

# Balochistan Water Resources Development Sector Project

Loan No. 3700-PK:

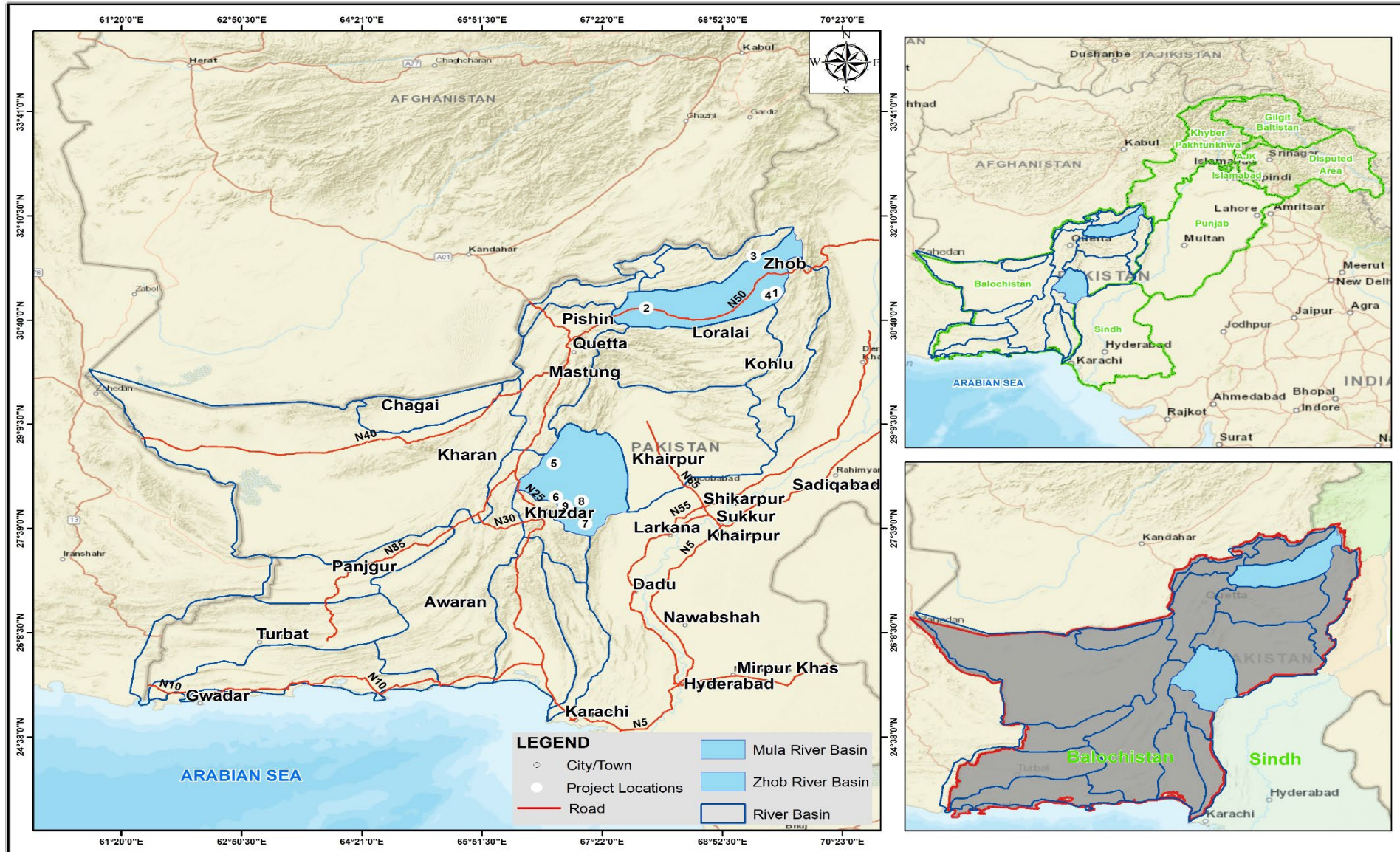
By: (Engr: Nadeem Mansoor & Engr: Abu Bakar)

## PROJECT'S HEALTH & SAFETY CHALLENGES AND OPPORTUNITIES

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# Introduction & Project Location



# Status of Sub-projects

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Sr. No,	Subproject	Status
<b>A</b>	<b>ZHOB RIVER BASIN</b>	
1	Ahmedzai PIS + FIS	Completed
2	Killi Sardar Akhter PIS	Under Execution
3	Siri Toi Dam	Under Execution
4	Sabakzai Dam	Design Phase
<b>B</b>	<b>MULA RIVER BASIN</b>	
1	Karkh Valley	Under Execution
2	Kharzan Hatachi	Under Execution
3	Pashta Khan PIS	Contract Awarded
4	Manyalo, Raiko & Rind Ali	Contract Awarded
<b>C</b>	<b>Water Resources Building, Quetta</b>	Under Execution



## BRIEF DESCRIPTION OF SUBPROJECTS

### ZHOB RIVER BASIN

- ❑ Construction of Siri Toi Dam Subproject – ZRB, Contract No. ICB-01
- ❑ Construction of Ahmadzai PIS + FIS Subproject - ZRB - Contract No. NCB-08
- ❑ Construction of Killi Sardar Akhtar Perennial Irrigation Subproject - Zhob River Basin – Contract NCB-06



# Construction of Siri Toi Dam Subproject

## Contract No. ICB-01

The Siri Toi Dam Project is located in Union Council Sambaza, Tehsil and District Zhob in Balochistan Province, approximately 62 km north-east of Zhob on Sri Toi River, the main tributary of Zhob River near Killi Gul Khan. The latitude and longitude of the scheme are 31° 35' 56.35" N, 69° 16' 8.86" E. The annual average availability of water is nearly 32.216 Million Cubic Meter (MCM) with a catchment area of 962 sq.km. Main components of the sub-project includes main dam, dyke, spillway, intake and outlet structures and network of main and distributary canals for irrigation supplies.

### **SALIENT FEATURES:**

- Total Cost 9896.217 (Rs. Million)
- Total Command Area 8,138 hector
- Dam Type Earth-fill
- Height of Dam 72 Meter
- Dam Reservoir Area 195.10 (Hectare)
- Spillway Type Ogee
- Width of Spillway 148 Meter
- Height of Dyke 38 Meter
- Intake Tower Height 46.40 Meter
- Length of Right Bank Canal 11,535 Meter
- Length of Left Bank Canal 15,718 Meter
- Feeder Channel Length 937 Meter

### **PROJECT PROGRESS:**

- Overall Target: 44.00%
- Physical Progress: 30.00%
- Financial Progress: 27.50%





## Construction of Ahmadzai PIS + FIS Subproject - Zhob River Basin - Contract No. NCB-08

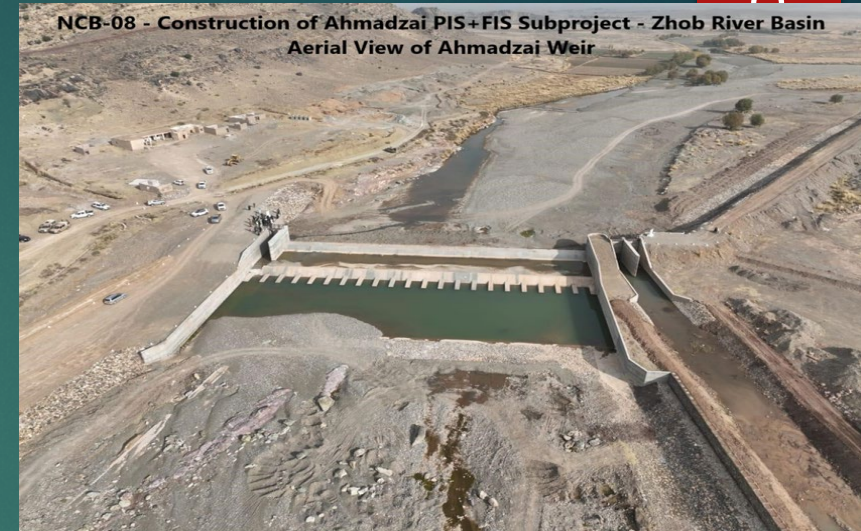
The Ahmedzai sub-project comprises (i) main diversion weir across the stream Sawar Rud-a tributary of Zhob River; (ii) perennial irrigation scheme along right bank and (iii) the flood irrigation scheme along left bank. The Perennial Irrigation Scheme (PIS) supplies water round the year whereas the Flood Irrigation Scheme (FIS) supplies water to the agricultural land only during floods when there is availability of surplus flows in the stream. Right and left bank command areas of Ahmedzai sub-project will receive irrigation water from perennial and flood flows respectively. The design of interventions related to all components of this subproject. These are divided as, (i) Irrigation Network – Rehabilitation and Lining, (ii) Flood Protection, and (iii) Weir construction. The scope of work for the subproject include remodeling of the existing Ahmadzai weir along with the rehabilitation and partial lining of perennial and flood channels and associated structures.

### SALIENT FEATURES:

- Total Revised Cost 669.700 (Rs. Million)
- Total Command Area 859 hector
- Ahmadzai Weir New Construction
- Perennial Canal Length 3220 Meter
- Flood Channels Length 3500 Meter

### PROJECT PROGRESS:

- **Completed**
- Contract Closed: 650.241 (Rs. Million)





## Construction of Killi Sardar Akhtar Perennial Irrigation Subproject - Zhob

The Killi Sardar Akhtar Perennial Irrigation subproject is located in Union Council of Tehsil Laka Bund in district Zhob around 49 km south-east of Zhob city in Gosa Kibzai. The sub-project consists of an infiltration gallery on Sawar Rud (River) upstream of Zhob road bridge to intercept subsurface water into two irrigation channels located on the right bank. The scope of work for the subproject include construction of Infiltration Gallery along with the lining of perennial channel and construction of associated structures like collection champers, Channel Intake, Inspection Sump, Fall Structures, Road Culverts, Time Division Structures, Tail Structures, Washing Structures, Animal Drinking Structures and Wuzu Structures.

### **SALIENT FEATURES:**

- |                               |                       |
|-------------------------------|-----------------------|
| • Total Revised Cost          | 609.654 (Rs. Million) |
| • Total Command Area          | 252 hector            |
| • Infiltration Gallery Length | 845 Meter             |
| • Main Channel Length         | 4537 Meter            |
| • Ghundai Branch Length       | 965 Meter             |

### **PROJECT PROGRESS:**

- Overall Target: 75.00%
- Physical Progress: 95.00%
- Financial Progress: 81.53%

NCB-06 - Construction of Killi Sardar Akhtar Perennial Irrigation Subproject - Zhob River Basin  
A View of Aqueduct at RD 5+135 at Flood Channel



NCB-06 - Construction of Killi Sardar Akhtar Perennial Irrigation Subproject - Zhob River Basin  
A View of Main Channel





# MULA RIVER BASIN – DISTRICT KHUZDAR

## LIST OF ACTIVE SUBPROJECT

- ❑ **Construction of Karkh Valley Development Subproject - Mula River Basin - Contract NO. NCB-01**
- ❑ **Construction of Kharzan Hatachi Infiltration Gallery Subproject - Mula River Basin Contract NO. NCB-02**



# Construction of Karkh Valley Development Subproject - Mula River Basin - Contract

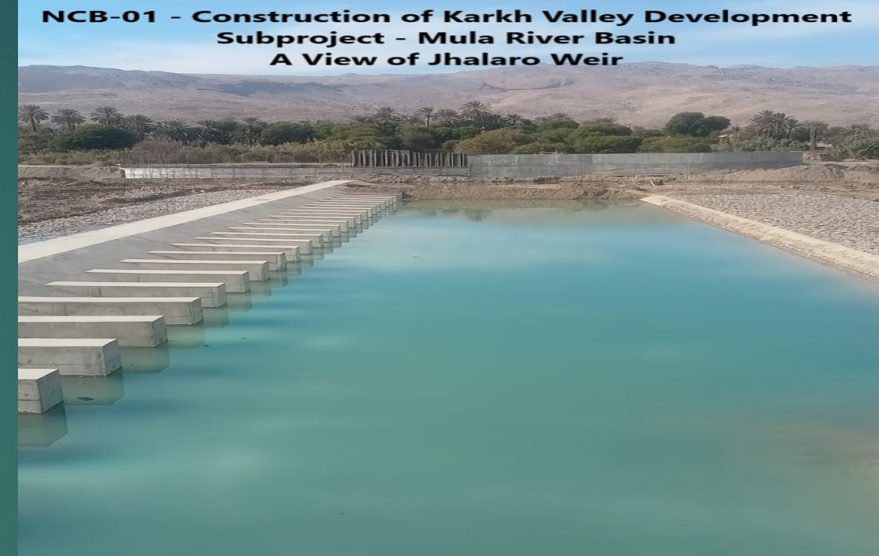
Karkh valley development subproject consists of three parts: (a) general works – which relate to the Karkh Valley as a whole, (b) weir construction at Jhalaro, and (c) weir rehabilitation at Chutta. Construction of this project will strengthen the existing irrigation system, ensuring availability of water for both cropping seasons. The proposed the intervention for the subproject include; (a) guide bund / flood protection works, (b) construction of new Jhalaro weir, (c) weir rehabilitation at Chutta, (d) Rehabilitation of Chutta lift irrigation (pump house), and (e) lining of unlined existing channels.

## **SALIENT FEATURES:**

- Total Revised Cost 1095.932 (Rs. Million)
- Total Command Area 2535 hector
- Jhalaro Weir Rehabilitation & Upgradation
- Chutta Weir Rehabilitation & Upgradation
- Minor Channels Total Length 19,773
- Flood Protection Bund (08 Nos.) Total Length 5,186 Meter

## **PROJECT PROGRESS:**

- Overall Target: 100%
- Physical Progress: 82.20%
- Financial Progress: 80.33%





# Construction of Kharzan Hatachi Infiltration Gallery Subproject - Mula River Basin

The proposed the intervention for the subproject include; (a) Construction of two infiltration galleries, (b) Construction and rehabilitation of water conveyance system and associated structures, (c) flood protection works for irrigation canals, construction of project support facility building at khuzdar city and command area development works. The sub-project is aimed to rehabilitate and improve damaged infrastructure to enhance size of command area having irrigation facility.

## **SALIENT FEATURES:**

- Total Revised Cost            1091.806 (Rs. Million)
- Total Command Area        1144 hector
- Infiltration Gallery            Total Length 1310 Meter
- Conduit Length                Total Length 2983 Meter
- Canals Length                 Total Length 42,231 Meter
- Flood Protection Bund (04 Nos.) Total Length 7153 Meter

## **PROJECT PROGRESS:**

- Overall Target:    100.00%
- Physical Progress:    81.50%
- Financial Progress:    71.86%

NCB-02 - Construction of Kharzan Hatachi Infiltration Gallery subproject - MRB  
A View of Kharzan Conduit



NCB-02 - Construction of Kharzan Hatachi Infiltration Gallery Subproject - Mula River Basin  
A View of Shajo Channel at Khrzan





## Construction of Water Resources Building at Quetta Subproject - Contract NCB-05

The proposed project is located on Mir Jaffar Khan Jamali Road, Mulana Abdul Aziz street near Chaman Pattak, Quetta. The sub project is aimed to construct a new three-story water resources building by demolishing the older one. The objective of the project is to provide an eco-friendly water resources building with outward patios bringing nature into the workplace. There are total 3 Data Centers, one is at 1st and 02 are at 2nd floor, central library on ground floor and conference hall on 2nd floor. There are two elevators on the back side of the lobby and two fire exits in the building on each wing. The facade of the building is on modern contemporary lines with maintenance-free building materials.

### **SALIENT FEATURES:**

- Total Revised Cost 876.415 (Rs. Million)
- Ground floor covered 10,306 sq. ft.
- 1st floor covered area 10,075 sq. ft.
- 2nd floor covered area 10,075 sq. ft.
- Conference Hall Cover area 4100 sq. ft. (@ 3<sup>rd</sup> Floor)
- Mumty covered area 617 sq. ft.
- Total covered area of Building 35,173 sq. ft.

### **PROJECT PROGRESS:**

- Overall Target: 100.00%
- Physical Progress: 82.00%
- Financial Progress: 64.07%





# Safeguard Requirements: Environment Component

## Objectives

- ▶ Ensure the environmental soundness and sustainability of projects
- ▶ Support the integration of environmental considerations into the project decision-making process



# Safeguards Compliance Flowchart

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- ▶ **Project Categorization**
- ▶ **Safeguards Document Preparation (IEE/EIA)**
- ▶ **Safeguards Document submitted for ADB review and approval**
- ▶ **Upload at ADB website**
- ▶ **NOC from Balochistan EPA**
- ▶ **Submission of Site Specific Environmental Management Plan before start of Civil works**
- ▶ **Submission of Semi-annual & Annual Monitoring Reports and External Environmental Monitor reports.**



# ENVIRONMENTAL MANAGEMENT TEAM

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- I. Environment Specialist PMO Support – PD Office
- II. Consultant Environmental Specialists (2 No.)
- III. External Environmental Monitor hired by the PMO, approved by the ADB
- IV. Contractor's Environmentalist and HSE Managers
- V. Allied Staff to maintain the Environmental Compliances
  - a. Site Engineers / Supervisors
  - b. Flagmen
  - c. Firemen
  - d. In charge Earthwork / Stone / Structural Work / Care & Handling



# Contractors Capacity – Challenges & Opportunities

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1. **No/Limited Knowledge of ADB Safeguards:** Balochistan based contractors are skilled in construction techniques and machinery but are not well-versed in the specific requirements and procedures associated with ADB environmental safeguards.
2. They have primarily worked on locally funded projects, such as the 100 Dams Project etc.
3. The Balochistan Water Resources Development Sector Project (BWRDSP) is a major ADB initiative involving about 10 subprojects over a 5-year period.
4. The Project Director has asked consultants to build the contractors' capacity in environmental safeguards through training .
5. The goal was to ensure contractors are familiar with and comply with ADB safeguards for this project and future projects.
6. So contractor HSE Staff was trained, their compliance status improved. It will discussed in detail in this presentation



# Security Challenge

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1. Siri Toi Dam site being Major subproject of BWRDSP is located at the boarder of Pakistan and Afghanistan
2. Security Situation was stable in 2020 during Detail Design phase of the project.
3. But become worse after Contractors mobilization
4. Terrorists attacked Army many time in Tehsil Sambaza in which subproject is being constructed even during 2024
5. Insecurity due to regional conflicts or local unrest poses direct risks to the safety of workers on-site. Ensuring that personnel are protected from potential threats is a crucial aspect of HSE.

## Opportunities

1. **Deploying Army for Site Security:** The project is utilizing military presence on-site to enhance security measures and safeguard personnel and assets.
2. **Enhanced Security Coordination:** The project is collaborating with local security forces to improve safety protocols and response strategies.
3. **Infrastructure Fortification:** The project has invested in stronger security infrastructure (e.g., fencing of Camp, Installed surveillance cameras) to protect the project area.



# SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN (SSEMP)

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## Challenge

1. Contractor Staff was not aware about how to prepare SSEMP, Because they have not prepared or implemented for funded projects earlier.

## Opportunities

1. **Sample SSEMP Provided:** Consultants shared a sample SSEMP from a similar ADB-funded project
2. **WhatsApp Group Created:** A WhatsApp group was set up for real-time communication and support.
3. **Ongoing Support:** Consultants provided continuous guidance throughout SSEMP preparation.
4. **Multiple Reviews:** The SSEMP drafts were reviewed and refined with consultant feedback.
5. **Extended Assistance:** After several months of effort, contractors successfully developed the SSEMP.

Annexure-1

Balochistan water Resource Development Sector Project  
(BWRDSP) Construction of Siri Toi Dam Subproject-Zhob river  
Basin (ICB-01) (LOAN 3700-PAK)

Site-Specific Environmental Management Plan



January -2023

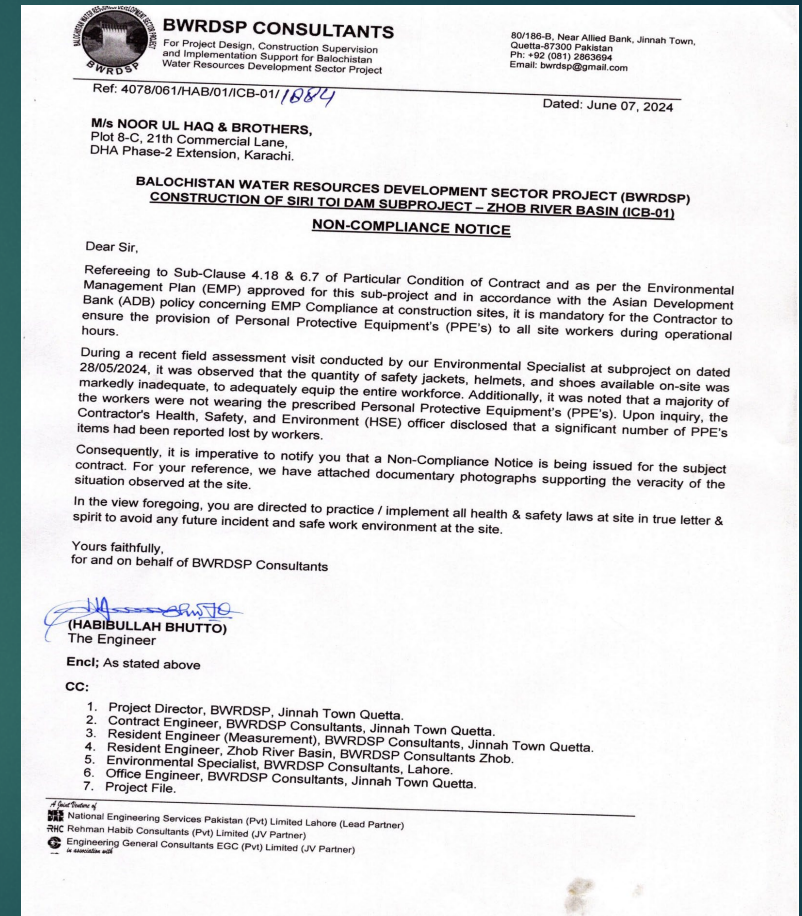
Project:	Construction of Siri Toi Dam
Construction Package No:	ICB-01
Loan and Title:	3700-PAK(COL): Balochistan Water Resources Development Sector Project
Construction Period:	3 Years
Client:	Irrigation Department, Government of Balochistan through the Program Management Office (PMO) BWRDSP
Consultant:	NESPAK-RHC-EGC JV
Submitted to:	Project Manager of NESPAK JV
Submitted by:	Ghous Bux (Project Manager) Noor ul Haq & Brothers
Prepared by:	Alah Dino (Environmental Engineer)



# Challenges in HSE Staffing and Management

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1. **Lack of Local HSE Specialists:** Experienced HSE officers/environmental specialists with ADB project experience were not locally available.
2. **Staffing Solution:** Contractors hired HSE officers from Sindh to address the shortage.
3. **High Turnover:** Due to remote project locations and security concerns, there was high staff turnover.
4. **Frequent Resignations:** HSE officers frequently resigned, leading to gaps in staffing.
5. **Replacement Delays:** Each time an HSE officer left, hiring a replacement took time, resulting in periods without HSE personnel on site





# Opportunities in HSE Staffing and Management

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1. **Local Hiring:** Local HSE officers and environmentalists were employed to bring in region-specific expertise.
2. **Training Provided:** They received training by consultants HSE Staff to align with project requirements and ADB standards.
3. **Long-Term Retention:** They remained on site for extended periods, providing continuity and stability.
4. **Local Knowledge Utilized:** Their familiarity with local conditions enhanced the effectiveness of environmental and safety management





# Challenges in Environmental Monitoring and Compliance

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1. **Lack of Quarterly Environmental Monitoring:** Contractors were not accustomed to conducting quarterly environmental monitoring on subprojects.
2. **Absence of Local Labs:** No EPA-registered laboratories were available in Balochistan for environmental testing.
3. **Consultant Intervention:** Consultants provided awareness training and issued Non-Compliance Notices to address the issue.
4. **Limited Improvement:** Despite these efforts, no significant improvement was observed during the first year.





# Opportunities in Environmental Monitoring and Compliance

- 1. Increased Awareness and Pressure:** Continuous awareness efforts and Non-Compliance Notices led contractors to hire EPA-registered labs from Karachi.
- 2. Initial Monitoring Efforts:** Initially, the contractors conducted one-time quarterly monitoring every six months.
- 3. Ongoing PMO and Consultant Support:** Continued guidance and pressure from consultants and the PMO encouraged further compliance.
- 4. Improved Monitoring Frequency:** Contractors are now conducting environmental monitoring on a quarterly basis.




**Analysis Report**      Ref # SES/ENV/May/24/2200/1980-A      Date: 05-June-2024

**Description:**

<b>Sampling Location:</b>	Camp Side	<b>Testing Instrument</b>	24 Hours Air Monitoring Station
<b>Job Performed By:</b>	Mr. Mohsin	<b>Job Date :</b>	28-May-2024 to 29-May-2024
<b>Monitoring Duration</b>	09:00AM to 08:00AM (24 Hrs.)		
<b>Side Location:</b>	(Construction of Siritoi Dam ICB -01)		
<b>Client Name :</b>	M/s NOOR UL HAQ & BROTHERS		
<b>Quarter no:</b>	2 <sup>nd</sup> Quarter (April, May, June 2024)		

**Air Quality Test Report**

Parameters	Temp	NO	NO <sub>2</sub>	SO <sub>2</sub>	CO	PM <sub>2.5</sub>	PM <sub>10</sub>	SPM	O <sub>3</sub>
<b>NEQS &amp; BEQS Limit</b>	-	24 hrs. (40 µg/m <sup>3</sup> )	24 hrs. (80µg/m <sup>3</sup> )	24 hrs. (120µg/m <sup>3</sup> )	8 hrs. (5 mg/m <sup>3</sup> )	24 hrs. (35 µg/m <sup>3</sup> )	24 hrs. (150 µg/m <sup>3</sup> )	24 hrs. (500 µg/m <sup>3</sup> )	01 hr. (130µg/m <sup>3</sup> )
<b>WHO Limit</b>	-	-	24 hrs. (25µg/m <sup>3</sup> )	24 hrs. (40µg/m <sup>3</sup> )	8 hrs. (4 mg/m <sup>3</sup> )	24 hrs. (15 µg/m <sup>3</sup> )	24 hrs. (45µg/m <sup>3</sup> )	-	Peak Season (60µg/m <sup>3</sup> )
Time	Results								
09:00AM	28°C	16.16	35.60	5.10	0.042	25.5	87.4	148.1	06
10:00AM	28°C	19.51	38.79	4.41		25.2	91.2	150.6	-
11:00AM	29°C	17.98	36.48	4.79		24.4	101.7	167.7	-
12:00PM	29°C	15.82	34.60	5.72		24.2	98.8	190.5	-
01:00PM	30°C	14.17	37.35	4.86	0.090	24.1	86.4	191.4	-
02:00PM	30°C	15.80	40.25	6.67		25.4	100.1	202.7	-
03:00PM	31°C	17.60	42.20	4.15		26.7	107.7	205.9	-
04:00PM	30°C	15.41	38.47	5.10		24.4	99.4	209.8	-
05:00PM	31°C	14.58	40.15	5.45	0.024	25.4	75.2	195.4	-
06:00PM	32°C	12.97	36.14	4.12		23.2	71.1	186.3	-
07:00PM	31°C	10.67	33.47	2.12		27.2	78.4	184.1	-
08:00PM	30°C	11.43	27.21	4.58		29.6	82.6	151.7	-
09:00PM	29°C	11.81	30.58	3.47	0.084	27.5	80.4	155.5	-
10:00PM	28°C	15.94	31.80	2.28		25.5	72.4	146.4	-
11:00PM	27°C	15.27	27.98	2.15		23.5	70.4	158.9	-
12:00AM	27°C	13.30	26.88	3.11		21.1	64.8	164.7	-
01:00AM	26°C	8.50	27.50	2.48	0.047	20.8	73.7	155.4	-
02:00AM	26°C	7.64	22.21	2.24		22.7	62.4	146.7	-
03:00AM	25°C	7.52	23.75	4.31		21.4	63.7	137.4	-
04:00AM	25°C	5.41	20.25	2.68		17.6	59.6	129.3	-
05:00AM	26°C	6.85	21.62	3.58	0.067	16.4	47.5	114.1	-
06:00AM	27°C	7.50	22.14	4.41		20.2	52.7	101.7	-
07:00AM	28°C	9.71	25.47	5.47		22.5	63.3	95.5	-
08:00AM	29°C	10.15	27.57	6.04		25.1	66.5	116.4	-
<b>AVERAGE</b>	<b>28.41</b>	<b>12.57</b>	<b>31.18</b>	<b>4.13</b>	<b>0.062</b>	<b>23.73</b>	<b>77.39</b>	<b>158.59</b>	<b>6</b>



New Head Office: Plot No SC-46 Block Commercial Sector 31/D P&T Society Korangi, Karachi.  
 Mob: +92(0)346-2225261,0333-2699016 Tel # 02135121125 E-mail: info@sespaklab.com Web: www.sespaklab.com



# Challenges in PPE Usage and Awareness

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1. **Lack of PPE Familiarity:** Contractors in Balochistan had little experience with the use of Personal Protective Equipment (PPE), which was not commonly practiced in local projects.
2. **Insufficient PPE Supply:** The quantity of PPE provided was inadequate for the number of workers on site, leading to a shortage of protective gear.
3. **Worker Resistance:** Workers were unfamiliar with the necessity and proper use of PPE, resulting in resistance or reluctance to wear the equipment during their tasks.
4. **Safety Risks:** This lack of PPE and the unfamiliarity with its use increased the risk of accidents and injuries on the construction sites, highlighting the need for better safety protocols and training.



Worker with no safety boot and wound on feet



# Opportunities in PPE Usage and Awareness

1. **PPE Training Programs:** Training programs were arranged to educate workers and contractors on the importance of PPE and proper usage.
2. **Increase PPE Supply:** Ensure a sufficient supply of PPE is available for all workers, addressing any shortages and improving overall safety.
3. **Develop Safety Protocols:** Establish and enforce clear safety protocols that mandate the use of PPE on all construction sites.
4. **Promote PPE Compliance:** Conduct regular inspections and provide incentives for consistent PPE use to encourage compliance among workers.
5. **Foster a Safety Culture:** Build a culture of safety within the organization by integrating PPE use into daily operations and highlighting its importance through ongoing awareness campaigns.



Worker wearing PPE's



# Toolbox Talk (TBT)

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## Challenges

1. Short talks that focus on a specific job/topic e.g. manual handling, lifting were not being carried out by the supervisor or the senior person.
2. Inadequate communication and reminders for both inexperienced and experienced workers regarding correct control measures was a significant HSE Challenge.

## Opportunity

1. Awareness and Training on TBT to conduct and document was provided and monitored that helped to conduct TBT's in routine









# Construction Labels and Signage

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## Challenge

- ▶ There was Scarcity of signs at construction sites. Without proper labels, training new workers was becoming less effective, leaving them uninformed about site-specific risks. It was also causing communication Barriers

## OPPORTUNITIES:

- ▶ Clear and adequate signs at construction sites were installed to improve worker training and communication.
- ▶ Proper labels were used to make training more effective, ensuring new workers are well-informed about site-specific risks.





# Grievance Redress Mechanism

1. **Tribal Dynamics:** Choosing a representative from one tribe caused dissatisfaction among other tribes, leading to potential conflicts.
2. **Conflicting Interests:** Personal and factional conflicts within tribes complicated the selection process.
3. **Availability:** Finding qualified individuals who are available and willing to serve was difficult.
4. **Undermining Procedures:** Bypassing local or project-level GRCs weakens grievance mechanisms.
5. **False Complaints and Accountability:** False complaints from some locals about ICB-01 harm contractor reputations and disrupt projects.
6. **Project Disruption:** Direct complaints to ADB can delay projects and escalate tribal conflicts.

## Opportunities:

At most of the sites now GRCs working properly, but at ICB-01 issue of false complaints to PMO and ADB still persists



# HSE Compliance

## Challenges

- ▶ Risk Assessment were inadequate
- ▶ Overall HSE compliance reporting was weak

## Opportunities:

Training and continued guidance helped on proper risk assessment and Improved Compliance reporting

Sr. #	Items	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	July-24	Aug-24	Total
1	No. of First Aids	2	1	1	2	3	1	2	2	14
2	Minor Medical Treatments	7	10	13	5	9	17	8	2	71
3	No. of Fatal Accidents	0	0	0	0	0	0	0	0	0
4	No. of Minor Accidents	0	0	0	0	0	0	0	1	1
5	No. of Fires	0	0	0	0	0	0	0	0	0
6	No. of Near misses	0	0	0	0	0	0	1	0	1
7	No. of Vehicle accidents	0	0	0	0	0	0	0	0	0
8	No. of Property Damages	0	0	0	0	0	0	0	0	0
9	No. of Toolbox Talks	2	1	1	4	1	2	3	1	14
10	No. of HSE Trainings	3	1	4	1	3	1	3	2	17



# Trainings to Supervisory Staff

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Balochistan Water Resource Development Sector Project  
 Training on EMP and Environmental compliance  
 Venue : PMO Office Date:30-6-2021  
 ATTENDANCE SHEET

Sr No	Name	Designation	Department	Signature
1	Sujyan Durrani	DPD(ZRB)	BWRDSP	[Signature]
2	Imran Ahmed	DPD(MRB)	BWRDSP	[Signature]
3	KAMRAN MUSTAFA	PM	N&B	[Signature]
4	Fahim Akber	Env. Engg	N&B	[Signature]
5	Ilam Din	Assistant	Agha Brothers Corp	[Signature]
6	Rana A. Rahman	Sociologist PMO Support Consultant	RHC	[Signature]
7	Azam Aho	PM	ZKB-ACC JV	[Signature]
8	S. Majid Hussain	SGS	ZKB-ACC JV	[Signature]
9	Asmatullah Tatri	P.M	M/S Abdul hamid & M. Akber (JV)	[Signature]
10	Abdul Rezaq Buzdar	TL/PM, BWRDSP Consultant	BWRDSP Consultant	[Signature]
11	Sibghat Ullah Khan	Environment Specialist	RHC	[Signature]
12	ASIF. HUSSAIN	DPD-PIO (BWRDSP)	Agriculture Dept	[Signature]
13	DR. AKBAL IQBAL	Environmental Spe- <sup>PMO</sup> -supp	BWRDSP Consultant	[Signature]
14	M. Rehan Asghar	Contracts Mng.	" "	[Signature]



# Monitoring Checklists

## CHALLENGE:

1. Monitoring Checklists were not available so were not being filled

## Opportunities

1. Daily and weekly Monitoring Checklists are developed for regular monitoring.
2. A quantitative environmental compliance monitoring checklist is also developed in close coordination with Contractor, Implementation Consultants and PMO.
3. Checklists are being filled, signed and compliance status is being calculated throughout the monitoring period.



# Weekly Monitoring Checklist

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CONSTRUCTION OF KARAKH VALLEY DEVELOPMENT  
SUB- PROJECT –MULA RIVER BASIN  
CONTRACT NO: NCB-01



CONSTRUCTION OF KARAKH VALLEY DEVELOPMENT  
SUB- PROJECT –MULA RIVER BASIN  
CONTRACT NO: NCB-01

Project Name: *Construction of Karakh Valley Dev* Package No. *NCB-01*  
Monitoring Location: *Project & Camp Site* Date: *21/3/23*

**Weekly Monitoring Checklist**

Description	Status	Comments
<b>A. Physical Condition</b>		
<b>1. Soil Condition</b>		
Is any soil erosion observed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Has the movement of Construction equipment been restricted to work areas to avoid unnecessary disturbance to soil types?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Have the area along the access road being visually monitored and show any type of soil erosion	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>2. Fuel Lubricants</b>		
Is regular inspection carried to check leaks and spills?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Is there any combustible or flammable material in the fuel storage area?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Are the fuels and oils handled in the safe manner, ensure no leakage and spillage?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Have the entire oil and fuel storage areas provided with impervious floor underneath to prevent soil contamination from leaks or spills?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Are the spilled oil or fuel and used clean material being disposed of properly?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are the spills and leaks thoroughly cleaned?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	



CONSTRUCTION OF KARAKH VALLEY DEVELOPMENT  
SUB- PROJECT –MULA RIVER BASIN  
CONTRACT NO: NCB-01



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**3. Traffic Management**

Are the existing routes being used to access the project area?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are the number of routes kept to a minimum?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are shortcuts being used?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Are all the vehicles and construction machinery properly maintained and tuned to maintained NEQS level?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are pressure horn being used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>4. Borrow Areas</b>		
Is necessary approval for the borrow areas been obtained from the Engineer?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is the condition of approval for excavation of the borrow pits are being complied with?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Is the drainage profile of the area is maintained to avoid any impoundment of the agriculture runoff or storm water in the borrow area?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>5. Camp Site</b>		
Are the generator in the construction camp properly maintained?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Is the emergency response plan available in the camp?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>6. Waste Material</b>		
Is waste being stored temporarily at camp and sites within the designated area?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Is any type of solid waste is being disposed-off in the fields?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	



# Flooding

## Challenges

1. Most of the water constation structures are on Streams/Nullas experiencing high velocity flood during rainy season,
2. Flooding block access roads, impeding the transportation of materials and personnel to and from construction sites, which can result in project delays and increased costs. It has happened on NCB-01, a second Major subproject.
3. Site Stability: Flooding can undermine the stability of construction sites, leading to potential collapses or structural failures. Erosion and sediment deposition can also impact the integrity of ongoing construction projects.



# Flooding - Opportunity

## Emergency Preparedness & Response

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1. Project Level ERP should be prepared
2. Emergency Response Team (ERT) should be formed at camp site, led by the Camp Manager and HSE officer.
3. The team should be high alert during torrential rains and any flood forecast .
4. Special Training of Supervisory Staff and Safety drills.
5. Flood workers should be trained to mobilize the equipment and workforce to safe places prior to the impact, as per ERP.
6. There will be no damage if emergency evacuation occurred during flood passage through the River/stream, while all the vehicles and machinery could be placed at safe place, according to the plan.