Component Leader OFWM (CL)

Halcrow Pakistan (HPK)

Fazal Mahmood, Chief of Party (COP) WC & GZD-CADP
Mian Zia-uddin, Irrigation Engineer (IE)
Muhammad Yousaf Khattak, Argonomist
Saifur Rahman Sherani, Sociologist
Atif Murtaza, Field monitor (FM)
Munawar Saeed, Field Inspector (FI)
Fasih Ur Rehman, Environmental Specialist (ES)
Zulqarnain, Sociologist
Haroon Latif, Project Security Manager (PSM)

Apologies : Irrigation Department team excused PIU PD to participate due to their personal reasons.

Halcrow Pakistan (Pvt) Limited

3rd Floor, Nawa-e-Waqt House, Mauve Area, Sector G-7/1, Zero Point, Islamabad, Pakistan
Tel +92 51 220 3451-55 Fax +92 51 220 3462
hpk@halcrowpk.com, www.halcrowpk.com



USAID
FROM THE AMERICAN PEOPLE



Meeting Record

No.	Discussion	Action
1.	A progress review meeting regarding water courses design and construction supervision issues was held at NESPAK Office.	
2.	Introduction: TL NESPAK gave an introduction note, thanked the participants of the meeting to attend the meeting. He further briefly presented the progress regarding water courses design and construction activities including the overall status of GZD-CADP related activities.	

No.	Discussion	Action
3.	<p>Design Activities:</p> <p>Water Courses: TL NESPAK informed that design of 250 No. water courses have been completed. Total 9 (nine) packages have been awarded to contractors while construction activities have been started on 7 (seven) packages. He also highlighted that location and no. of <i>mogas</i> at site are not matching with the engineering <i>chakbandi</i>. He quoted the example of Faridabad <i>chakbandi</i> where 7 <i>mogas</i> have been shown but there are 11 <i>mogas</i> at site.</p> <p>CoP informed that during design review of watercourses it was revealed that 2 way Nucca structure details have not been provided in the tender documents. CoP advised NESPAK to include the 2 way Nucca structure details in the tender documents for new packages by issuing an addendum to the awarded contracts, where deemed necessary. He further added that all structures location to be shown at designated RD in longitudinal profiles for design review.</p> <p>Multi-Purpose Ponds: TL NESPAK informed that design of 2 (two) packages regarding Multi-Purpose ponds have been shared with HPK. Meeting participants discussed the location and usage of ponds. PD PIU informed that ponds will be used for high efficiency irrigation system as well as for drinking purpose. The location of ponds however remained unanswered. PD asked to hold the procurement process for ponds until the finalization of ponds location.</p> <p>COP advised PD PIU to inform and discuss the ponds location issue with his higher ups before finalization of holding procurement process.</p> <p>General: CoP highlighted the discrepancies found in data shared by NESPAK & PIU. He advised NESPAK and PIU to address data discrepancies issues and same data to be shared with all stakeholders.</p> <p>Submission of Design reports for all design activities was requested by HPK.</p>	NESPAK/ PIU
4.	<p>Construction Activities:</p> <p>General: CoP asked about the slow progress of construction contractors at site. It was informed that contractors have been awarded more than one package and are not able to work simultaneously on more than one packages. CoP asked NESPAK to guide the PD Office to streamline the methodology for</p>	NESPAK/ PIU

No.	Discussion	Action
	<p>contractors with more than one packages for efficient resource planning.</p> <p>CoP advised NESPAK to ensure that the list of equipment mentioned by contractors in contract documents must be available at site to enhance work progress. He further advised that contractor's list of equipment to be checked with work schedule and activities to be planned accordingly.</p> <p>Time of Completion: CoP inquired that time of completion for contractors has expired or near to completion but site activities progress is very slow. TL informed that 60 days' time of completion was suggested after discussion with PIU. CoP informed that he has already highlighted during tender documents review that time of completion suggested is less and must be considered in a realistic manner.</p> <p>CoP advised PIU & NESPAK that time of completion issue to be addressed with realistic schedule and addendum to be issued for existing contracts while care must be exercised during the preparation of new contracts. Proper equipment should be considered and provided at site for each package separately by those Contractors who have been awarded more than one contract package.</p> <p>Environmental Compliance: Environmental compliance for site activities was also discussed. TL informed that Environmental Engineer hiring is under process and will be mobilized soon. He further informed that borrow site details and other related activities details are being recorded by the contractors and shared with NESPAK.</p> <p>CoP advised that NESPAK Environmental Engineer must be deputed at site at earliest to monitor site activities. Further all the borrow bits and related environmental compliance activities data must be recorded by NESPAK team and not be relied upon contractors data.</p> <p>Diversion Channels: TL informed that local community releases water to irrigate their field which affects the construction activities.</p> <p>CoP advised that local community issues must be tackled with PIU social mobilization team. He further added that NESPAK to ensure the diversion channels to be provided where farmers have already constructed earthen water courses. Contract clause 17.3 was highlighted by CoP for the implantation of diversion channels where earthen water courses already exist.</p>	

No.	Discussion	Action
	<p>Test Run of Water Courses: PD (PIU) inquired regarding the procedure to be followed for test run of water courses. Placement of PCPL segments also came under discussion. CoP suggested NESPAK to address the issue in accordance with site conditions.</p>	
6.	<p>Staff Issue:</p> <p>NESPAK: COP asked NESPAK regarding the staff deputed at site for the supervision of construction activities. TL informed that 3 (three) Engineers and 6 (six) Sub-Engineers have been deputed at site. While 2 Engineers are being used on design activities and construction supervision as well. CoP further asked about the laboratory technicians at site. TL informed that sub-engineers are capable of doing Lab. activities and no Lab. Technicians are required.</p> <p>CoP inquired regarding the record maintained by staff regarding different construction activities and their site visit schedule. CoP highlighted the need to develop site visit schedule for site staff and construction packages to be distributed among the staff. The site visit plan developed by NESPAK to be shared with PIU on weekly basis. Further the site activities to be recorded in proper standard forms and to be maintained accordingly for progress reporting and future reference.</p> <p>PD (PIU) was also asked to develop schedule for site visit of its staff for monitoring site activities.</p> <p>PIU: During discussion it was revealed that construction activities are delaying due to social issues with local community. PD informed that social mobilization staff has delayed on his part but the social mobilization team hiring is under process and staff will be on board by November 2017. CoP asked to expedite the hiring process in order to avoid further delay.</p>	NESPAK/ PIU
7.	<p>Conclusion: The meeting ended with the note of thanks by PD PIU.</p>	

Author:

COP:

A-E Services for Monitoring and Milestone Verification
of USAID-Funded Waran Canal and Gomal Zam Dam Command
Area Development Program in Khyber Pakhtunkhwa

List Attendance Meeting with NESPAK, PIU & DPM Date 21-9-2017

S.No	Name	Designation & Organisation	Contact No & Email	Signature
1.	Muhammad Yousaf	Agri Engineer Hader	0301-5912464	[Signature]
2.	Mian Zia-ud-Din	Misc Engineer HPR	Man Ziauddin @ hader hpk.com	[Signature]
3.	Fazal Mahmood	COP/HPK	0334-5444745	[Signature]
4.	Muhammad Ishaq	TL/DSC-NESPAK	0300-7491706	[Signature]
5.	H. Muti-ur-Rehman	Field Engg - NESPAK	0300 650757	M. Rehman
6.	ATIF MURTAZA	Field Monitor HPK	0336-5808398	[Signature]
7.	A.I. MUNAWAR (AIED)	FL HPK	0333-9211353	[Signature]
8.	OMER NASIR	S.E. NESPAK	0300 6325315	[Signature]
9.	Sohail - Muntaaz	Junior Engineer NESPAK	03005810983	[Signature]
10.	Ab. Mannan Muntaza	S-E NESPAK	0333-6851943 engr.mannan@hotmail.com	[Signature]
11.	Fasir-Ur-Rehman	HPK/ECIS	0333-5123456	[Signature]
12.	Zulqarnain	HPK / sound	03459055925	[Signature]
13.	S.R. Sherani	- do -	0333 5251681	[Signature]
14.	Hasoon Latif	P.S.O - HPK	0333-1518413	[Signature]
15.	Wasim Ullah	Agri-Engineer P.T.U.	0335-8389591	[Signature]
16.	Muhammad Yaseen	Field Officer	0341-1900529	[Signature]
17.	Faizullah	Accounts Officer G2D CADP	03377445288	[Signature]
18.	S.K. RABNAMA	PD G2D CADP	0300-8553350	[Signature]
19.	Munir Ahmed Khan	IA&EO PIU	03467992005	[Signature]
20.	Nisar Ahmad	CL-OPDM PIU-G2D	0346-784-1331	[Signature]
21.	Abdul Qadir	DTL NESPAK	03005361111	[Signature]

Appendix D

Field Density Report

Contractor	GOVERNMENT OF KHYBER PAKHTUNKHWA PROJECT MANAGEMENT UNIT GOMAL ZAM DAM COMMAND AREA DEVELOPMENT PROJECT DERA ISMAIL KHAN PACKAGE NO. <u>1</u>	Consultant
M/S. <u>Stally Engr. Co.</u>		M/S NESPAK PRIVATE LIMITED

FIELD DENSITY TEST

AASHTO-T-191

L-100

disty

1/6

Material <u>2nd Layer Embankment</u>	Date <u>22-09-2017</u>
Station km <u>0+250</u>	Request No _____

GENERAL

a.	FD Test No	<u>1</u>		
b.	Test location	<u>0+250</u>		
c.	Depth of hole cm	<u>15 cm</u>		
d.	Proctor No			

MOISTURE CONTENT

a	Can No	<u>A</u>		
b	Wt of Wet Soil + Can gm			
c	Wt of Dry Soil + Can gm	<u>By Speedy</u>		
d	Wt of Water gm			
e	Wt of Can gm			
f	Wt of Dry soil gm			
g	Water Content %	<u>7.30</u>	<u>By Speedy moisture content</u>	

FIELD DENSITY

a	Wt of Wet Soil + Can gm	<u>4988</u>		
b	Wt of Can gm	<u>10</u>		
c	Wt of Wet Soil + Can gm	<u>4978</u>		
d	Initial Wt of Sand + Can gm	<u>8000</u>		
e	Residual Wt of Sand + Can gm	<u>2706</u>		
f	Wt of Used Sand gm	<u>5294</u>		
g	Wt of sand to Fill Cone gm	<u>1553</u>		
h	Wt of Sand to Fill Hole gm	<u>3741</u>		
I	Unit Wt of Sand gm	<u>1.36</u>		
j	Vol of Hole cc	<u>2751</u>		
k	Wt Ret 3/4 From Hole gm	<u>/</u>		
l	Vol Ret 3/4 From Hole cc	<u>/</u>		
m	Vol Pass 3/4 from Hole cc	<u>/</u>		
n	Density of wet soil gm/cc	<u>1.809</u>		
o	Density of Dry soil gm/cc	<u>1.685</u>		
p	Proctor Reference gm/cc	<u>-</u>		
q	Max Dry Density gm/cc	<u>1.90</u>		
r	Opt M C %	<u>13.00</u>		
s	Compaction Obtained %	<u>88.68</u>		
t	Compaction required %	<u>85.7</u>		

Remarks: _____

Consultant: Munir

Material Engineer

Consultant: Ab Mannan Munir

Material Engineer

M. Munir
M. Munir
H.R.K