



Environmental & Social Monitoring Report (April to June 2014)

Project Number: 44914

PAK: Patrind Hydropower Project

Prepared by Star Hydro Power Limited

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Asian Development Bank



STAR HYDROPOWER LIMITED

147 MW PATRIND HYDRO POWER PROJECT

ENVIRONMENTAL & SOCIAL MONITORING REPORT

(APRIL-JUNE 2014)



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A COMPANY OF KOREA WATER RESOURCES CORPORATION

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Acronyms

ADB	Asian Development Bank
AJK-EPA	Azad Jammu & Kashmir Environmental Protection Agency
KPK	Khyber Pakhtunkhwa
CDP	Community Development Plan
EH&S	Environmental Health & Safety
EPCC	Engineering Procurement Contracts Contractor
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
GRC	Grievance Redress Committee
IEE	Initial Environmental Examination
IDB	Islamic Development Bank
IFC	International Finance Corporation
ILO	International Labour Organization
KEXIM	Export Import Bank of Korea
NEQS	National Environmental Quality Standards
NTP	Notice To Proceed
PAPs	Project Affected Persons
PS	Performance Standard
RAP	Resettlement Action Plan
SHPL	Star Hydropower Limited

Introduction

i. Background

The Patrind Hydropower Project is run of river project located on the boundary of Khyber-Pakhtunkhwa and Azad Jammu & Kashmir. The purpose of the Project is to provide zero-emissions renewable electricity to the grid and also provide local and global environmental benefits as well as strong local socioeconomic benefits. The project has the total capacity of 147 MW. The project is being financed by multilaterals like IFC, ADB, IDB and KEXIM.

ii. Objectives:

The purpose of this Quarterly Environmental & Social Performance Report is to describe EPC contractor's compliance with the environmental and social performance requirements of IFC/ADB (including implementation of the Environmental Management Plan and Social Plan) and to assess any corrective actions implemented/proposed. This includes:

- A description of all significant health, safety, environmental and social activities and events that occurred during the reporting period.
- Provision of additional information about activities (i.e., status of permits or other approvals, ongoing public consultation etc.).
- Quantitative performance monitoring data summaries in comparison to appropriate ADB and IFC policies, guidelines and national requirements.
- An explanation of any cases of non-compliance with lender's guidelines or applicable regulatory limits that have occurred, identifying the cause and the corresponding corrective measures planned or underway to prevent future occurrences.
- Resettlement Action Plan activities and progress on the implementation of project within the Sustainable Development Strategy Framework

a. Project Name and Summary Information

i. Project/Business Name

Patrind Hydropower Project

ii. Status of Construction

The Notice to Proceed (NTP) for main works was issued by the Company to EPC Contractor on December 26, 2012. However the preliminary works under Preliminary Contract were initiated in October 2010 and were dovetailed in to the main contract. As of June 2014 the physical progress achieved is 33.59%.

iii. Location of project

Village Patrind, District Muzaffarabad, Azad Jammu and Kashmir

iv. Nature

Run of river Hydropower Project.

v. Scale/size

147 MW

vi. Date of construction/operation commencement

Preliminary works commencement: September 2011

Main works start after issuance of NTP: December 2012

vii. Name, designation and signature of person responsible for preparing/reviewing the report

<p>Prepared By: _____ Designation: Manager HSE</p>	<p>Reviewed By: _____ Designation: Deputy Chief Executive Officer</p>
<p>Approved By: _____ Designation: Chief Executive Officer</p>	

b. Relevant Environmental Permits or Compliance Certificates

a) Summary of permit conditions and media covered:

As per NOC Issued by AJK-EPA, SHPL/EPC is bound to:

Condition	Status of compliance
Ensure compliance to NEQS and undertake mitigation measures suggested in the EIA report & EMP. Constitute Environmental/Post EIA Monitoring Committee and submit monitoring reports on quarterly basis and provide the copy of this approval and EIA report to the contractor for information and compliance activities.	Environmental Monitoring Unit has been established and mobilized on site after the issuance of Notice to Proceed to the EPC Contractor. Quarterly E&S Monitoring reports are being submitted to the EPA AJ&K. Post EIA monitoring was undertaken by EPA during last year. Copy of approval and EIA report is part of contract made with Contractor.
Compensate PAPs for loss of agricultural land, crops, property, and usage right etc. in accordance with the rates that agreed upon and adopt appropriate mechanism for RAP grievance redress. Employ local peoples for all unskilled jobs and implement CDP sooner than later. Ensure all public utilities such as water supply pipes, power phone line be not disturbed by the execution of the project.	Owners have been compensated for the loss of agricultural land, trees and property as per the market rates/replacement cost. For unskilled jobs local workers from affected communities (Alda, Patrind, Tarcheela, Boi, Sarati Shoran and Deedal) are being employed and for skilled jobs locals are being hired on priority basis as per the requirement and the qualification. During civil works special care is being taken not to disturb any of the public utilities.
Ensure occupational and community health and safety backed by a comprehensive emergency response plan. Adopt controlled techniques in accordance with Pakistan explosive act and also make sure the safety & security of wild animals and their habitats at the project site and in its environs with the prior consultation and adhering to the guidelines of forestry and wild life departments strictly.	Emergency response procedures are in implementation. Provision of PPEs, education sessions, availability of medical facilities, installation of sign boards and close supervision by EPCC & OE HSE staff are ongoing activities to ensure Occupational health and safety on project sites. Blasting activities are carried out in accordance with Pakistan Explosive Act. Monitoring of Fish fauna and flora has been undertaken during quarter. Results of the Fish monitoring showed that the impact of the Project at present is only confined to the intake and outlet of the diversion channel. Result of impact on downstream river can only be verified after the tunnel completion, diversion of water and minimum flow allowed. While flora monitoring showed that a considerable change was occurred as compared with the last monitoring/ study. Both the areas, at Alda and at Patrind have been affected by the forest fire which was initiated by the locals. The result indicated that landscape, the nature of the rock and the redistribution of rainfall water by run-off are the main sources of spatial variation in the study area.

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For compliance of regulation 13, 14, 17 & 18 of IEE/EIA regulations 2000 which enunciate the conditions for approval. Confirmation of compliance, entry, inspection and monitoring of the proposed project. The site to install the asphalt plant and other machinery would be selected in consultation with the agency (AJK-EPA). The findings of quality analysis on regular basis should positively be shared. Also, the spoil should be	Quality monitoring reports are being sent to EPA- AJK. Spoil is being dumped on approved sites. Installation of batching plant has been undertaken with consultation of EPA-AJK.
Communicate any change in the approved project to AJK-EPA and that would be commenced after obtaining the approval. The approval shall stand null and void if the conditions mentioned herein before are not fully complied with. It does not absolve the proponent of the duty to obtain any other approval or clearance that may be required and can be withdrawn at any time with any prior notice if deem necessary in the public interest.	Shall be done if required.

Most of the conditions are common in both approvals with few exception of following issued by EPA KPK:

Condition	Status of compliance
Water in the pond created by construction of Patrind weir should be maintained at EI765m.amsl.Safety zone/adequate engineering measures should be provided to overcome fears of the residents regarding effects of pond to their houses. The level difference of 2 meter from765m.amsl to 767m will act safety zone so the owner of the land and housing structures falling within the zone should be compensated as per laid down procedure of compensation of the government.	The operation level of the Project is at 765 masl. The Company acquired the land at the level of 767 masl as per the condition of the EPA. The additional 2 meters shall act as safety zone and the owners were compensated as per the procedure.
The project management should contribute towards the repair of the road to be used during construction and operation activities of the project. The trees supposed to be submerged should be counted in the presence of all stake holders i.e. owners land collectors /patwari representing revenue department representative of EPA and forest/agriculture department. After the determination of exact number type and ownership of the trees be finalized and paid as per laid down procedure of the government	The owners have been compensated for the trees supposed to be acquired due to the land acquisition. The trees were counted in the presence of all stake holders i.e. owners land collectors /patwari representing revenue department representative of EPA and forest/agriculture department. Uneven section of project access road passing through Sarati village has been repaired with graders. Damaged portion, will be repaired if any. The maintenance of the access roads near the project area is part of Social uplift plan
Minimum flow of 2 cumecs in the downstream of weir in Kunhar River should be kept and provision for 10% extra of this amount of water for emergency in downstream should also be kept in plan. No extension would be permitted in the future in existing hydropower project without prior approval of the EPA /government of Khyber Pakhtunkhwa	Shall be applicable during the operation phase of the Project

Separate NOC is required for batching/crushing plant

NOC was obtained from EPA KPK for installation of two batching plants near the weir site

b) Relevant Government Agencies

As the Project is located on the boundary of Khyber Pakhtunkhwa and Azad Jammu & Kashmir, Star Hydro Power Limited (the “Company”) had to seek approval of Environmental Impact Assessment (EIA) from following two Environmental Protection Agencies (EPAs).

- i. EPA Azad Jammu and Kashmir
- ii. EPA Khyber Pakhtunkhwa

c) Issuance dates and duration of validity

Issuing Authority	Issuance Date	Duration of Validity
EPA-AJK	10-08-2010	3 years
EPA-KPK	14-04-2011	Project construction phase

d) Renewal Requirements:

As per AJK-EPA review of IEE and EIA Regulations, 2009 “Once the Environmental Approval is accorded in favor of the proponent, shall be valid for the period of 3-years from the date of issuance. However, if construction is commenced during the 3 years period, the approval shall stand extended "automatically" for a further period of 3-years from the date of expiry of initially issued Approval”.

c. Incidents of Violations or Non-Compliance

To prevent incident and mitigate risks during the quarter, close supervision by OE’s HSE team has been carried out. Non conformities were highlighted through correspondence (Non Conformity Reports, Letters and site notes) and during formal and informal meetings. Remedial measures and corrective actions on part of EPCC have also been undertaken but still needs improvement in maintaining standards required for the Project. Incidents of violations and non-compliances by EPCC and its sub-contractors were included in daily, weekly and monthly reports.

Detail of correspondence with OE regarding non-compliances during the quarter is given in the table below:

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Letters/Site Notes & Non Conformity Reports (NCR) issued by Owners Engineer during Quarter

Correspondence by Owner's Engineer					Response by EPC Contractor		
Sr. No	Type	Date	Reference No	Subject	Date	Reference No	Corrective Action taken
1.	Letter	7-4-2014	LET/PES.ST-EPCC/396	MDA's road blocking plan from supreme court to Umer Farooq Chowk	11-4-2014	14-242	Placement of signal man on blocked section Liaison with Rescue Department to deal any emergency
2.	Site Note	9-4-2014	44	HSE Violation during tunnel blasting as partial mucking was carried out before second blast while unused explosives were still loaded in drilled holes	14-4-2014	14-256 & 14-258	Disciplinary actions under taken against violators as warning letters were issued. Education/Training session for blasting crew
3.	Site Note	22-4-2014	46	HSE violation in HRT at weir site as misfired detonators & explosives still present in HRT during face mapping of HRT, at station 0+648.20, on 22-04-2014 at 9:30 hours.	Site note is open, however, remedial measures have already been undertaken as non-electric detonation has been replaced by electric detonation		
4.	Letter	27-4-2014	LET/PES.ST-EPCC/406	Closure of NCRs 18 & 19 - overhead 100 KVA lines at the new batching plant, weir site.	Response not required as corrective actions were undertaken and both NCRs were closed by OE.		
5.	Letter	3-5-2014	LET/PES.ST-EPCC/413	OE comments on the water quality analysis report	15-6-2014	14-377	Response to comments and concerns on water quality test results and proposal for protection and treatment of drinking water was submitted to OE
6.	Letter	20-5-2014	LET/PES.ST-EPCC/437	Project Water Supply as per social uplift plan	15-6-2014	14-377	Proposed schedule submitted for water supply as per social uplift plan
7.	Letter	29-5-2014	LET/PES.ST-EPCC/451	Closure of NCR 022 - Weir site explosives store	Response not required as corrective actions were undertaken and NCR was closed by OE		

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Correspondence by Owner's Engineer					Response by EPC Contractor		
8.	Letter	31-5-2014	LET/PES.ST-EPCC/456	Comments on the annual (2013) and 1st quarter (2014) environmental & social monitoring report	OE appreciated first quarter report however highlighted deficiencies in Annual Monitoring Report 2013		
9.	NCR	2-6-2014	25	Powerhouse excavation	6-6-2014	14-363	Closed on 10-6-2014
10.	NCR	5-6-2014	26	All Area (waste management)	15-6-2014	14-378	Waste is being collected by MCM at lower site infrequently and OE requires timely and appropriate collection from all sites therefore, NCR is still open
11.	Site Note	5-6-2014	48	Condition of subcontractor's canteen	13-6-2014	14-376	Cleaning and hygiene conditions were improved in canteen and repairing of drainage system was done
12.	Site Note	5-6-2014	49	Improper disposing of chemical wastes	30-06-2014	14-418	Provisional arrangements were undertaken to avoid random flow of chemical waste on access road, however the issue remains still open since OE was not satisfied with the arrangement done because of contamination risks of ground water due to improper disposal mechanism of chemical waste
13.	Letter	16-6-2014	LET/PES.ST-EPCC/476	Corrective action report for NCR 26	Waste collection by MCM is an ongoing activity on lower site however EPCC decided to take more time to ensure sustainability of the collection methodology		
14.	Letter	21-6-2014	LET/PES.ST-EPCC/485	Fire incident on weir site	23-6-2014	14-403	Incident reports required by OE were submitted and awareness campaign was conducted to aware local community of possible consequences of forest fire
15.	Letter	21-6-2014	LET/PES.ST-EPCC/484	Measures to be taken for Ramadan	1-7-2014	14-423	Placement of resting shelters, pedestal fans, ice machines and filtration plants have been made available on both sites. Awareness sessions on

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Correspondence by Owner's Engineer					Response by EPC Contractor		
							medical conditions were held.
16.	Letter	21-6-2014	LET/PES.ST-EPCC/483	HRT Ventilation, Powerhouse site	Corrective measures have been undertaken and air quality is being monitored regularly which is within the allowable limits		
17.	Letter	21-6-2014	LET/PES.ST-EPCC/488	Ongoing fire incident on powerhouse site	23-6-2014	14-403	Incident reports required by OE were submitted and awareness campaign was done to aware local community of possible consequences of forest fire

Unsafe Act & Unsafe Condition:

To mitigate risks of accidents UA/UC Observation Card System is being used to ensure maximum safety on site. To sensitize all staff/workers and to get information and feedback about site HSE issues, boxes holding UA/UC cards have been placed on prominent locations.

In order to get maximum feedback from Project employees the best observer award system was introduced to encourage employees for making observations. The best observer award (Amounting Rs.10, 000) is given to each selected observer. In total, 25 UA/UC cards were received during reporting quarter (**Annex-1**).

Warning Letters for Non-Compliances:

Depending on nature and severity of violation, warning letters have been issued to the violators. Verbal warning is given for the first time on minor violations. If any employee fails to abide by HSE policies after verbal warning he is given a written warning letter. 23 warning letters were issued for incident for violations of HSE procedures. List of warning letter is given in the table below. As per EPCC's standard procedure after three warnings employee would not be able to continue its job. However, before removal it is important to ensure that individual has been informed / trained and provided with the necessary equipment.

WARNING LETTERS

Sr.	Safety Violator	Designation	Company	Dated	Warning Reason
1.	Altaf Hussain	Excavator operator	Daewoo E&C	07/04/2014	Operating without authorization
2.	Manzar	Plant Helper	Daewoo E&C	08/04/2014	PPEs violation
3.	M. Shabbir	Mixer Operator	Daewoo E&C	10/04/2014	Cooking in kitchen without authorization
4.	M. Sajjad	Mixer Operator	Daewoo E&C	10/04/2014	Cooking in kitchen without authorization
5.	Nujam-ul-hussain	Auto Mechanic	Daewoo E&C	30/04/2014	operating without authorization
6.	Muhammad Asghar	Crawler drill Operator	Daewoo E&C	04/05/2014	1. Fall Protection Violation 2. Unsafe behavior 3. He crossed the warning tape and started to walk down from the slope
7.	Muzaffar	Dump Truck Helper	Kyungdong	08/05/2014	Unsafe behavior

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Sr.	Safety Violator	Designation	Company	Dated	Warning Reason
8.	Umair	Labor	Kyungdong	17/05/2014	Work at height without body harness
9.	Naeem	Labor	Kyungdong	17/05/2014	Work at height without body harness
10.	Iqbal	Labor	Kyungdong	17/05/2014	Work at height without body harness
11.	Mr. Lee	Site Manager	Kyungdong	17/05/2014	Work at height without body harness
12.	Sagheer	Labor	Kyungdong	17/05/2014	Work at height without body harness
13.	Umer Hayat	HTV Driver	Kyungdong	03/06/2014	Unsafe behavior
14.	Gul Zaib	Dump Truck Helper	Kyungdong	03/06/2014	Unsafe behavior
15.	Ghulam Murtaza	Girder Operator	Daewoo E&C	07/06/2014	Unsafe Behavior
16.	Tahir	labor	HESPAK	11/06/2014	violation of PPE
17.	Gulraiz Ahmed	labor	Daewoo E&C	16/06/2014	Unsafe Behavior
18.	Reafit	labor	Daewoo E&C	16/06/2014	Unsafe Behavior
19.	M.Saleem	labor	Daewoo E&C	16/06/2014	Unsafe Behavior
20.	Ameer naizeer	labor	Daewoo E&C	16/06/2014	Unsafe behavior
21.	Rameez	labor	Daewoo E&C	16/06/2014	PPE Violation
22.	M. Sadique	Excavator Operator	Daewoo E&C	24/06/2014	PPE Violation
23.	Umer Sultan	Drilling Foreman	HITECH	26/06/2014	Unsafe Behavior

d. Incidents of Environmental and Safety Accidents

a) Environmental Accidents and Mitigation

- During the reporting period minor soil contamination due to inappropriate handling of oil has been observed.
- Dust on project access roads due to vehicles movement
- HRT waste water sedimentation/treatment tanks overtopping (rarely) due to delayed cleaning has resulted into downstream water contamination.
- Although HRT air quality has regularly been monitored but occasional above limits gaseous concentration was observed.
- Noncompliance was observed in managing waste in particular with regard to lack of segregation on source and timely disposal.

- Maintenance of the heavy equipment was done outside workshop and minor oil spill was observed and identified by OE's HSE staff.
- The excavated material is being transferred to the disposal area at upper site but no embankment has yet been constructed to protect spoil erosion due to rise in river water or flood. Whereas, at lower site it is being dumped on approved site near bridge and is being used in civil works.
- Community-lit fire incidents occurred outside the Project perimeter on both sites.

Following preventive and mitigation measures were adopted;

- Used lubricants, cylinder etc. are stored in separate designated areas with proper barricading and signage.
- Water filtration plants are installed on both sites to ensure clean water access for project employees.
- Ice making machine have also been installed on sites.
- Shotcrete activities have been undertaken to stabilize slopes and to mitigate risk of erosion. Besides this, polythene sheets were placed on slopes to prevent soil erosion and minimize landslide risk.
- Portable washrooms were installed on site.
- Soakage pits were constructed to treat sewage waste on sites and accommodation area.





Slope protection works on both sites

- Earth day 22nd April was celebrated by EPPC through community awareness campaign in surrounding village school in Alda.
- Environmental awareness campaign was held on Environment Day 5th June, 2014 on both sites.
- Gaseous concentration (CO, H₂S, LEL, and O₂) in Adit and Headrace tunnel is being monitored on daily basis using gas detector. Monitoring of CO₂, N₂O, NO₂ and dust has also been undertaken.
- Excavated material is being dumped in designated disposal areas on both sites preventing serious waste problem.
- According to the nature of work inspections have continuously been carried out during the reporting period to reduce the risk of accidents and impacts on environment and for proper maintenance of machineries and other equipment.
- Quarterly Fish fauna and vegetation studies were undertaken
- Hunting and fishing activities are prohibited on Project sites.

b) Health and Safety Accidents and Mitigation

Health and safety of workforce can be enhanced by identifying risk and implementing mitigation measures before an incident occur. During quarter, coordination meetings, monitoring and inspections were undertaken jointly by EPCC and OE's HSE staff with regard to site HSE status mainly during blasting activity in HRT.

Summary of health and safety incidents during quarter is in the table given below. No media reaction with regard to these incidents has been received during quarter:

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Incident	Frequency	Description	Media or Community Reaction
Fatality	None	None	None
Near Miss/damage only incident	None	None	None
First Aid Case	1	On 8 th May 2014 at 17:45, The Kyung Dong's helper deputed with rented dumper, Mr. Muzaffar crossed the barricading installed along left bank of weir site. While sitting on a slab in an unsafe manner, he got slipped and fell down in to the water. His colleague workers used barricading rope and pulled him out. Mr. Muzaffar luckily survived from major injury, however, got minor at his forehead. Instantly he was sent to HSE site clinic for checkup and after anti septic dressing (ASD) by site male nurse the said IP was discharged.	None
Environmental incident /Property damage	None	None	None
Medical Checkup / Examination / Treatment	396	<p>April 2014: (60 Upper Site + 69 Lower Site) 129 staff and workers visited medical facility during the month. However, majority of all visitors having normal checkup minor in nature like gastro enteritis, flue and headache etc.</p> <p>May 2014: (59 Upper Site + 76 Lower Site) 135 Staff and workers visited medical facility during the month. However, majority of all visitors having normal checkup minor in nature like gastro enteritis, flue and headache etc.</p> <p>June 2014: (64 Upper Site + 68 Lower Site) 132 Staff and workers visited medical facility during the month. However, majority of all visitors having normal checkup minor in nature like gastro enteritis, flue and headache etc.</p>	None

Safety Milestone

First safety milestone was achieved in November 2013 while 2 Million safe man hours were completed during this quarter. About 2.2 Million Safe Man Hours have been completed till 30th June 2014 without any Loss Time Injury (LTI) / fatality (After 9th February 2013 fatality incident)

External Monitoring /Inspection

Sites HSE internal inspection has remained an ongoing activity. Monitoring has been carried out frequently by Owner Engineer (PES).

Financiers' Technical Advisor (the "FTA") visited Project sites during second week of May 2014. FTA was overall satisfied with site HSE status, however, shown concerns over waste collection and partial explosion during blasting in HRT.

Project insurer representative conducted a monitoring visit during last week of June 2014 with regard to HSE following recommendations were made by said representative:

- ✓ Water supply hoses must be installed in HRT to deal with fire emergency
- ✓ All vehicles entering in HRT should be equipped with fire extinguishers
- ✓ A code of practice for risk management in HRT must be adopted to promote and secure best practice for minimization of risk associated with design and construction of tunnel and a risk register must be maintained
- ✓ Scaff- tag must be used in scaffolding to mitigate risk of accident
- ✓ Emergency procedures must be updated

Internal Inspections Conducted During Reporting Period

To mitigate safety incidents, machinery, equipment and electrical appliances are being inspected to ensure fitness through color coding system. List of inspections done during the quarter are attached as (**Annex-2**). According to the nature of work being carried out on construction sites, inspections have continuously been carried out during the reporting period to reduce the risk of accidents and impacts on environment and for proper maintenance of machineries and other equipment regularly. Inside HRT, proper gas and dust inspections are being carried out on regular basis before and after blasting activity for inspection of the magnitude of hazardous gases and ensuring the air quality inside tunnel.

Following inspections have been undertaken during quarter;

- Heavy equipment inspection
- Batching Plant Inspection
- Site Overall Inspection
- Fire Extinguisher Inspection

- Health and Hygiene Inspection
- Gaseous concentration Inspection

Mitigation Measures:

To ensure health and safety of both staff and labor on project area, following were some of the prominent activities EPCC undertook during the quarter:

1. Fire alarm system and smoke detectors have been installed on camp offices, sites and accommodations after OE's recommendation



Monitoring through CCTV

Fire Alarm system installed

2. For close supervision CCTV have been installed on various locations.
3. Provision of drinking water and placement of water coolers on site for workers
4. Installation of new safety sign boards.
5. All the workers have been provided with necessary Personal Protective Equipment (PPE) comprising of helmets, safety shoes and safety jackets and ankle belts to prevent injuries
6. Warning letters have also been issued to the personnel found to perform activities that are against the rules and regulations of the HSE
7. Newly employed staff, labor and daily wagers were given HSE inductions so that they are aware of potential risks associated with the construction sites emergency procedures
8. Safety campaigns and awards are distributed to encourage and develop safe work behavior in labor and staff
9. Collection of waste water from batching plant was improved on weir site
10. To mitigate safety incidents, machinery, equipment and electrical appliances are being inspected to ensure fitness
11. Regular trainings/education sessions for staff and labor
12. Tents and umbrella shades for site workers have been provided on site
13. Education sessions for medical conditions during month of Ramadan
14. Empty/Expired fire extinguishers were sent for refilling
15. Water sprinkling on project access road for community health and safety

16. Sub-contractors canteen condition was improved and cleanliness was ensured



Injuries treated using first aid boxes are reported through daily HSE reports & site HSE staff and record of boxes is maintained by HSE clinical staff. HSE doctor conducted inspections of first aid boxes and subcontractor's canteen /kitchen. For poor hygienic conditions NCR was issued to subcontractor.

Incidents recording extend to all workers/staff working for sub-contractors and on rented vehicles/machinery.

Permit To work (PTW):

For the following activities have been issued during the quarter

1. Welding/ Open Flame Work Permit
2. Blast Permit
3. Confined Space Entry Permit
4. Work at night

e. Labor Relations and Conditions

(i) Nature of labor dispute or grievance

During the reporting quarter no incident of labor dispute was observed, recorded and reported.

(ii) Legal requirements, Permit conditions and renewal requirements

During the quarter, requirements related to labor's contracts, permits and other conditions remained constant and no change was observed.

- Total working hours per month are (26 days) =308 hours
- National holidays = Normal rate x 2
- Daily prayer and lunch breaks (1 hr)
- Friday Prayer (3hrs) are fully paid

Furthermore, during month of Ramadan working hours were reduced without any deduction in total salary. Daily additional 2 hours are being paid during Ramadan as normal hourly rate without work (additional hour means the contractor is paying full despite of 2 hours reduction from regular work shift which is being paid at normal rate). Daily/temporary worker's salary is 25% higher than market. Whereas, full time/contract workers salary is 13% higher than market rate with same over time ratio. Although as per labor law over time should be more than normal working hours but as per contract EPCC is required to pay more than local market rate.

(iii) Authorities in charge of investigation/recording

In case of any labor incident, Site Construction Manager and HSE staff is responsible to record, investigate and address it appropriately. To address any dispute or work related complaint received from staff /workers, an internal Grievance Redress Committee (GRC) comprising Planning Manager, Admin Manager and HSE Manager is mandated to investigate the matter in an unbiased manner and resolve it amicably so that the concerned party or individual may be satisfied and a friendly / peaceful environment is reinstated at Project site. No labor incidents were recorded during the period.

(iv) Media or community reactions (if any)

No reaction was observed from media or the community.

(v) Corrective actions, deadlines, identification of responsible parties.

SHPL, OE and EPCC's HSE departments continuously indicates labor corrective actions for further compliance by construction team including improvement in labor welfare facilities, first aid facilities on sites and arrangements for coming month of Ramadan.

(vi) Labor relations and living conditions for construction labor force

During the 2nd quarter accommodation status of project workforce remained same as of last quarter. 120 staff/workers have been accommodated in the base camp at powerhouse site. 110 staff & labor has been provided accommodation at weir site. Since the construction works at weir site were partially stopped in March 2014 due to design issues, one of the sub-contractors Sungbo E&C downsized its local (from 132 to 5) and expatriate (from 20 to 00) employees which resulted in lower number of accommodated persons.

All staff/workers before induction have been educated to respect local norms and never involve in any conflict with locals. Furthermore, to manage these accommodations community liaison officer / coordinator (04) have been employed from local area. Basic services electricity, water and gas have been provided. Safety measures such as fire extinguishers and emergency contact numbers are available. Fire alarm system has been installed on main campus and site offices on both sites. Ambulance drivers are aware of all accommodations to have prompt access in case of any emergency.



Erection of portable toilets with septic tank



Placement of water coolers on site



Filtration plants & ice makers installed



Workers rest areas

Compliance status based on applicable National and International laws/ regulation on labor including ILO core labor standards

As per conditions stipulated in the project construction contract between Client and EPC contractor those have been made in light of National and International laws and standards, implementation during the quarter has been observed accordingly. Statuses of compliance with these laws are given in the table below;

Table: Compliance Status with International and National Labor Laws/Regulations

CONTRACTUAL TERMS/ CONDITIONS	STATUS OF COMPLIANCE DURING QUARTER
ENGAGEMENT OF STAFF AND LABOR	
Except as otherwise stated in the Project Requirements, the Contractor shall make arrangements for the engagement of all staff and labor, local (People living in project vicinity) or otherwise, and for their payment, housing, feeding and transport	EPC contractor has made all necessary arrangements for the engagement of all staff and labor and payment for their wages/ salaries, housing, feeding and transport. However, the local staff/workers do not need housing in the project base camp
The Contractor and its subcontractor(s) shall prefer, to the extent practicable and reasonable, to hire unskilled staff and labor, and skilled staff and labor with appropriate qualifications and experience, who are residents of AJ&K or KP especially who are the affected of the Project	More than 150 of unskilled jobs have been provided to nearby communities (Alda, Thori, Patrind, Tarchela, Sarati, and other adjacent localities). Also preference has been given to local people who qualify for skilled positions
The Contractor shall, and shall ensure that its subcontractors shall, fulfill and observe the Environmental and Social Requirements in relation to the engagement of staff and labor	EPC Contractor has established a proper mechanism of daily and weekly reporting and consistent monitoring of HSE and related social issues. On the basis of recommendations, corrective measures are being taken accordingly
RATES OF WAGES AND CONDITIONS OF LABOR	
The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out or as prescribed under the Laws of the Country. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.	<p>The pay rates of wages are comparatively better than the local prevailing rates. Temporary skilled workers = Rs. 700-800 .Temporary unskilled workers= Rs. 500-550 whereas in local market it ranges from 600-700 and 400-450 respectively.</p> <p>Minimum salary as per local labor law was 7,000 per month till 30th June 2013 which has been increased up to 9,000/- per month. While in the project the minimum salary for the permanent worker is 13,000/-</p>
PERSONS IN THE SERVICE OF OTHERS	
The Contractor shall not recruit, or attempt to recruit, staff and labor from amongst the Employer's Personnel.	Full compliance of the condition was observed during entire quarter
LABOR LAWS	
International Human Rights & Core Labor Standards The Contractor shall comply with all the relevant labor Laws applicable Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.	All regulations are in implementation. Local labor laws were devised in light of International Human Rights & Core Labor Standards; therefore, compliance with local standards is same with international laws /standards. Furthermore, Pakistan has ratified ILO's conventions on core labor standards.

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The Contractor shall require its employees to obey all applicable Laws, including those concerning safety at work.	Site HSE status has been improved due to regular instructions and corrective measures.
Abolition of child labor	To ensure the abolition of child labor the Computerized National Identity Card (CNIC) has been made mandatory for induction which is only provided by the GOP after the age of 18.
Elimination of all forms of forced or compulsory labor	Compliant boxes are placed on each site. Furthermore, during site inspections by SHPL, OE and EPCC's HSE staff, it is strictly checked that no forced labor has been undertaken on any site in any form.
Elimination of discrimination in respect of employment and occupation	No discrimination exists as all persons interested to apply during job recruitment have been provided equal opportunities irrespective of color, race, origin and nationality. Only difference is the nature of job and relevant skills. However, no female is working as worker due to nature of job and local customs/norms.
Freedom of association and the effective recognition of the right to collective bargaining	No ban is imposed on workers with regard to establishment of workers organization or freedom to express labor concerns which is evident from the previous strikes in 2013 for collective interests. However, formal labor union or association has yet not been established.

WORKING HOURS

<p>No work shall be carried out on the Site on locally recognized days of rest, or outside normal working hours, unless:</p> <p>(a) Otherwise stated in the Contract,</p> <p>(b) the Employer gives consent, which shall not be unreasonably withheld, or</p> <p>The work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Employer</p>	Work has been carried out on weekends but only with the consent of concerned staff/labor.
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FACILITIES FOR STAFF AND LABOR

(a) Except as otherwise stated in the Project Requirements, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in Project Requirements.	Recommended facilities have been provided such as Accommodation, food and transportation.
(b) The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.	Nobody has been permitted during reporting period

(vii) Medical facilities provided to Staff and Labor during quarter:

Availability of clinical staff and facilities on both sites has been insured all time. 396 staff and workers visited medical facility during the quarter, however, majority of visitors having normal checkup. Availability of first aid boxes has also been ensured at all sites. Furthermore, for major injuries and illness MOU with Muzaffarabad General Hospital exists, however, no case has yet been sent to this private hospital.

Due to sewerage line installation through access road under Muzaffarabad City Development Project, road has periodically been closed. To manage an emergency Rescue 1122 ambulance was available near Supreme Court building and additionally project vehicles were placed on both sides of blocked sections to deal with any emergency.

Owner's Engineer (the OE) raised concerns over sub-contractors canteen unhygienic conditions, as follow up EPCC doctor visited the kitchen and inspected its hygiene conditions and submitted the recommendations to the sub-contractor HSE staff. As a result the kitchen cleanliness and hygienic conditions were improved.

(viii) Implementation of local labor standard

- GoP Labor Policy 2010 implemented.
- Standards for labor health and safety are executed according to EPC Construction Contract.
- EPC has made all necessary arrangements for payment, housing & feeding.
- The living conditions are up to merit with all necessities.
- Standards consistent with IFC's EHS General Guidelines.
- Preference to hire unskilled /skilled staff and labor from affected villages of AJ&K or KP implemented.

(ix) Project procedures for: (a) hiring; and (b) acquisition of goods and services:

Procedures for hiring have been adopted as per EPCC's policy and also in compliance with EPC Contract. While, procurement of goods and services by EPC contractor is being carried out under Quality Assurance and Quality Control plan which has been implemented during quarter.

(x) Local Employment Status:

As per the EPC contract, EPCC is bound to employ unskilled labor from local areas/ adjacent villages and for skilled jobs preference has to be given to qualified locals. As of June 2014, a total of 429 people from AJ&K and KP have been employed by the project. Of these people, 126 people are from the villages affected by the land acquisition. (See table below)

Compliance with legal requirement for employment

Project Legal Agreement/Contract	Conditions/Requirements	Compliance Status
EPC Contract Section 6.1 "Engagement	"The Contractor and its subcontractor(s) shall prefer, to the extent practicable and reasonable, to hire unskilled staff and labor, and skilled staff and labor with appropriate qualifications and experience, who are residents of AJ&K or KP especially who are the affectees of the Project"	Employment record detailed in below mentioned table
As per para 5 (n) of Environmental approval issued KPK EPA Approval Condition	"Non-technical jobs should be provided to the local community. Employment record for all positions shall be provided to EPA-Khyber Pakhtunkhwa and priority should also be given to local in technical jobs but not at the cost of merit or requirement of the management of the project"	Unskilled jobs have been provided to local residents whereas preference has been given to locals for technical positions but subject to availability
As per condition (Environmental approval issued by AJK EPA	"As far as possible, employment should be provided to local people for all unskilled jobs. Preference may also be given to local people for all semi- skilled and skilled jobs. Employment record for all positions shall be provided to AJK-EPA positively"	Employment opportunities have been disclosed to the local communities through different avenues such as newspapers advertisement, public notice on prominent locations and through community coordinators and local project staff. Preference has been given to the locals subject to availability of skilled and unskilled human resources

(As of 30th Jun. 2014)

Head		Total	AJ&K						KPK					Others
			Thori	Alliha	Patind & Tarchilla	Shoran	Others	Sub-Total	Sarati	Boi	Dalola	Others	Sub-Total	
Daewoo	Total	303	32	-	13	1	113	159	4	24	26	26	80	64
	Manager	7	-	-	-	-	3	3	-	-	-	-	-	4
	Staff	248	19	-	11	1	95	126	3	7	26	26	62	60
	Labour	48	13	-	2	-	15	30	1	17	-	-	18	-
Kyungdong	Total	111	2	7	4	-	57	70	-	-	11	24	35	6
	Manager	2	-	-	-	-	-	-	-	-	-	-	-	2
	Staff	18	-	2	-	-	10	12	-	-	-	4	4	2
	Labour	91	2	5	4	-	47	58	-	-	11	20	31	2
Sungbo C&E	Total	5	-	-	-	-	2	2	-	1	1	1	3	-
	Manager	1	-	-	-	-	-	-	-	-	-	1	1	-
	Staff	3	-	-	-	-	2	2	-	1	-	-	1	-
	Labour	1	-	-	-	-	-	-	-	-	1	-	1	-
Total	Total	419	34	7	17	1	172	231	4	25	38	51	118	70
		100.00%	8.11%	1.67%	4.06%	0.24%	41.05%	55.13%	0.95%	5.97%	9.07%	12.17%	28.16%	16.71%
	Manager	10	-	-	-	-	3	3	-	-	-	1	1	6
	Staff	289	19	2	11	1	107	140	3	8	26	30	67	62
	Labour	140	15	5	6	-	62	88	1	17	12	20	50	2

f. Environmental and Social Capacity

i. Staff capacities in environmental and social management (as relevant)

An orientation to environmental management, health and safety during construction work is part of induction form of all the staff and workers hired. Furthermore, daily HSE monitoring, toolbox meeting programs and other related activities raise the awareness level among all staff and workers.

ii. HSE Weekly Meetings:

As per monthly HSE Plan, weekly internal meetings and meetings with site construction teams have regularly been conducted on both sites list of meetings is attached as (**Annex-3**). Issues regarding compliance with HSE standards have always been main agenda items during the meetings.

iii. Environmental laws and regulations:

EIA study of the Project was completed in light of following laws and regulations. EMP as part of EIA is in implementation under the same laws and regulations:

- Pakistan Environmental Protection Act 1997
- National Environmental Quality Standards (NEQS)
- AJK Environmental Protection Act 2000

- Land Acquisition Act 1894
- Draft National Resettlement Policy 2002
- NWFP Forest Ordinance 2002
- Sarhad National Conservation Strategy 1992
- ADB Safeguard Policy Statement 2009
- IFC Handbook (Resettlement Action Plan)

iv. Training /Campaign/Awareness Raising Programs Carried Out during Quarter:

Capacity building activities together with effective supervision is always result oriented. Regular HSE trainings are conducted for Project employees on different subjects. These trainings are conducted in the light of standards guidelines and procedures developed by EPCC for its Project while working across the globe, however, site specific modifications have been made in manual. List of the trainings and campaigns done during the quarter is attached as (Annex-4).



v. Induction Training

As part of EMP all staff and workers before starting their respective jobs have been given induction training as per “Induction Performa” recommended in EMP document. The induction trainings done during the quarter is given below;

Table: Inductions

Total No of Induction Trainings		Total No. of employees inducted	
Lower Site	Upper Site	Lower Site	Upper Site
84	34	158	81

vi. Tool Box Meetings

This is a consistent activity undertaken daily by EPCC before the start of every construction shift and is part of 3.5 Safety Campaign. Activity reports are being received from construction teams including sub-contractors. Daily safety message is conveyed to all staff and labor during the meeting by HSE staff.

vii. Awareness Raising Material/Safety Sign/Campaign

To aware workers and community during quarter especially on contaminated and clean water sources in project vicinity sign boards have been placed on appropriate locations. Safety Campaign as part of monthly HSE Plan has been conducted during quarter on both sites.

viii. Monthly Safety Award

To encourage staff and workers and promote safety culture on sites safety awards were given during reporting period.

Table: Safety Awards

	Sr.	Names	Company	Award	Location
3/4/2014	1.	Sim Sang Hoon	Daewoo E&C	Best Manager	P/H Site
	2.	Muhammad Shahid	Daewoo E&C	Best UA/UC	P/H Site
	3.	Muhammad Saleem	Daewoo E&C	Best UA/UC	Weir Site
3/4/2014	4.	Tariq Mehmood	Daewoo E&C	Best Driver	P/H Site
	5.	Asif Swati	Daewoo E&C	Best Driver	Weir Site
5/6/2014	6.	Muhammad Adnan Babar	Daewoo E&C	Best UA/UC Card	P/H Site
	7.	Mehtab Ahmed Awan	Daewoo E&C	Best UA/UC card	Weir Site

ix. Daily Education/Training on site

During frequent site visit, on spot education/training is an ongoing activity that enhance and promote safety culture on sites. Moreover, during inspection of equipment and color coding activities, workers and relevant staff are being educated.

x. Needs assessment of environmental and social management capacity (as relevant)

Continuous capacity building initiatives including more specific trainings on environment and social management are required for staff and labor. Furthermore, daily HSE monitoring,

toolbox meeting programs and other related activities have raised the awareness level among all staff and workers.

EPCC's HSE department delivered orientation sessions, awareness raising and capacity building sessions on environment and social management and also identified training needs of the staff and labor during the quarter.

1. Waste management particularly segregation on source
2. Explosive handling and management
3. Safe driving

g. Stakeholder Consultation/CSR Activities

To initiate and sustain constructive external relationships with Project stakeholders particularly with adjacent /local communities, consultation is an important tool to enhance the social performance of the Project. As the locals visited the Project offices without predetermined schedule therefore infrequent and casual meetings were held with these stakeholders during reporting period to improve the Project implementation. Concerns such as employment, sub contracts of civil works and material supply were raised during the meetings. Company explained status of employment and works and also satisfied the locals that employment opportunities are proportionate to the scale of construction activities which were considerably minimized due to design issues. However, as the more employment will be required locals will be given preference as per contract conditions.

Coordination meetings were conducted during the quarter with the government departments. Meetings and discussions were held with local community of adjacent villages including Sarati, Patrind, Alda, Thuri and Tarcheela, their representative forum (local action committee) and government departments (Environment Protection Agency, district administration and development authority). Issues discussed with locals were related to hiring of services from locals such as renting their vehicles and material supply contracts whereas, government line departments, current status of social uplift plan and its future implementation, security threats to expatriates working on sites and issues related with land acquisition & compensation. Project management agreed that social uplift plan will be implemented in compliance with schedule stipulated in contract and local government will facilitate in managing Project smoothly.

A monitoring team from EPA Khyber Pakhtunkhwa visited upper site new batching plant area on 30th April 2014. Following corrective actions were undertaken as per EPA's recommendation:

Pathway towards adjacent spring should be restored or constructed to facilitate locals' access to the water source:



Height of already installed fence (GI sheets) between residential houses and batching plant should be raised at a level to ensure the privacy of local residents:



A cut-off drain should be constructed backside of houses to prevent water seepage:



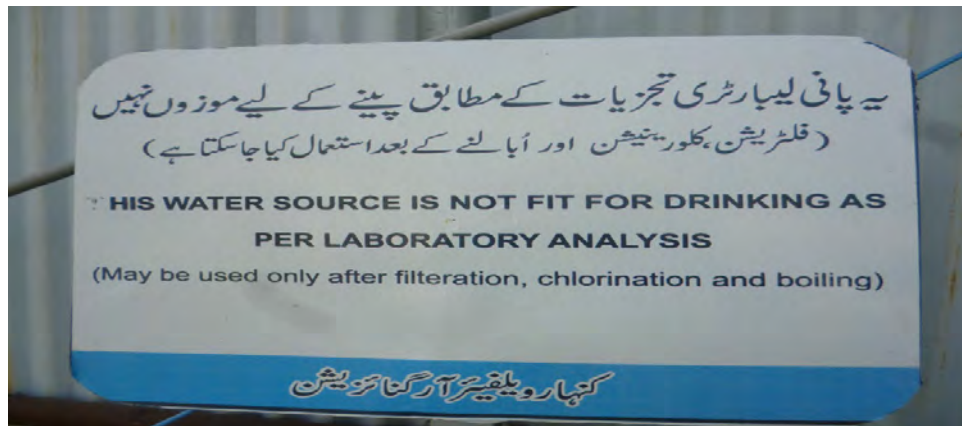
Batching plant generator with appropriate noise reduction measures was placed away from houses. Later on the generator was replaced by small size generator as it was required only during installation of plant.



Details of consultations, if any, with local communities, nongovernmental organizations, civil society groups, and other stakeholders, including affected people:

Some professional services are being hired by EPCC from locally based individuals and organizations during the quarter are;

- Environmental monitoring activities are being organized by a local NGO Edinburgh DIRECTAID and reports were received during the quarter. These monitoring activities have been carried out in compliance with Section 6.2 of Environmental Management Plan.
- HSE sign board preparation and printing activity required for the Project is being undertaken by local vender (Add City) owned by Mr. Khursheed Qureshi, resident of Patrind village. Under ILO funding, Patrind based Kunhar welfare organization established multipurpose technical institute “Add City” to provide wood work, welding, plumbing and printing trainings to unskilled locals from Patrind. Add City owner Mr. Khursheed is president of Kunhar Welfare Organization and he himself and rest of his partners are PAPs who are linked with same organization. Therefore, all printing works are allocated to same organization.
- After receiving water quality test results, EPCC, jointly with the said organization installed awareness boards on project site about clean and contaminated water sources



Sign board provided by Kunhar welfare organization for labor & community awareness

- World Earth Day was celebrated on 22nd April in Alda village local government school in collaboration with Act International; a local organization. Briefings about environment and importance to preserve natural ecosystems were given to school children and staff. The future prospects of project for local communities and information was also disseminated about contaminated and clean fresh drinking water sources in project vicinity



Environmental awareness session in local school

- Flora and Fauna Study by local Fisheries and wildlife expert Mr. Yousaf Qureshi who is also retired Director Fisheries Government of AJK
- On 24th June a traffic accident occurred outside the project boundary at weir site that resulted in injuries. EPCC HSE team provided the site ambulance and the injured person was sent to Kunhar Christian Hospital where he was admitted for further treatment.(Person belongs to PAPs from adjacent village Sarati)



Emergency support to locals on road side accident (outside project)

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Table: Organizations/NGOs consulted during the quarter

At the start of the second quarter 2014, SHPL and EPC contractor have included in its consultation activities to conduct the quarterly meetings with relevant civil society/NGOs in the area. This will open the venue for better communication and cooperation between the Project and the CSOs. During the reporting quarter, meetings with 7 organizations were conducted. The following table summarizes the topics and discussions held during the meetings.

Organization Name	Location	Purpose/ issues discussed	Actions to address Issues
1- Sahara Welfare Organization	Dalola- (Upper Site KPK Part)	Issues related with local employment were discussed and organization was informed of downsizing and lack of job opportunity for further communication to locals who are seeking jobs.	Locals were informed by the Organization about current status of job opportunities on project sites.
2- Rural Development Foundation	Sarati- (Upper Site KPK Part)	Organization raised concerns on noise and dust emerging due heavy equipment movement on road passing through the village	Frequency of water sprinkling was increased and pressure horns were removed from the vehicles
3- Tanzeem-UI-Awan	Daedal Mera- (Upper Site KPK Part)	NGO was consulted to arrange awareness session for school children regarding road safety and environmental issues.	School children were made aware of road safety and environment by the NGO & HSE staff jointly
4- Kunhar Welfare Organization	Patrind- (Upper Site AJK Part)	NGO was consulted to coordinate the community awareness campaign regarding water quality in project vicinity.	Awareness campaign was carried out by HSE staff and NGO provided awareness sign boards voluntarily

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5- Press for peace	Muzaffarabad- (Lower Site AJK)	Press for peace is NGO/media group. Therefore, project progress and its environmental & social performance were shared with them.	No action required
6- Local Action Committee	Thuri/Lower Chatter Muzaffarabad- (Lower Site AJK)	Committee representatives often visited the camp offices and raised issues regarding employment and discussed subcontracted civil works	Committee was informed of downsizing and lack of job opportunity for further communication to locals who are seeking jobs.
7- Pakistan Red Crescent Society	Muzaffarabad- (Lower Site AJK)	Organization is in consistent liaison to provide first aid trainings and to	Trained drivers and fully equipped ambulances have been hired from organization
8- Edinburgh DIRECTAID	Muzaffarabad- (Lower Site AJK)	Organization has been consulted with regard to environmental monitoring results and other relevant	Environmental monitoring activities such as fish & flora was undertaken by the NGO

h. Compliance and Implementation of Mitigating Measures in ESMP

Compliance monitoring of environmental and social management plan has been an on-going activity undertaken by OE and EPCC's HSE staff on both sites. Non compliances with recommended standards and regulations were recorded and reported daily, weekly and monthly. EMP Compliance status is attached as (**Annex-5**).

a. Environmental monitoring under EMP:

Internal Environmental and Inspection checklist is developed and being filled on daily bases (**Annex-6**). Besides this following activities have been undertaken as part of environmental monitoring:

i. Fish fauna Study/Monitoring:

Quarterly Study/monitoring was undertaken (Up & down stream of weir site) during last week of June 2014. Samples were carried out at the six study points, four downstream- Boi, Domel, Parri and Outlet of River Diversion and 2 Upstream of Weir, near disposal site (instead of intake point) and Tarcheela covering a total river length of about 10 km.

The impact of the Project at present is only confined to the intake and outlet of the diversion channel where flow velocity is high and due to that the fish survival chances are minimum in that reach. Result of impact on downstream river can only be verified after the tunnel completion, diversion of water and minimum flow allowed.

Detailed report is annexed as **Annex-7**.

ii. Flora Study/Monitoring:

A considerable change has been observed as compared with the last monitoring/ study. Both the areas, at Alda and at Patrind have been affected by the forest fire which was initiated by the locals. This type of fire is expected to continue in future as this is a normal routine for the locals.

Project site vegetation does not contain any species listed as endangered or threatened by the Government of Pakistan or IUCN. The present status of vegetation on Patrind side does not depend upon the water of river Kunhar but it depends on natural precipitation or water channels. So reduction in water regime downstream will not affect the vegetation of the area. The average biomass for forage that will be submerged under water after the construction of weir was calculated as 3,468 Kg/ha. The total biomass to be inundated is estimated to about 200 tons. The result indicate that landscape, the nature of the rock and the redistribution of rainfall water by run-off are the main sources of spatial variation in the study area. Detailed report is attached as **Annex-8**.

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Table: Compliance with NEQ's

Environmental component	Standards (NEQS)	Compliance/Mitigation measure	Remarks
Air Quality	EPA ambient air quality (EPAs standards for each Parameter)	NEQS: Detecting seven hazardous gases in tunnel to ensure the Air Quality in Tunnel. i.e. CO (50 PPM to 100PPM),CO ₂ ,NO,NO ₂ ,O ₂ ,H ₂ s,LEL (Methane) To ensure dust suppression due to transportation activity, unpaved roads are being sprinkled with water at least twice a day. The EPC is taking all necessary measures to limit pollution from dust and any wind-blown materials during construction. Use of ventilator during work in HRT has been recommended essential. Respiratory protective masks have been issued to tunnel workers.	Gases test record is maintained on daily bases on both power house and weir site tunnels
Water quality	WHO Guidelines (EPAs standards for each Parameter)	Tests for drinking water quality have already been conducted during 3 rd quarter2012; however, to assess the impacts on rivers, quality monitoring shall be carried out through any recognized company. Also qualitative and quantitative analysis of water sources around HRT shall be undertaken during next quarter. Waste water from tunnel is treated as sedimentation tanks have been constructed on each site.	Water quality monitoring is undertaken on biannual basis. During March 2014 water quality test were undertaken for both sites.

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Noise levels /Vibration	EPA ambient noise standards and worldwide vibration standards.	<p>Noise:</p> <p>Noise prone activities are avoided during night time. No open blasting occurs during quiet hours. Intensity of noise and has been monitored to compare it with established standards.</p> <p>Provision of necessary safety and personal protective equipment such as ear plugs etc. are ensured during high noise activities like tunnel blasting.</p> <p>Excavators and all heavy machines are lubricated in a routine matter to minimize the noise and to increase the life of equipment</p> <p>Vibration:</p> <p>EPC is more concerned regarding factors of human comfort and structural damage and always try to comply with allowable vibration standards. Blasting checklist is used by HSE staff.</p>	Noise level and vibration record is maintained on daily bases after each blast
Soil quality	EPA quality standard (Different standards for each Parameter)	<p>Tests to be conducted through private lab/company.</p> <p>No environmental incident except small soil contamination has been observed.</p>	No tests have yet been undertaken however through visual observations mitigation was done by removing the contaminated soil cover
Flora	Visual observations by relevant Forest professional during EIA study.	Study /monitoring during previous quarter undertaken	Study undertaken in June 2014 (Annex-8)
Fish Fauna	Observation by relevant wildlife & Fisheries professional during EIA study.	Study /monitoring for last quarter undertaken	Study undertaken in June 2014 (Annex-7)

b. Occupational health and safety

Health and safety of workers has been a prime consideration of Project. In accordance with the safety standards, all the workers working at site have been provided with the Personal Protective Equipment comprising of hard hats, safety shoes, and jacket and dust masks depending upon the job specification to prevent injuries. Hygienic inspections have been made by medical staff. As per usual morning physical exercise has also been undertaken regularly at both sites. All sub-Contractors have issued necessary PPEs to employees. Also, daily site inspections are undertaken to ensure the implementation. Community Safety Health and Security

1. During quarter more warning sign boards have been placed on both sites
2. Medical facilities available at project sites may also be used for nearby community in case of emergencies. Community people have been informed through community coordinators.
3. A strong liaison is established with concerned Government Departments (Police, Interior and administration) for site security arrangements
4. Necessary road safety & community awareness sign boards were installed to mitigate possible hazards
5. Partial compliance has been observed regarding blasting activities. Specially during month of April frequent incidents of misfired explosives were recorded due to the use of non-electric detonation
6. Detecting seven hazardous gases in tunnel to ensure the Air Quality in Tunnel. i.e. (CO, CO₂, NO, NO₂, O₂, H₂S, LEL)
7. Use of ventilator during work in HRT has been recommended essential. Respiratory protective masks have been issued to tunnel workers
8. As per CRE's strict instructions with regard to water sprinkling on project site and project access road at lower site, water sprinkling activity has regularly been undertaken at power house site but at weir site infrequencies were observed
9. The EPCC is taking all necessary measures to limit pollution from dust and any wind-blown materials during construction

c. CO₂ emissions by the Project

Following Project activities are likely to produce CO₂ emissions, which were given due consideration and following mitigating measures were adopted to minimize the CO₂ emissions.

Table: Sources of CO₂

Sources of CO ₂	Mitigating/ Preventive Actions
Use of excavation machinery	Regular tuning/servicing of the machinery is made compulsory and regular inspection is done to ensure that. Smoke producing vehicles are banned from working right away until they are repaired
Tree removal/Land use change	Removal of trees on construction sites will increase the concentration of CO ₂ the Project Site atmosphere as trees acted as CO ₂ sink. Therefore, as corrective approach, Tree Plantation shall be carried out as retrofitting measure as stipulated in the EMP when it will be practically possible
Solid Waste Disposal	Improper waste management could result accumulation of CO ₂ and CH ₄ in the atmosphere. For temporary storage of waste proper waste collection and storage areas have been designated. During last month of the reporting quarter waste management mechanism was improved
Use of Construction machinery	Regular inspections of machinery are practiced by HSE staff to check machinery conditions. Warning letters have been issued by OE and EPCC to the smoke producing and vehicles
Usage of liquid fuel	Liquid fuel used at different project activities amounts the maximum CO ₂ emissions by the Project
Emissions from electricity use	Electrical appliances release some trace amount of gases in order to mitigate that, it is in company's policy to switch off all the electrical appliances when not in use

d. Environmental and Social Management Plan, including IFC E&HS Action Plan

To manage the environmental and social issue appropriately, following detailed plans developed by EPCC have been in implementation to fulfill the environmental and social compliance requirements of the Project:

- a. Plan for Disposal of Excavated Material
- b. Plan for Waste Management
- c. Plan for Traffic Management
- d. Social uplift plan

a- Plan for Disposal of Excavated Material

Excavated material is being disposed off in excavated waste disposal area approved as per EIA. Furthermore no proper embankment has yet been developed to mitigate risk of soil erosion at upper site whereas at lower site partial embankment and gabion wall has been

developed on lower site. At lower site disposal area has embankment and partially filled where batching plant, stock yard are developed and M&E workshop is in progress.

b- Plan for Waste Management

Municipal Corporation Muzaffarabad is responsible for waste collection and disposal as per MoU signed between EPCC and MCM. During blockage of access road in April for consecutive 15 days waste generated from project was not collected by MCM and therefore was stored on site till collection by MCM. OE issued an NCR on the subject matter which is still open as the closure will be made after frequent collection from sites. Waste collection and disposal has again being undertaken smoothly.

Waste at the sites consists primarily of hydrocarbons, Cement and Concrete Waste including cement contaminated soils, Vegetation debris with little or no commercial value, Scrap metal, Wood Waste, Pallets and Packaging Materials are small scrap wood, plywood, wood shavings, cartons, planks, thick cardboard, damaged cable drums, wooden crates, polyurethane, Broken glass or glass fiber, Plastic waste, Grit Blasting Waste, Domestic waste including sewage waste and kitchen waste, minor medical waste and pallets. The solid waste produced has randomly quantified.

c- Plan for Traffic Management

Speed limit is controlled; safety precautions have been placed to protect workers and the general public. Vehicles are equipped with directional control signage and are being inspected prior to use. Workers have been made aware of mobile equipment operating in the area. Hazard lights have been installed on heavy vehicles and mobile equipment as indicated by OE. Furthermore, for heavy vehicle a diversion has been used near camp office lower site to mitigate risks and noise near schools, residential area and camp office as per initial traffic management plan.

d- Social uplift plan

Revised social uplift plan (SUP) was submitted by EPCC to SHPL in March 2013. Besides SUP various activities have also been undertaken to facilitate locals such as subletting works, supply of construction material. Status of SUP has been given in (**Annex-9**)

i. Resettlement Plan Implementation

i. Scope of Land Acquisition and Resettlement Impacts

The land identified by the EPC Contractor on the basis of basic design of the Project measuring 872.65 Kanal (683.95 Kanal on AJK and 188.7 Kanal on KP side) was acquired by the Company through Land Acquisition Act (LAA), 1894 applicable in both AJ&K and KPK.

During the construction on the weir site, it was noticed that the land area of 3.7 Kanal “Additional Land” is further required on AJ&K side which is to be submerged due to the headpond of the Project. Due to this addition the total land for the Project becomes 876.35 Kanal.

SUMMARY OF THE LAND TO BE ACQUIRED ON AJK AND KPK

PERMANENT LAND							
Sr.	Project Component	Affected Land (Kanal)					
		State owned Land/ Riverbed	Farmland	Wasteland	House land	Additional Land	Total
1	Reservoir Impounding	87.3	282.05	231.9	9.1	3.7	614.05
2	Weir Structures	0	1.5	48.7	-	-	50.2
3	Powerhouse	13.6	30.1	32.85	5.25	-	81.8
4	Surge Tank	-	-	47.75	-	-	47.75
Total Permanent Land Acquisition (Kanal)		100.9	313.65	361.2	14.35	3.7	793.8
TEMPORARY LAND							
1	Colony of Expatriate construction staff, Switchyard, labour camp, access road, bridge, batching plant at Powerhouse Site	54.75	-	27.8	-	-	82.55
Total Temporary Land Acquisition (Kanal)		54.75	0	27.8	0	0	82.55
Total Land Acquisition (Kanal)		155.65	313.65	389	14.35	3.70	876.35

ii. Status of Land Acquisition, Progress on Compensation Payments and Assistance Delivery

Payment for land acquisition on both sides of the project is in process. The Company has deposited the assessed cost (100%) into Government treasuries for subsequent payment to APs. However there is delay in the payment of compensation due to (i) unavailability of entitled land owners who are working or based in other cities or (ii) an existing shareholding dispute among the families. Status of the land acquisition is shown in the table below;

Summary of Land Acquisition Progress and compensation payments

Village	Area	Award Amount	Disbursed	%age	No. of Persons	Persons received payment
1. AJ&K						
A. Land/Property						
Powerhouse (Alda Village AJ&K)	81.8	92,479,824	67,712,531	73.22%	196	330*
Headpond (Shoran Village AJ&K)	130.75	75,181,250	73,053,741	97.17%	611 ¹	199
Weir + Headpond (Patrind Village AJ&K)	341.1	204,037,798	163,691,288	80.23%		343
Forest land for Surge Tank (Alda village)	47.75					
B. Trees						
Alda		1,890,635	1,879,864	99.43%		20
Shoran		757,391	654,331	86.39%		55
Patrind		837,882	756,892	90.33%		34
Sub-Total	601.4	375,184,780	307,748,647	82.03%	807	981
2. KPK						
Land/Property/Trees						
Weir + Headpond (Sarati Village KPK)	188.7	128,557,081	114,613,320	89.15%	196	Detail Yet to receive
Sub-Total	188.7	128,557,081	114,613,320	89.15%	196	

*The number of persons who received the payment is higher than the number of affected persons is due to the repetition of the owners names in the payment vouchers.²

Note: The number of persons received the payment has not been updated as no payment has been made during the reporting period.

For clarity, payment for trees has been separated from the land cost of AJ&K villages which shows decrease in %age from second quarter.

¹ Out of 78 unpaid landowners, about 20 persons have not been paid due to family disputes while the rest of payments are being paid upon appearance before the revenue dept.

² 100% payment can only be completed upon the settlement of family disputes between the owners and the appearance of remaining owners before the revenue dept. no payment has been withheld due to court cases.

j. Resettlement and Reconstruction

Updates on housing relocation and reconstruction

Out of the 28 households, whose houses were displaced/ resettled due to the Project land acquisition, 24 have constructed new houses in adjacent villages and others have acquired land in urban areas to construct houses. Newly constructed houses are far better than the acquired properties. Living standards have been improved due to better compensation received and economic activities in the Project vicinity. PAPs who lost their houses had utilized compensation amount in reconstruction of houses. Others have made investment in alternative lands in urban areas for better facilities. Mr. Sajjad, Mr. Qayyum and Mr. Aurangzeb from Sarati village had not vacated properties till reporting period.

Furthermore, locals from adjacent villages have established small businesses like shops and canteens. As the company is now paying in cash for food so small cafeterias/canteens (04) have been established with in the project vicinity on both sites.

Table: Updates on housing relocation and reconstruction

Sr.	Name	Location	Status
1.	Mr. Sarfaraz Abbasi	Alra Power House Site	Construction completed
2.	Mr. Tanveer	Alra Power House Site	Construction completed
3.	Mr. Aslam	Alra Power House Site	Construction completed
4.	Mr. Asif	Alra Power House Site	Construction completed
5.	Mr. zahid	Alra Power House Site	Construction completed
6.	Mr. Amjad	Alra Power House Site	Construction completed
7.	Mr. Munir	Alra Power House Site	Construction completed
8.	Mr. Safeer	Alra Power House Site	Construction completed
9.	Mr. Sadaqat	Alra Power House Site	Construction completed
10.	Mr. Saleem	Sarati Weir Site	House Construction + plot in Abbottabad
11.	Mr. Khalid	Sarati Weir Site	House Construction + plot in Abbottabad
12.	Mr. Qayoom	Sarati Weir Site	House Construction + plot in Abbottabad
13.	Mr. Sajjad	Sarati Weir Site	House Constructed
14.	Mr. Arif	Sarati Weir Site	House Constructed
15.	<i>Nazir Sarati</i>	Sarati Weir Site	House Constructed
16.	<i>Abdul Rehman</i>	Sarati Weir Site	House Constructed
17.	<i>Billal Ahmed Tarcheela</i>	Patrind / Tarcheela Weir Site	House Constructed
18.	<i>Ghulam Mustaffa house + cloth market in Ghari Habibullah</i>	Patrind / Tarcheela Weir Site	House Constructed
19.	<i>Fayyaz Qureshi</i>	Patrind / Tarcheela Weir Site	House Constructed
20.	<i>M. Wajid</i>	Patrind / Tarcheela Weir Site	House Constructed
21.	<i>M. Sadheer</i>	Patrind / Tarcheela Weir Site	House Constructed

22.	M. Shabir	Patrind / Tarcheela Weir Site	House Constructed
23.	M Saeed	Patrind / Tarcheela Weir Site	House Constructed
24.	Mr. Aurangzeb	Patrind / Tarcheela Weir Site	Constructed a house in Patrind and another in Thuri lower site

k. Resettlement Related Consultation and Disclosure Activities and Grievance Procedures

In order to ensure that grievances and complaints are addressed in a timely and satisfactory manner and that all possible avenues are available to project affected persons (PAPs) to resolve their grievances, a Grievance Redress Committee has been proposed with following composition:

- | | |
|--------------------------------------|------------------|
| 1. District Revenue Officer | Chairman |
| 2. Union Council Nazim | Principal Member |
| 3. SHPL Representative | Member |
| 4. Affected Community Representative | Member |

Establishment of a grievance committee requires the consent from District Administrations (AJK & KPK). The proposed GRC has not been established because SHPL cannot ensure that the District Revenue Officers could be available as and when required. Nevertheless, while the GRC has not yet been formalized, issues related with acquisition and compensation and community complaints are being addressed with the involvement of same authorities. In practice the same forum is functional but officially has not yet been notified. SHPL will continue to pursue the establishment of the GRC, meanwhile, in cooperation with the relevant authorities, ensure that grievances are recorded and addressed following the timeframe in the RP.

GRC would be a forum for raising objections and holding discussions to resolve conflicts. Moreover, consultation with the local community and concerned public representatives and officials of the relevant line departments is an ongoing process. Relevant information to the stakeholders has been provided in a timely manner and in a form and language that are understandable and accessible to them.

A grievance mechanism is available to allow an AP appealing any disagreeable decision, practice or activity arising from land or other asset's compensation to local administration and courts. The community/ APs complaints are being addressed very diligently and carefully at all levels, i.e. district and at Project level. Even though the GRC has yet not been established but complaints received are being addressed at all levels (Project & local administration level) depending on nature of complaints. Currently the issues related to land acquisition and compensation are being addressed with involvement of District Revenue Officer who was supposed to be part of proposed GRC while other matters related with employment or employees are being managed through community liaison officers/coordinators and Project management.

Annexures

Annex-1

UA/UC CARDS

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Sr.	Date & Location	Observer	Observation	Corrective Action
1.	04/04/2014 Power House Site	Mr. Sheraz Ahmed	It was observed while washing vehicles at batching plant; water used for the cleaning of vehicles is being pumped from sedimentation tank of batching plant while the source of sedimentation tank is the waste water of batching plant which includes fiber, early strength chemicals and other chemicals	Old washing area was closed and all drivers have been informed to wash their vehicles on new washing point
2.	25/04/2014 Weir Site	Mr. Azmat Hussain Shah	Car can catch fire for many reasons and the most common cause is mechanical and electrical issues. The car can also catch fire as a result of bad crash, if you see smoke or flames or smell of burning rubber or plastic then respond immediately. Pull over as quickly as it is safe to do so, be sure to use your signal as you make your way to a safe location of the road such as break down	The information has been disseminated to the staff through tool box talks and informal meetings and through HSE training to all the heavy and light vehicle driving staff
3.	25/04/2014 Weir Site	Mr. Azmat Hussain Shah	In case, if your car catches the fire, once you have stopped, turn off the engine, get everyone out of the car, never return to the burning car for anything, move everyone at least 100 feet from the burning car and well away from the traffic. Call emergency number of fire brigade office and quickly inform for help	-Do-
4.	19/05/2014 Power House Site	Mr. Adnan Babar	Company should arrange water sprinkling facility from camp office to at least assembly lodges as there is too much dust. It will create a soft corner in hearts of local community also	Regular water sprinkling activity is now being regularized to control the dust on said area
5.	19/05/2014 Power House Site	Mr. Adnan Babar	PVC Sheet at powerhouse slopes has worn out. Monsoon season is approaching; such a condition can cause land sliding	For sliding danger, safety wall has now been installed at the second corner of the access road

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6.	26/05/2014 Power House Site	Mr. Adnan Babar	"Smoking should not be publicized in a manner which facilitates smoking", It is an international requirement that a point where something is related to smoking, a warning should also be clearly written, (All of our smoking points do not contain warning that 'smoking is injurious to health' it appears that these points invites people)	Smoking areas have been allocated, however during toolbox talks and trainings employees are warned of effects of smoking on health
7.	26/05/2014 Power House Site	Mr. Adnan Babar	The speed breaker provided at the entrance and project access road is not color coded or made visible through any high vision material. It can result in accident, a person sitting in fast moving car would get severe head injury by collision with dash board, it can result in accident, motorcyclists could face a risk too	Speed limit sign boards have already been installed at the location. Within the limit vehicles can easily avoid the speed breakers. As the road is not matted therefore, color coding is not possible on unpaved road
8.	26/05/2014 Power House Site	Mr. Adnan Babar	At some locations of powerhouse site access road, the edges must be highlighted by installing warning cordons / tap etc. Especially at night when two dumpers or concrete trucks face in opposite direction, the head light would create difficulty leading to fall in the ditch with serious injuries. The marked location must be highlighted so that edge of the pavement should be visible to driver	Site safety staff has already undertaken the said activity
9.	26/05/2014 Power House Site	Mr. Adnan Babar	Specially in HRT where heavy machineries are at work like drilling, jack hammer etc. all the labor staff is wearing loose clothing, All the subcontractors (Kyungdong , Sungbo, ZK Associates & others) must be advised to avoid the use of local loose clothing	Coveralls have been provided to workers engaged in workshop and heavy equipment activities
10.	07/05/2014 Weir Site	Mr. Saleem	I observed that the ladder at coffer dam has no side fence; it can cause any person to fall while going up or down stairs	That ladder was removed

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11.	18/05/2014 Weir Site	Mr. Mehtab Ahmed	At main road electric cables were found in high risky position, there is a hazard of electric shock, please remove the cable or hang them up	Informed to admin department to solve the issue as soon as possible
12.	18/05/2014 Weir Site	Mr. Mehtab Ahmed	At coffer dam, scaffold ladder is being used by local a person that's without any fence which can lead towards the fall hazard	This ladder has already been removed from that area
13.	19/05/2014 Weir Site	Mr. Abdul Qadeer	The guard rail provided by the access way from Kyungdong office to tunnel is very unstable, if anybody touches it, it starts to shake and may fell down sometime	The fence has already been repaired from this area
14.	19/05/2014 Weir Site	Mr. Abdul Qadeer	The access road to the explosive storage area is very dangerous and it may slide down at any time as it is very unstable	The road is closed and the area is barricaded as there is no work
15.	21/05/2014 Weir Site	Mr. Abdul Qadeer	On main road near Sarati village, the electric cables are lying on the ground that can cause a big electric shock incident for the heavy vehicles passing from that road	The issue was discussed in weekly HSE Meeting and informed to Mr. Shafqat (Admin Department) for corrective action
16.	21/05/2014 Weir Site	Mr. Mehtab Ahmed	At weir, deep excavation of river is very dangerous; it needs to install the hard barricading around the weir area near water	Hard barricading and sign board have already been installed at the mentioned area. Moreover, awareness has also been given to all the workers working near that area
17.	10th June Weir Site	Mr. Saqlain	It is requested to HSE department to please pay heed that there is no emergency light in tunnel that can start automatically in case of load shedding, because in case of no electricity it is difficult to walk or do any other work in dark	Emergency lights have already been provided inside tunnel
18.	11th June	Mr. Qadeer	During shifting the machinery, one signal man must stand at	Signal man deputed at the stated location for

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	Weir Site	Ahmed	the road for the machinery	the incident free completion of the activity
19.	15th June Weir Site	Mr. Qadeer Ahmed	warning light should be installed at the explosive storage area, special educational session should be arranged for the security guards deputed outside the explosive store to resist and deal with any fire	Firefighting drill and education session have been arranged at weir site during the month
20.	18th June Weir Site	Mr. Qadeer Ahmed	There should be a safety wall from Batching plant to Sungbo office	Batching plant will be shifted at new batching plant site (Hundi)
21.	20th June Weir Site	Mr. Kamran Khan	Fire was observed near sand trap area, (outside project area)	Fire was outside project boundary but HSE team extinguished the fire
22.	21st June Weir Site	Mr. Qadeer Ahmed	First Aid box and fire cylinders should be provided inside each vehicle, and the drivers should also be provided with the trainings for using fire extinguishers as well	Training for all staff and workers have been arranged, fire extinguishers' will be provided to vehicles engaged in HRT
23.	23rd June Weir Site	Mr. Kamran Khan	Inside tunnel, there is some mismanagement of electric cables, and there exists the hazard of electric shock for shotcrete machine helpers who are unaware of this	Awareness session has been conducted for the stated issue
24.	24th June Weir Site	Mr. Kamran Khan	On sand trap area near the Kyung dong office shelter, electric cables were lying on the road, all the heavy equipment as well as the local community uses this road, there is a need to overcome the risk of electric shock from the stated location	Informed to Kyung dong to reinstall the cable underground
25.	25th June Weir Site	Mr. Asad Mushtaq	There should be emergency light system in tunnel in case of generator failure	Emergency lights have already been provided inside tunnel

Annex-2

INSPECTIONS

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	Inspection	Location	Inspector	Date	Main Issue
1.	Inspection of new batching plant	Weir Site	M. Saboor	01/04/2014	Lights
2.	Permit to work inspection	Weir Site	M. Javed	02/04/2014	Monitoring of compliance with permit to work system.
3.	Color Coding	Powerhouse Site	Yasir Ghauri	03/04/2014	ZK Associates & Kyungdong Powerhouse
4.	Color Coding	Powerhouse Site	Yasir Ghauri	03/04/2014	Batching plant (Daewoo E&C)
5.	Color Coding	Powerhouse Site	Yasir Ghauri	03/04/2014	Workshop (Kyungdong)
6.	Color Coding	Powerhouse Site	Yasir Ghauri	03/04/2014	Workshop (Daewoo E&C)
7.	Heavy Equipment Inspection	Weir Site	Waqas shah	03/04/2014	Crane inspection (Not satisfactory)
8.	Fire Extinguishers Inspection	Powerhouse Site	S. Tariq Hussain	03/04/2014	
9.	Ladder inspection	Weir Site	M. Javed	04/04/2014	
10.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Mixer Truck MT-430 Model-2008
11.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Mixer Truck MT-405 Model-2008
12.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Pump Car PC-068 Model-2008
13.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Cargo Truck CT-401 Model 2008
14.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Pick Away Truck PT-185 Model -2008
15.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Pick Away Truck PT-184 Model -2008
16.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Dump Truck DT-2267 Model -2008
17.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Excavator Ex-0551 Model -2008
18.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Pick Away Truck PT-192 Model-2008
19.	Heavy Equipment	Powerhouse Site	Yasir Ghauri	04/04/2014	Wheel Loader WL-623 Model -

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	Inspection	Location	Inspector	Date	Main Issue
	Inspection				2008
20.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Excavator Ex-601 Model-2005
21.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Diesel Tank GLT -1409
22.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Dump TruckTKG-404
23.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Dump Truck TAA- 362
24.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	ZPT-1346
25.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Dump Truck APF-2008
26.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Crawler Drill CD-095
27.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Folk Lifter FK-0245
28.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Crawler Drill CD-95 Model-2008
29.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Mixer MT-431 Model- 2008
30.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Excavator EX-140
31.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Wheel Loader WL-042
32.	Heavy Equipment Inspection	Powerhouse Site	Yasir Ghauri	04/04/2014	Excavator EX-140
33.	Color Coding	Powerhouse Site	Yasir Ghauri	05/04/2014	Kyungdong Site Office near HRT
34.	Fire extinguishers inspection	Weir Site	Waqas shah	07/04/2014	satisfactory
35.	Fire extinguishers inspection	Weir Site	Waqas shah	08/04/2014	satisfactory
36.	Fire extinguishers inspection	Weir Site	M. Javed	09/04/2014	satisfactory

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	Inspection	Location	Inspector	Date	Main Issue
37.	Permit to work inspection	Weir Site	M. Javed	10/04/2014	Monitoring of compliance with permit to work system.
38.	HRT inspection	Weir Site	Saleem	10/04/2014	Inspection of lighting system inside HRT, some bulbs found non functional
39.	Mess & camp inspection	Weir Site	M. Javed	10/04/2014	Main focus was on drinking water
40.	Batching Plant inspection	Weir Site	M. Javed	10/04/2014	Housekeeping required
41.	Color coding	Weir Site	Waqas shah	11/04/2014	
42.	Color coding	Weir Site	Waqas shah	11/04/2014	
43.	Heavy Equipment Inspection	Weir Site	Waqas shah	12/04/2014	
44.	Heavy Equipment Inspection	Weir Site	Waqas shah	13/04/2014	
45.	Batching Plant inspection	Weir Site	M. Javed	14/04/2014	Oil spillage observed at the area
46.	Heavy Equipment Inspection	Weir Site	Saleem	15/04/2014	Crane & Lifting activity inspection, tag & riggers missing
47.	HRT Inspection	Weir Site	Saleem	16/04/2014	Inspection of Excavation work, loose material observed.
48.	Telecom system	Weir Site	M. Javed	17/04/2014	Not functional
49.	Road inspection	Weir Site	M. Javed	18/04/2014	Repairing required
50.	Coffer dam gate inspection	Weir Site	M. Javed	19/04/2014	
51.	Permit to work inspection	Weir Site	M. Javed	20/04/2014	
52.	Heavy equipment inspection	Weir Site	Saleem	22/04/2014	Wrong parking observed at many places, on site corrective action taken
53.	Inspection of new batching plant	Weir Site	Saboor khan	23/04/2014	

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	Inspection	Location	Inspector	Date	Main Issue
54.	Telecom system	Weir Site	M. Javed	24/04/2014	Telecommunication system has still been found nonfunctional inside the tunnel, information forwarded to the concerned department and higher authorities for further necessary action.
55.	Hygiene inspection of kitchen area and food	Powerhouse Site	Doctor Bilal Ahmed	24/04/2014	Non compliances communicated to Kyungdong office
56.	Color coding	Weir Site	Waqas shah	25/04/2014	Repairing required
57.	Inspection of old batching plant	Weir Site	M. Javed	25/04/2014	Oil spillage observed at the location and on spot corrective action ensured.
58.	Color coding	Weir Site	Waqas shah	26/04/2014	
59.	HRT inspection	Weir Site	Saboor khan	26/04/2014	Main issue was blasting inside tunnel.
60.	Color coding	Weir Site	Waqas shah	27/04/2014	
61.	HRT inspection	Weir Site	M. Javed	27/04/2014	Main issue was blasting inside tunnel.
62.	Inspection of new batching plant	Weir Site	Saboor khan	28/04/2014	Barricading required.
63.	Telecommunication system	Weir Site	M. Javed	2/05/2014	Telecommunication system has still been found nonfunctional inside the tunnel at weir site
64.	Blasting procedure	Weir Site	M. Saleem	3/05/2014	Inspection of compliance with blasting procedures during blasting activity at weir site
65.	Permit to Work	Weir Site	M. Javed	4/05/2014	Satisfactory
66.	Fire Extinguishers Inspection	Powerhouse Site	S. Tariq Hussain	4/5/2014	One fire extinguisher replaced
67.	New Batching Plant	Weir Site	M. Javed	5/05/2014	Barricading required
68.	Blasting procedure	Weir Site	M. Javed	6/05/2014	Explosive handling

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	Inspection	Location	Inspector	Date	Main Issue
69.	Fire extinguisher	Weir Site	Waqas	7/05/2014	Satisfactory
70.	Permit to Work	Weir Site	M. Javed	8/05/2014	Satisfactory
71.	New Batching Plant	Weir Site	M. Javed	9/05/2014	Housekeeping required
72.	Blasting procedure	Weir Site	M. Javed	9/05/2014	Satisfactory
73.	Fire extinguisher	Weir Site	M. Javed	13/05/2014	Inspection of Fire Extinguishers at weir site
74.	Blasting procedure	Weir Site	M. Javed	14/05/2014	Monitoring of compliance with blasting procedures on weir site at 08:00 - 09:00
75.	Permit to Work	Weir Site	M. Javed	15/05/2014	Monitoring of compliance with Permit to work system on weir site at 09:00 - 11:00
76.	Environmental Monitoring	Weir Site	M. Javed	16/05/2014	Environmental Monitoring, Drinking water and labor conditions, Compliance with PPE policies and Proper disposal of waste, Implementation of HSE rules and regulations on weir site at 09:00 - 16:00
77.	New Batching Plant	Weir Site	Raja Faisal	17/05/2014	Inspection of new batching plant at weir site, House Keeping required
78.	Permit to work	Weir Site	M. Javed	18/05/2014	Permit to work inspection on weir site at 11:00 - 12:00, it was noticed that precautions are not properly complied with. Construction staff reinstructed to comply with HSE Rules and regulations
79.	HRT Inspection	Weir Site	M. Saleem	19/05/2014	Inspection of HRT carried out by HSE Staff on weir site at 10:00 - 11:00, it was noticed that electrical cables are not installed in proper way.
80.	Telecommunication system	Weir Site	M. Javed	19/05/2014	Telecommunication system inside HRT on weir site at 09:00 - 10:00 was inspected found not in working condition.

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	Inspection	Location	Inspector	Date	Main Issue
81.	Heavy Equipment Inspection	Powerhouse Site	M. Saboor	23/5/2014	Crane Model;2001, No: LES 9199
82.	Electrical Equipment inspection	Weir Site	M. Javed	23/05/2014	Some loose & open connection found in s/trap area.
83.	Camp inspection	Weir Site	M. Javed	24/05/2014	Inspection of camp office on weir site at 10:00 - 11:00, washroom were not found in good and clean condition
84.	Environmental Inspection	Weir Site	M. Javed	25/05/2014	Environmental inspection carried out on weir site by HSE staff at 11:00 - 12:00, oil spill was observed at many places, dust was also noticed at some points on site so recommended water browsing, recommendations followed afterwards.
85.	Batching plant inspection	Weir Site	M. Javed	26/05/2014	Oil & chemical spillage observed near the stock yard.
86.	Permit to work	Weir Site	M. Javed	27/05/2014	Permit to works were not being placed on proper places at site
87.	Waste segregation	Weir Site	M. Javed	29/05/2014	Issues regarding medical waste.
88.	Noise & vibration	Weir Site	Raja Faisal	30/05/2014	Noise and vibration test on weir site at 10:00 - 11:00
89.	Security / Fence	Weir Site	M. Javed	31/05/2014	Motor cycles are not allowed at site area, instructions given.
90.	Site illumination inspection	Weir Site	Mr. Faisal	04/06/2014	Further Lights required at batching plant
91.	Hygiene inspection of kitchen area and food	Powerhouse Site	Mr. Asif Akhtar Qureshi	05/06/2014	Flies & other insects observed at kitchen area. Moreover, refrigerator is also not found in working condition. Recommendations given for both issues.
92.	Camp Inspection	Weir Site	Mr. Javed	05/06/2014	wash rooms found very dirty
93.	Noise & vibration	Weir Site	Mr. Javed	06/06/2014	under the limit (Satisfactory)
94.	Batching Plant Inspection	Weir Site	Mr. Javed	07/06/2014	Storage area /shelter required for chemical storage.

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	Inspection	Location	Inspector	Date	Main Issue
95.	Fire Extinguishers Inspection	Powerhouse Site	Mr. Tariq Hussain	08/06/2014	Fire Extinguishers inspection at powerhouse site
96.	Segregation of waste	Weir Site	Mr. Javed	09/06/2014	Need to segregate all type of waste
97.	Permit to work	Weir Site	Mr. Javed	10/06/2014	Satisfactory
98.	Camp Office and mess hall inspection	Weir Site	Mr. Javed	12/06/2014	Washrooms found dirty
99.	Heavy Equipment inspection	Weir Site	Mr. Javed	13 th June	Satisfactory
100.	Batching plant inspection	Weir Site	Mr. Javed	13/06/2014	Satisfactory
101.	B/plant inspection	Weir Site	Mr. Javed	17/06/2014	oil spillage observed, waste arrangement needed
102.	Camp Office / Mess Hall Inspection	Weir Site	Mr. Javed	19/06/2014	cleaning & waste collection required
103.	Waste Management	Weir Site	Mr. Javed	21/06/2014	more trenches required for waste disposal
104.	inspection of fire extinguisher	Weir Site	Mr. Javed	22/06/2014	needs to refill the cylinders
105.	Air quality in HRT	Weir Site	Mr. Waqas	22/06/2014	ventilator was damage from many places
106.	Telecommunication system	Weir Site	Mr. Javed	24/06/2014	intercom and radio are in working condition
107.	batching plant inspection	Weir Site	Mr. Javed	26/06/2014	storage area required for chemical
108.	Waste segregation	Weir Site	Mr. Javed	27/06/2014	Recommendation given for arranging of new trench for waste
109.	Permit to work	Weir Site	Mr. Javed	29/06/2014	Construction Dept. not following the timing

Annex-3

WEEKLY MEETINGS

Environmental & Social Monitoring Report (April-June 2014)

Sr. No	Date	Meeting	Agenda
1.	2/4/2014 Weir Site	Weekly HSE Meeting with Construction Team	HSE site issues
2.	07/04/2014 Power House Site	HSE progress Meeting	Progress of HSE and all other departments
3.	8/04/2014 Power House Site	Meeting with Subcontractors & Construction Team	1- Fence installation around new ventilator in HRT 2- M&E workshop fence plan 3- Lack of safety sign on electric panel in HRT 4- Damaged pressure gauge and flash board 5- Damaged earth wire of portable welding plant 6- Flash back was not installed on welding machine 7- Hazard lights of heavy equipments not in working condition 8- Wheel loader front and back light not working 9- Improper housekeeping on sedimentation tank 10- Naveed brother's labor without PPEs
4.	9/4/2014 Weir Site	Weekly HSE Meeting with Construction Team Upper Site	1- HRT issues 2- Repairing of ventilator 3- Security of machinery
5.	14/04/2014 Power House Site	HSE Progress Meeting	Progress of HSE and all other departments
6.	15/04/2014 Power House Site	Meeting with Subcontractors & Construction Team	1- Ventilator is required to reduce gaseous accumulation in the HRT 2- Damaged electrical cable near Kyungdong workshop 3- No access way for security guards on HRT access road 4- Punctured HRT ventilator duct 5- Heavy equipment (working inside HRT) without outrigger pads 6- HRT light is not in working condition 7- No proper access to M&E workshop 8- No soakage pit provided in batching plant 9- No fire extinguisher provided by Daewoo E&C and subcontractor for heavy equipment
7.	17/4/2014 Weir Site	Weekly HSE Meeting with Construction Team	1- Telecom repairing 2- HRT issues 3- Air quality
8.	21/04/2014 Power House Site	HSE Progress Meeting	Progress of HSE and other departments

Environmental & Social Monitoring Report (April-June 2014)

Sr. No	Date	Meeting	Agenda
9.	22/04/2014 Power House Site	Meeting with Subcontractors & Construction Team	<ul style="list-style-type: none"> 1- Improper outrigger pads 2- Broken glass of TM 3- Housekeeping at Kyungdong workshop 4- Safety violation at powerhouse by ZK Associates 5- Toilet required at Kyungdong explosive storage area 6- Fire extinguisher replacement 7- Tunnel waste entering into river 8- Damaged dewatering pipe at powerhouse 9- Installation of portable toilets at powerhouse
10.	23/4/2014 Weir Site	Weekly HSE Meeting with construction team	<ul style="list-style-type: none"> 1- HRT issues 2- Blasting procedure 3- Repairing of ventilator and intercom
11.	28/04/2014 Power House Site	HSE Progress Meeting	Progress of HSE and other departments
12.	28/4/2014 Weir Site	Weekly HSE Meeting with construction team upper site	<ul style="list-style-type: none"> 1- HRT Misfired explosive handling and management issue 2- Drainage system 3- Ventilator and intercom repairing
13.	29/04/2014 Power House Site	Meeting with Subcontractors & Construction Team	<ul style="list-style-type: none"> 1- During lifting use riggers and tag line 2- Check all electric cables and make them isolated 3- Hard barricading is required around the main holes in front of children school 4- No proper working platform to work at height and gap between welder and iron bars should be minimum and full body harness should be used
14.	05/05/2014 Power House Site	HSE Progress Meeting	Progress of HSE and all other departments
15.	06/05/2014 Power House Site	Weekly HSE Meeting With Subcontractors & Construction Team	<ul style="list-style-type: none"> 1- CO level is detected more than 68 2- exhaust is not properly fit 3- Tunnel sludge should be cleaned and removed from site regularly 4- Fence is required around the electric panel 5- ZK workers observed at site without PPEs 6- Kyungdong workshop housekeeping 7- Dyke wall is required along the road
16.	10/05/2014 Power House Site	Weekly HSE Meeting With Subcontractors & Construction Team	<ul style="list-style-type: none"> 1- Drinking water and rest room facility in M&E workshop 2- Housekeeping required at Adit tunnel face and access road 3rd corner access 3- Overloading and unsafe handling of excavated material by Kyungdong workers 4- Kyungdong wheel loader producing smoke

Environmental & Social Monitoring Report (April-June 2014)

Sr. No	Date	Meeting	Agenda
17.	12/05/2014 Power House Site	HSE Progress Meeting	Progress of HSE and all other departments
18.	14/05/2014 Weir Site	Weekly HSE Meeting with Subcontractors and Construction Team	Site safety issue
19.	19/05/2014 Power House Site	HSE Progress Meeting	Progress of HSE and all other departments
20.	20/05/2014 Power House Site	Weekly HSE Meeting With Subcontractors & Construction Team	<ol style="list-style-type: none"> 1- Improper Waste Management on site 2- Overloading of excavated material on dump truck 3- Hazard Identification of sites 4- Poor Electrical System / Extension Cords 5- Unsafe Conditions / Actions on site
21.	21/05/2014 Weir Site	Weekly HSE Meeting with Subcontractors and construction team	HSE Site Issues
22.	22/05/2014 Power House Site	HSE Meeting with Kyungdong construction staff	<ol style="list-style-type: none"> 1. HSE rules and regulation 2. Compliance with permit to work system 3. Misfire issue discussed with Kyungdong construction team 4. Instructions to strictly follow the permit to work system at site
23.	25/05/2014 Weir Site	Meeting with Subcontractors	Discussed all issues regarding HSE site progress
24.	26/05/2014 Power House Site	HSE Progress Meeting	Progress of HSE and all other departments
25.	26/05/2014 Power House Site	HSE Meeting with Kyungdong	Discussed all issues regarding HSE and sludge cleaning in HRT
26.	27/05/2014 Power House Site	Weekly meeting with Subcontractors and Construction Team	<ol style="list-style-type: none"> 1- Air leakage from tunnel ventilator 2- Lack of safety gloves in HRT during handling with cement 3- HESPAK Excavator operator without safety induction 4- Kyungdong dumper workers bathing and washing near the river 5- Kyungdong workers changing oil on ground near M&E workshop

Environmental & Social Monitoring Report (April-June 2014)

Sr. No	Date	Meeting	Agenda
			<ul style="list-style-type: none"> 6- Provision of portable cabin for working staff at site 7- P-T crane damaged bed 8- Kyungdong Drilling machine causing dust pollution
27.	28/05/2014 Weir Site	Weekly HSE Meeting with Construction Team	Discussed all HSE issue at site
28.	03/06/2014 Powerhouse Site	Weekly HSE Meeting with Subcontractors and Construction Team Lower Site	<ul style="list-style-type: none"> 1. Bad air quality due to blockage of ventilator 2. HRT road maintenance 3. Dumping of concrete in front of HRT 4. Kyung dong Dumper still overloading 5. HESPAK workers without safety induction 6. Kyung dong dumper needs parking area 7. Scaffolding with top rail, mid rails and toe boards 8. Detonator box is without any identification 9. Improper fixing of GI sheets in M&E workshop 10. Poor health and hygiene condition in Kyung dong kitchen 11. Clean drinking water
29.	04/06/2014 Weir site	Weekly HSE Meeting with construction team upper site	HSE Site Issues
30.	10/06/2014 Powerhouse Site	Weekly HSE Meeting with Subcontractors and Construction Team	<ul style="list-style-type: none"> 1. Heavy equipments outrigger pads 2. Heavy equipment parking area and housekeeping is required 3. Fiber handling 4. Combustible material in smoking area 5. Facility of fans for security guards at check post 6. Maintenance of heavy equipments is not allowed at site 7. Dust control on site in hot weather 8. Hard barricading should be fixed 1.5 meter away from the generator in batching plant 9. Electric cables and panel need to be more isolated
31.	11/06/2014 Weir site	Weekly HSE Meeting with construction team upper site	HSE Site Issues
32.	17/06/2014 Powerhouse Site	Weekly HSE Meeting with Subcontractors and Construction Team Lower Site	<ul style="list-style-type: none"> 1. Housekeeping 2. Electric Panel and installation 3. Housekeeping and material arrangement 4. Dust at site 5. Concrete waste

Environmental & Social Monitoring Report (April-June 2014)

Sr. No	Date	Meeting	Agenda
			<ul style="list-style-type: none"> 6. Improper light for mapping 7. Cutting machine 8. Safety induction and work permit for lifting activity 9. Wooden ladder not allowed 10. HESPAK labor found at site without induction and PPEs 11. Damaged steel sheet needs to be removed from site 12. Access steps for drivers must be repaired.
33.	18/06/2014 Weir site	Weekly HSE Meeting with Construction Team upper site	HSE Site issues
34.	18/06/2014 Weir site	Meeting with Owner Engineers (PES)	HSE site issues for latest two weeks
35.	24/06/2014 Powerhouse Site	Weekly HSE Meeting with Subcontractors and Construction Team	<ul style="list-style-type: none"> 1. Conveyor belt is not secured yet by installing the gate 2. Diesel and Mobile oil stored at the site without any proper storage 3. chemical stored on site without any proper storage 4. HESPAK using the equipment without any inspection 5. Electrical cable is put on the access way and forklifts are passing above it 6. During fire emergency lack of cooperation was observed 7. Worker working above the roof of the office without any fall protection 8. Boom truck operating without lock pins 9. Electric cable was drowned in the water 10. Electric panel without hazard signs and inspection stickers 11. water sprinkling 12. Housekeeping and water arrangements.
36.	25/06/2014 Weir site	Weekly HSE Meeting with construction team upper site	Site HSE issues
37.	27/06/2014 Weir site	Meeting with Army officials	Conferred the security issues keeping in view the current position of country
38.	29/06/2014 Weir site	Meeting with Kyung dong Staff	<ul style="list-style-type: none"> 1. HRT issues 2. Road maintenance 3. Ventilation system 4. Air quality issues

Annex-4

HSE TRAININGS

Environmental & Social Monitoring Report (April-June 2014)

Sr.	Training	Date	Trainer	Location	Attendees	Focused staff
1.	Emergency response training	06/04/2014	M.Javed	Weir Site	06	Daewoo E&C + Kyungdong
2.	Flood awareness training	09/04/2014	Saboor	Weir Site	11	Daewoo E&C + Kyungdong
3.	Blasting Procedures & Tunnel Hazards	11/04/2014	S. Tariq Hussain	Power House Site	05	Korean Staff
4.	Blasting Procedures & Tunnel Hazards	11/04/2014	S. Tariq Hussain	Power House Site	05	Pakistani Staff
5.	Excavation Safety	17/04/2014	S. Tariq Hussain	Power House Site	23	(13 HESPAK + 10 Kyungdong)
6.	Educational session on health and hygiene.	17/04/2014	Dr. Bilal Ahmad	Power House Site	13	HESPAK
7.	Training session on confined space entry	19/04/2014	M. Javed	Weir Site	09	Daewoo E&C + Kyungdong
8.	Scaffolding Safety Training	22/04/2014	S. Tariq Hussain	Power House Site	06	Daewoo E&C and Kyungdong
9.	Earthday in Alda School	22/04/2014	S. Tariq Hussain	Power House Site	61	Alda School staff & students
10.	Lifting + manual handling training	24/04/2014	S. Tariq Hussain	Power House Site	10	Daewoo E&C
11.	Blasting procedure & handling.	24/04/2014	Saboor	Weir Site	15	Daewoo E&C + Kyungdong
12.	Tunnel blasting hazards	03/05/2014	S. Tariq Hussain	Power House Site	21	Daewoo & Kyungdong (Pakistani & Korean staff)
13.	Blasting procedure & handling.	03/05/2014	M. Javed	Weir Site	73	Kyungdong/Daewoo
14.	Lifting & Boring safety	06/05/2014	M. Javed	Weir Site	9	HI-TEC
15.	Falling hazard at weir area	08/05/2014	Raja Faisal	Weir Site	14	Kyungdong/Daewoo
16.	Fall Protection Training	08/05/2014	S. Tariq Hussain	Power House Site	33	Daewoo & Kyungdong (Pakistani & Korean staff)
17.	Crane Lifting & Hazardous communication	15/05/2014	S. Tariq Hussain	Power House Site	6	Daewoo E&C and Kyungdong
18.	Crane Lifting & Hazardous communication	16/05/2014	S. Tariq Hussain	Power House Site	23	Kyungdong Drivers, Operators & Helpers
19.	Heat Stress Safety Training	23/05/2014	S. Tariq Hussain	Power House Site	25	Daewoo E&C and Kyungdong
20.	Waste Management Training	23/05/2014	S. Tariq Hussain	Power House Site	4	Kyungdong



Environmental & Social Monitoring Report (April-June 2014)

Sr.	Training	Date	Trainer	Location	Attendees	Focused staff
21.	Work at height / Permit to work	25/05/2014	M. Javed	Weir Site	7	Daewoo E&C and Kyungdong
22.	Open Blasting in Powerhouse	04/06/2014	Mr. Tariq Hussain	Powerhouse	13	Kyungdong
23.	FERP training	07/06/2014	Mr. Javed	Weir Site	18	kyungdong, Daewoo and HITEC
24.	FERP training	08/06/2014	Mr. Javed	Weir Site	11	Daewoo / kyungdong /HITEC
25.	Work at height	09/06/2014	Mr. Yasir Ghauri	Powerhouse	10	Daewoo E&C
26.	Flood emergency response training	11/06/2014	Mr. Javed	Weir Site	15	Daewoo
27.	FERP training (night shift)	11/06/2014	Mr. Javed	Weir Site	31	Daewoo / kyungdong /HITEC
28.	Confined space & CO	19/06/2014	Mr. Tariq Hussain	Weir Site	21	Daewoo / kyungdong /HITEC
29.	Fire Extinguisher	20/06/2014	Mr. Tariq Hussain	Weir Site	6	OE & Daewoo.
30.	Defensive driving training	20/06/2014	Mr. Raja Faisal	Powerhouse	19	Daewoo E&C and Kyungdong
31.	Health & environment	25/06/2014	Mr. Dil Nawaz	Weir Site	17	Daewoo, kyungdong
32.	Heat Stress and Dehydration Training	25/06/2014	Dr. Bilal Ahmad	Powerhouse	25	Daewoo E&C and Kyungdong
33.	Confined Space Entry	26/06/2014	Mr. Raja Faisal	Powerhouse	15	Daewoo E&C and Kyungdong
34.	Use of fire extinguisher	26/06/2014	Mr. Javed	Weir Site	94	Daewoo, kyungdong

Annex-6

ENVIRONMENTAL INSPECTION CHECKLIST

Pakistan Patrind Hydro Power Project

DAEWOO E&C	WASTE MANAGEMENT AND WELFARE FACILITIES INSPECTION CHECKLIST (HSE Department)	 
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	Location	16/06	17/06	18/06	19/06	20/06	21/06	22/06	23/06	24/06	25/06	26/06	27/06	28/06	29/06	30/06
Drinking Water	M&E Workshop				G	G	G	G	G			G	P	G	G	G
	Explosive Storage				P	P	G	G	G			G	G	G	G	G
	Power House				F	F	F	G	G			G	G	G	G	G
	HRT				G	G	G	G	G			G	G	G	G	G
	Daewoo Workshop				G	G	G	G	G			G	G	G	G	G
	Batching Plant				P	P	P	P	P			P	P	P	P	P
	HSE Staff:															
	HSE Manager:															

	Location	16/06	17/06	18/06	19/06	20/06	21/06	22/06	23/06	24/06	25/06	26/06	27/06	28/06	29/06	30/06
Toilet	M&E Workshop				N/A											
	Explosive Storage				G	G	G	G	G			G	G	G	G	G
	PowerHouse ^{II}				F	F	F	F	F			P	P	P	P	P
	HRT				F	F	G	G	G			P	P	P	P	G
	Daewoo Workshop				G	G	G	G	G			F	F	F	F	F
	Batching Plant				F	F	F	F	G			F	F	P	P	P
	HSE Staff:															
	HSE Manager:															

	Location	16/06	17/06	18/06	19/06	20/06	21/06	22/06	23/06	24/06	25/06	26/06	27/06	28/06	29/06	30/06
House Keeping	M&E Workshop				G	G	G	G	G			G	G	G	G	G
	Explosive Storage				G	G	G	G	G			G	G	G	G	G
	Powerhouse				G	G	G	G	E			F	F	G	G	G
	HRT				G	G	G	G	G			G	G	G	G	G
	Daewoo Workshop				G	G	G	G	G			G	G	G	G	G
	Batching Plant				G	G	G	G	G			G	G	G	G	G
	HSE Staff:															
	HSE Manager:															

	Location	16/06	17/06	18/06	19/06	20/06	21/06	22/06	23/06	24/06	25/06	26/06	27/06	28/06	29/06	30/06
Waste Management	M&E Workshop				G	G	G	G				G	G	G	G	G
	Explosive Storage				G	G	G	G				G	G	G	G	G
	Powerhouse				P	P	P	P				P	P	P	P	G
	HRT				P	P	P	G				P	P	G	G	F
	Outside PES Office				G	G	P	G				F	P	P	P	P
	Outside Daewoo Workshop				F	F	F	F	F			G	G	G	G	G
	Batching Plant				G	G	G	G				G	G	G	G	G
	HSE Staff:															
	HSE Manager:															

Note: E = Excellent Status. G = Good Status. F = Fair Status. P = Poor Status.

Annex-5

EMP COMPLIANCE STATUS

Environmental & Social Monitoring Report (April-June 2014)

Feature/Issue	Parameters/monitoring	Location	Actions taken and monitoring results	Detailed reports
Statutory Requirements	i. Compliance with approval conditions	Whole Project	Implementation in compliance with: EPA's NOC & ADB's Environmental and Social Safeguards, IFC's Performance Standards,	N/A
Landslides	i. Slope Stability ii. Crack on the slope iii. Water from the slope	Surge shaft slopes Slopes above Sand trap on left bank of River Kunhar	Monitoring is required once the year. The study will be carried out in 2014. However, measures like rock bolt Shotcrete have been undertaken.	After Monsoon season monitoring /study of landslides will be carried out as stipulated in EMP
Vegetation Clearance	i. Progressive vegetation clearance within marked sites	Slopes above Power house area	Monitoring undertaken during June 2014. Considerable impacts due to community lit fire incidents on both sites. Limited clearance also undertaken at power house catchment within marked area. No additional clearance occurred.	Summary at page 35 and report is annexed as Annex-8 .
Erosion and Sediment	i. Slope protection ii. Slope drainage system iii. Sedimentation ponds	Surge shaft slopes, access road and sand trap slopes	To mitigate erosion and risk of sliding Shotcrete activity on slopes has been carried out on both sides. Surge shaft slopes and sliding areas were covered with polythene membrane sheets, on surge shaft access area.	None
Muck Disposal	i. Reuse of spoil/muck within Project areas where possible ii. Correct disposal of surplus spoil/muck in designated areas	Power house access road Disposal areas upper & Lower site	i. Excavated material from HRT is being used in civil works such as backfilling and road improvement (Upper & Lower site) ii. Dumping on approved sites.	Page # 43 "Excavated material waste management plan"
Water Quality	i. Waste water treated prior to river discharge ii. Temperature, dissolved oxygen, pH, conductivity, turbidity, total phosphorous, inorganic phosphorous, total nitrogen, ammonia nitrogen, nitrogen oxides, biochemical oxygen demand and faecal coli forms	In front of HRT on both sites	Treatment being undertaken through sedimentation tanks. Quality monitoring was undertaken in 1 st quarter 2014 and reports are received during 2 nd quarter. i. Septic tanks constructed with accommodation, camp and site office facilities(Upper & Lower site) ii. Drinking water quality tests of adjacent sources undertaken during past quarter.	Page # 23, 38

Environmental & Social Monitoring Report (April-June 2014)

Feature/Issue	Parameters/monitoring	Location	Actions taken and monitoring results	Detailed reports
Waste Management	i. Waste materials reused or recycled on-site where possible ii. Non-recyclable wastes disposed of appropriately	Construction and camp sites	i. Papers, mineral water bottles and cement bags are being sent to market for recycling. ii. Garbage/Waste temporarily stored on site and ultimate disposal done by MCM iii. Portable washrooms, septic tanks and soakage pits installed on both sites	Page # 43 Waste management plan
Hazards/Risk	i. Workers provided with appropriate safety equipment and regular safety training ii. Storage of hazardous goods in bounded areas or in secure sheds iii. Explosives stored in guarded bunkers iv. Use of hazardous goods according to manufacturers' specifications	All construction sites and storage areas	i. Induction training providing PPEs, Tool Box Meetings, Job craft & on site trainings, ii. Hazardous material like polypropylene fiber and acetylene placed in segregated areas. iii. Explosive store established under NOC fulfilling all requirements iv. MSDS and SOPs being followed	N/A
Labor	i. Enforcement of workforce rules and regulations ii. Provision of alternative fuels for cooking, heating and light iii. Provision of adequate and well maintained services and facilities	Construction and camp sites	i. National and International Labor Laws and Standards are implemented ii. LPG cylinders are being used for cooking purpose iii. Health and other welfare facilities provided	N/A
Aquatic Ecology	i. Fish and Aquatic populations	Fish monitoring in Kunhar River Up &down stream the Weir Site	Study undertaken during both quarters of 2014 Fishing& hunting prohibited on project sites. No endanger species found. No considerable disturbance to aquatic life.	Summary on page 35 and report is annexed as Annex-7 .
Flora	i. Direct observation of surrounding vegetation	Both weir and power house site	Study undertaken during both quarters of 2014 Mitigation measures will be undertaken after construction phase.	Summary on page 35 Report annexed as Annex-8 .

Environmental & Social Monitoring Report (April-June 2014)

Feature/Issue	Parameters/monitoring	Location	Actions taken and monitoring results	Detailed reports
Noise and Vibration	i. Maintenance of equipment in accordance with manufactures' specifications ii. Controlled blasting	Construction sites including HRT	Regular inspections and service of heavy equipment -Pre blasting survey, blast permit issuance and SOPs adopted.	N/A
Air Quality	i. Exhaust emissions from machinery – visual inspection	All construction sites	For non-compliance replacement of vehicles and equipment undertaken. Monitoring through labs has also been planned.	N/A
Traffic/Access	i. Enforcement of speed limits on Project roads ii. Traffic Signs	Power house and weir access roads Project access roads	Heavy equipment/vehicle drivers education sessions Speed limit and directional sign board installed	Page # 43 Traffic management plan
Spring Water	Water Quantity Drinking Water quality monitoring	Sources available on project sites and in adjacent villages	Drinking water monitoring was carried out in March 2014; results were presented in ESMR 1st Quarter 2014. Community & labor awareness and provision of safe drinking water.	Reported in ESMR-Q1-2014
Complaints	All complaints replied to	Adjacent villages	Internal Grievance Redress Committee. Compliant boxes installed for community but with little exception direct mode is being used i.e. meetings / telephonic etc. Committee established at government level in AJK. Meeting held on 31 st May 2014.	MoM annexed as Annex-10.

Annex-7

FISH STUDY IN KUNHAR RIVER

147 MW PATRIND HYDROPOWER PROJECT



Study & Monitoring of Fish Fauna of Kunhar River

Quarterly Report

April – June 2014

1. Abstract

Impact assessment of Patrind Hydro Power Project on the fish found in the river is a part of continuous study with an interval of 3 months. Two studies have already been conducted in the month of September 2013 and in the month of March 2014 when the water flow remains very low. The baseline of the study has been set on the number and species of fish caught at fixed points and then on the basis of analysis the result is drawn.

The fish fauna of river Kunhar has not been studied for the last one decade as the existence of some species reported in previous reports are almost extinct. The fish fauna of water bodies located in the areas under Pakistan is known through a number of comparatively studies conducted at different places and times (Mirza, 1975, 1978, 1980, 1990, 2003, Rafique and Qureshi, 1997; Rafique, 2000; Rafique, 2001; Rafique et al., 2003). These studies were mostly done on the important rivers. Studies on River Kunhar are very limited and these studies have mostly covered the upper reaches above Ghari Habibullah. The terrain and changing ecology mixed with the fish exploitation offers the species change and their habitat.

2. Introduction

The Kunhar River is located primarily in the Khyber Pakhtunkhwa province, northern Pakistan. It originates from Lalusar Lake contributed by number of small and large streams coming as glacial waters from the surrounding areas. It belongs to the Indus River watershed basin. Also known as Nain Sukh 166 kilometers long Kunhar River crosses Batkundi, Naran, Kaghan, Kawai, Balakot, Ghari Habibullah and ultimately joins the River Jhelum at Rarra.

Productivity of the fish mostly depends on the algal flora of the river water as the fish found here is mostly herbivorous. One species (*Glyptothorax* spp) is reported to be the carnivorous in addition to salmonids (Trout) which are not common in the study area.

Fish fauna form an integral part of aquatic ecosystems, and any changes taking place in the medium in which they live can affect their productivity, diversity and distributions. In order to assess the current status of the fish fauna of the river Kunhar, 1st study was undertaken in September 2013 and 2nd in March 2014. Physical and chemical parameters show the effect of temperature. High air temperature (38°C) must have changed the climate directly affecting the glaciers, snow, and water form and water surface temperature (7.3°C). High surface temperature mostly at the confluence of small and comparatively larger streams, like Nallah Boi, helps in dissolving organic and inorganic matter. pH (7.5-8) shows that the water is alkaline. High concentration of non-living particles originate as catchment derived silt, clay; mud, organic matter etc. are present. This high value is due to rain and flood at this time of the year, so flood episode are the major disturbance in river affecting composition and biomass of the plankton/algae. Time

factor is involved in the river continuous turbulence, unidirectional flows, and more periodic changes of turbidity in river eco-system. This factor affects the growth of the plankton/algae and thus effecting the population of fish in the river Kunhar. Common algal flora found is chara, Cladophora, and Spirogyra etc.

The surrounding area of Kunhar River is characterized by rugged mountains, and deep canyons terraces formed by the river. Erosion usually takes place at this time of the year (July-August) when heavy monsoon showers wash away the open topsoil of the mountain slopes with very low vegetative cover. Land use pattern at steep slopes, which is not in line with the required standards, usually cultivating agricultural crops, is also the main cause of erosion. Bedrock of Kunhar River is under lied by the glacial layer, which consists of high Calcium and Magnesium content. Samplings were carried out at the six study points; four downstream- Boi, Domel Boi, Parri and Outlet of River Diversion and 2 Upstream of the Weir Material Dumping Site and Tarcheela covering a total river length of about 10 km.

The water, at this time of the study, is too much turbid mainly because of the glacial melt supported by the rain carrying suspended particles in the river. This is the main reason of increase in the catch of fish number at the points as compared to the first two catches when the water was very clear. Dissolved Oxygen has reduced because of the turbidity in water (around 7 ppm) which is quite high when the river water is clear (11 ppm). This clearly indicates that the chances of existence of trout are very low as its requirement of dissolved oxygen is high (minimum 8 ppm).

Table-1 Physical and Chemical Properties of River Kunhar

Sr.	Particulars	Reading
i.	Air Temperature	38°C
ii.	Water surface temperature	7°C
iii.	Water bottom temperature	6°C
iv.	Turbidity	4
v.	pH	7.8
vi.	Dissolved Oxygen	7
vii	Water Color	sandy

(Source: ecological Study of River Kunhar by M.K Laghari and Bushra Waheed)

Table 2 Monthly average Temperature Ranges of Kunhar River

Month wise Temperature (°C) of Kunhar River near Garhi Habibullah

Month	Temperature (°C)
January	6.1
February	7.2
March	10.2

April	11.4
May	12.0
June	12.3
July	14.9
August	17.9
September	16.5
October	13.6
November	9.8
December	7.0

Source: 1980-1993 WAPDA

2.1 Fish

Schizothorax and *Schizothoraichthys* spp are dominant among the cold water fish in river Kunhar in terms of catch and abundance in all seasons except during floods. They are caught by the cast nets of 0.5 inch and 1 inch diameter of mesh during the morning to afternoon. Other not very common fish species reported are shown in Table 3 below:

Reported Fish Species of River Kunhar are;

Family: Salmonidae

Oncorhynchus mykiss {*Salmo gairdneri* } (Rainbow Trout)

Salmo trutta (Brown Trout)

Family: Cyprinidae

- | | |
|--|---------------------------|
| 1. <i>Schizothorax esomus</i> | 5. <i>Tor putitora</i> |
| 2. <i>Schizothorax plagiostomus</i> | 6. <i>Tor tor</i> |
| 3. <i>Schizothorax micropogon</i> | 7. <i>Labeo spp</i> |
| 4. <i>Schizothorax curvifrons</i> (Snow Trout) | 8. <i>Cyprinus carpio</i> |

Family: Sisoridae

Glyptothorax kashmirensis

2.2 Fish Classification by their habits

The fish are classified as;

- i) Long distance migratory
- ii) Mid and short distance migratory and
- iii) Resident fish species.

The long distance migratory fish include *Tor* sp, *Tor tor* and *tor putitora*, which are no more found in river Kunhar and salmonidson *corynchus mykiss* and *Salmo truta*. Mid and short distance migratory species are, *Labeo rohita*, *L. Dero*, (rare), *Schizothorax* spp and some other. Factors triggering the fish migration in Kunhar River are not well known. Migration is possibly done to find suitable spawning and feeding grounds. Plankton and benthos are washed away by the turbid monsoon water at lower altitude. The short distance migratory fish *Schizothorax* and *Schizothoraichthys* move upstream in response to high turbidity, higher water temperature, and due to the scarcity of food during the rainy season in the lower reaches, especially at the points of confluence of the side streams like Nallah Boi of the study area. The only resident species of Kunhar River is *Glyptothorax kashmirensis*. The impact of water reduction in the downstream on these species will be quite high as the spawning grounds will be disturbed.

Cold water fish of Pakistan are facing problems due to an increasing number of hydropower projects. Once abundant indigenous fish stocks are now declining due to overfishing, pollution, developmental works and harmful fishing practices (electro fishing, dynamiting, and use of chemicals). Developmental works such as river damming have a major impact on river ecology, aquatic flora and fauna, including fish. Cold water fish of Pakistan are affected by the increasing number of hydropower dams in the country. EIA studies are conducted before and after the construction of such structures but their recommendations are never followed as in case of Neelum and Jhelum Hydro Power project the issue of minimum water release in river Neelum has arisen. Still the status of that is not clear. The water turbidity will be very high there and there is no doubt that the aquatic life is going to suffer very badly. Impact of water diversion in Kunhar will have the same impact on the downstream but the area is not that large and dependence on river water in that area is not very high.

Tables below show the biological data for long distance and short distance migratory and resident fish of Kunhar River:

Table4 Biological data for the long distance migratory fish

Species	Migratory pattern (months)	Spawning season	Spawning substrate	Food	Age and size at maturity	Behavior Economic importance
<i>Tor putitora</i>	Aug-Sept	Sept-Oct	Gravel beds	Algae, rotifers, protozoa, insects, fish, debris	2-5 yr 45 cm	Rest in deep pools, jumping nature; Excellent food fish
<i>Tor tor</i>	Aug-Sept	Sept-Oct	Gravel beds	Filamentous algae, insects, mollusk, fish fry & adults, sand and mud	2-5 yr 55 cm	Rest in deep pools, jumping nature; Excellent food fish
<i>Oncorhynchus mykiss</i> { <i>Salmo gairdneri</i> }	Sept-Oct	Oct-Nov	Sandy beds	insects, molluscs, fish fry	2-7 yr 30 cm	Rest in shallow pools, jumping nature; Excellent food fish
<i>Salmo trutta</i>	Sept-Oct	Oct-Dec	Sandy and gravel bed	insects, molluscs, fish fry	2-7 yr 30 cm	Rest in shallow pools, jumping nature; Excellent food fish

Table5 Biological data for the short and mid distance migratory fish

Species	Migratory pattern (months)	Spawning season	Spawning substrate	Food	Age and size at maturity	Behavior Economic importance
<i>Labeo rohita</i> (extinct)	--	Jun-Jul	Gravel	Filamentous algae, higher plants,	2 yr, 28 cm	Residing in deep pools, sport fish, food fish

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<i>Labeo dero</i> (extinct)	--	Jun-Jul	Gravel	Filamentous algae, higher plants,	2 yr, 28 cm	Take rest in deep pools, sport fish tasty fish
<i>Schizothorax plagiostomus</i>		Sept – Oct	Gravel+ pebble	Algae, insects, mud, detritus	2 yr, 18 cm	Females chased by males during breeding season; delicious fish
<i>Schizothorax curvifrons</i>	--	Sept – Oct	Gravel+ pebble	Algae, insects, mud, detritus	2 yr, 18 cm	Females chased by males during breeding season; delicious fish
<i>Schizothorax micropogon</i>	--	Sept – Oct	Gravel+ pebble	Algae, mud, detritus	2 yr, 16 cm	Females chased by males during breeding season; delicious fish
<i>Schizothorax esomus</i>	--	Sept – Oct	any	Algae, insects, mud, detritus	2 yr, 18 cm	Females chased by males during breeding season; delicious fish

Table6 Biological data of some important resident fish species

Species	Migratory pattern (months)	Spawning season	Spawning substrate	Food	Age and size at maturity	Behavior Economic importance
<i>Glyptothorax kashmirensis</i>	--	May-June	Gravel bed, pebbles, algal bloom	Aquatic insects (may flies and stoneflies)	2.0 yr, 10.0 cm	School & mass migration during monsoon floods; liked
<i>Cyprinus carpio</i>	--	March-May	any	Algae, mud, detritus	2 yr 45 cm	School floods; commonly eaten

3. Materials and Methods

3.1 Study sites

A total of six study sites, (illustrated below), markedly different points were again studied to assess the difference from the last study and know the impact of various factors on the fish fauna of river Kunhar. (The point of intake could not be studied as the access to that area was not possible and alternate site near material dumping was undertaken). The impact at present is only the diversion channel and rapid flow through the tunnel hitting the water with solid rocks lying on the sides of the outlet. In order to assess the current status of the fish fauna of the river Kunhar, 1st study was undertaken in September, 2nd study in March 2014 and this is the 3rd study in the last week of June 2014. Samplings were carried out at the six study points, four downstream- Boi, Domel Boi, Parri and Outlet of River Diversion and 2 Upstream of Weir, Point of Material Dumping (instead of intake point) and Tarcheela covering a total river length of about 10 km.

3.2 Methods

Cast nets of two sizes, 0.5 inch and 1 inch diameter mesh were used to catch small and large specimen for identification and comparison in the number of catch. Two professional fishermen, Muhammad Arshad of Tarcheela Village and Naseer Ahmad of Dalola were hired for catching the fish specimen. The fishermen used indigenous method of cast net for fishing. Fish specimens were identified with the help of the standard taxonomic works (Kullander)

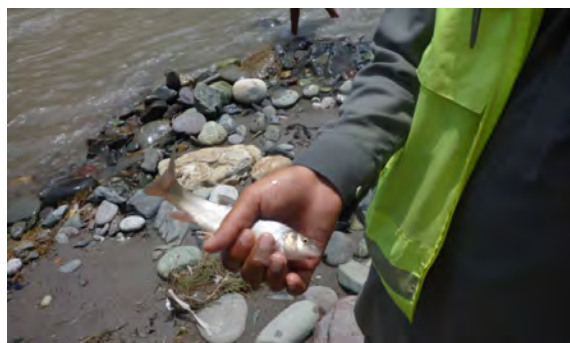
3.3 Fish Study

Fish study was carried out at 6 pockets of the Kunhar River with a stretch of about 100 meters each at 10 km up and down stream of the Patrind Weir point.

3.4 Field Results

Point-I: (Boi)

This is the point situated at 34° 18/ 19" N, 73° 26/ 44" E at 723 meters of elevation above sea level. The water flow is high and turbid. Water depth varies in the stretch of about 500 meters. The fish at this part



of year has come to the sides as the catching concentration is quite significant. Five fish were caught of two species, *Schizothorax plagiostomus* and *S. Curvifrons* this shows that the fish catch during June-August remains high. No fish was caught last time in March 2014 at this point. The size of the fish was 9 centimeters to 24 centimeters.

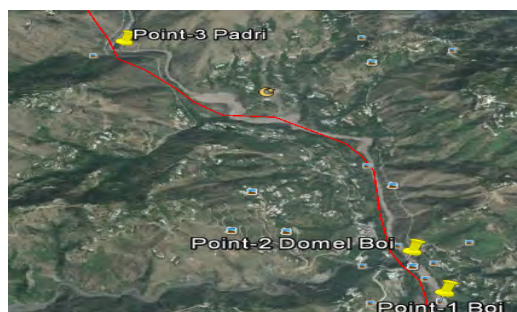
Point-II: (Domel Boi)

This is the point situated at $34^{\circ} 18' 36''$ N, $73^{\circ} 26' 43''$ E at 736 meters of elevation above sea level. This is the point where fish can migrate upstream in the Boi Nallah during the spawning period and can have little impact of low river flow when tunneling of the water starts. According to a local, Mr. Muzhar Hussain Shah, the fish was poisoned by some visitors in May 2014 in the Nallah and large number of juvenile and large fish died because of that. The party could catch some but others were taken down by the current of water. According to him this is not the first occasion of this sort, every year people kill the fish using explosives, poisons and electric current. Seven fish could be caught by the two fishermen. No fish could be netted during the last time trial in March 2014. Seven fish caught were again of 2 species but the evidences of existence of *Glyptothorax spp* and common carp (*Cyprinus carpio*) were found in the Boi Nallah, with the interview of the locals. Four of the fish caught were above 20 cm.



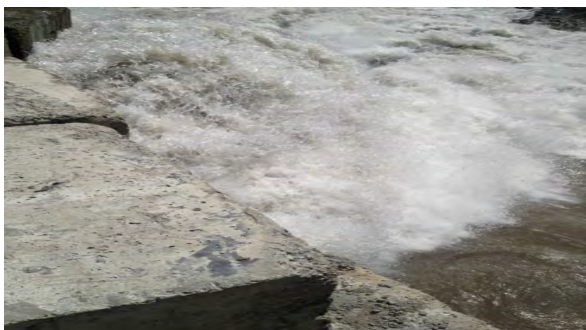
Point-III: (Parri)

This is the point situated at $34^{\circ} 19' 47''$ N, $73^{\circ} 25' 35''$ E at 750 meters of elevation above sea level. A small creek joins this point with a warmer temperature providing the chances of better food items to flow into the river. River also makes few small pools providing better chances for the fish to feed and spawn. This is again a good fishing point situated at about 3 km downstream of Patrind weir point. The catch of fish was 4 with two small and two comparatively larger sizes (23 cm). All the fish caught were snow trout only.



Point IV: (Outlet of river diversion)

This is the point situated at $34^{\circ} 18' 19''$ N, $73^{\circ} 26' 44''$ E at 766 meters of elevation above sea level. This is the outlet of the diversion tunnel. Again no fish, as expected, could be caught as the flow of the river water is very fast. This diversion tunnel has a definite impact on the fish production but to maximum of 800 meters downstream. Then the river makes pools to provide breeding ground to the fish.



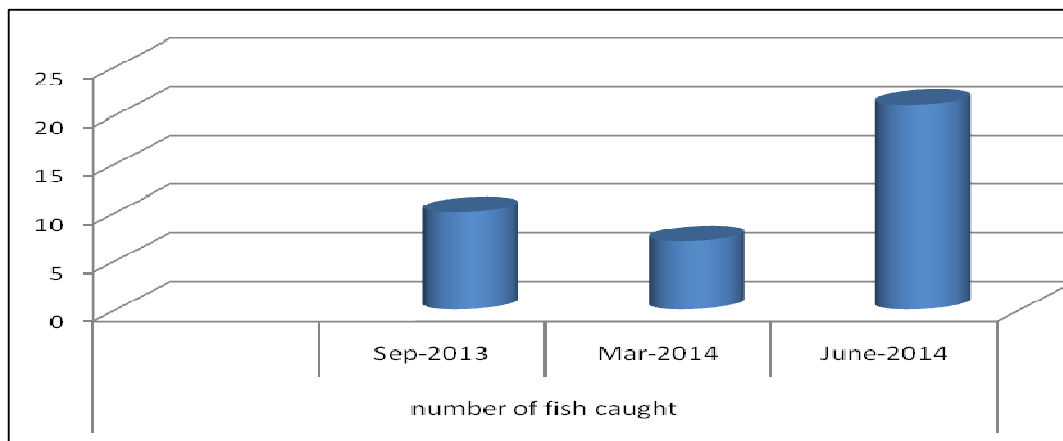
Point-V: Excavated Material Disposal Site:

This is the point situated at $34^{\circ}20' 16''$ N, $73^{\circ} 25' 26''$ E at 772 meters of elevation above sea level. This is near to the inlet of the diversion tunnel, which is a better alternate study of inlet point last time studied. The inlet point has been closed to access because of increase in the water flow and blockage of the possible path leading to the point. Still the impact on aquatic life is not very high as the lake has not developed and course and flow of water has not changed here. When the lake will grow after construction of Patrind weir, this can harbor the Rainbow and Brown trout. If carefully planned, this can become commercial activity but needs expert input. Three small sized fish was caught from here of 14-16 cm length.



Point-VI (Tarcheela):

This is the point situated at $34^{\circ} 18' 19''$ N, $73^{\circ} 26' 44''$ E at 776 meters of elevation above sea level. This is a point of zero water level of the expected lake. Two fish of species, *Schizothoraxplagiostomus* were caught of very small size. This will have little impact by the construction of dam but better picture will appear during the month of June.



Comparison of number of fish caught during three study times

4. Impact of Dam/Weir on River Kunhar

Dams alter aquatic ecology and river hydrology upstream and downstream, affecting water quality, quantity and breeding grounds (Hell and-Hansen *et al.*, 1995). They create novel and artificial types of aquatic environment for the life span of the dam.

4.1 Water quality and physical changes

Upper reaches of river Kunhar, about 5 kilometers of the weir at Patrind, may not be affected very much as the original riverine conditions will still retain. Downstream of the dam the flow rate in the river will depend on the amount of the compensation flow. Water volume is considerably reduced during the dry season. As a result the downstream may change to pools alternating with dry stretches for about nine months from October to June. Due to decreased water discharges, water temperature will rise in daytime and decline sharply at night. Rooted plants will grow in the riverbed due to the decrease in water volume.

4.2 Impact on fish

Fish such as snow trout, catfish and loaches may be pulled into the intakes and get killed. Even riverine fish adapted to fast current may be lost. Fish food organisms will be highly affected by reduced flow rates and new species will invade areas with a slow current. Many fish species are known to be affected directly by the changes in their habitat, which leads to stunted growth, diseases and parasite infestation and increased mortality.

4.3 Effects of impoundment

Installation of a weir on the Kunhar River at Patrind will change about 5 kilometers Long River stretches into small reservoir. Water in the reservoir may become thermally stratified. This will depend on a number of factors, especially on the water retention time and the depth of the reservoir. As the water uptake for turbines is usually in the hypolimnion, cold water will be discharged into River Neelum during the operation of the power station. The hypolimnion may become deoxygenated, and discharge of such water downstream may negatively impact the aquatic fauna in the river below the dam. The reservoir itself may undergo eutrophication as happened for example in the Mangla and Tarbela dams. Lacustrine conditions of the reservoir will differ from those of the river and this will also have an impact on the original fish fauna. Some fish species may disappear, other will adjust by changing from stenophagous to euryphagous. Omnivorous or planktivorous fish may adapt to the reservoir conditions, but *Glyptothorax* spp, do not like lacustrine conditions. *Schizothorax* spp have been also known to decline abruptly in reservoirs. Snow trout, which is abundant in the Kunhar River, will become rare after the river is dammed. The same has happened to Mahseer after the impoundment of Mangla Dam. Carp find reservoir conditions favorable, and reservoir conditions are ideal for rapid

colonization by hardy fish such as *Cyprinus carpio* and *Labeo spp.* Shoreline erosion and rapid and intensive drawdown are other problems faced by fish as they affect spawning and egg incubation.

4.4 Effect of dams on fish migration

A dam will fragment and isolate upstream resident fish such as stone carp and catfish from downstream. The resident species may congregate in the tail water release site. Fish from upstream will occasionally sweep downstream during the monsoon, stay in the tail water or swim further downstream. A dam will obstruct the route of the long and mid-distance migratory fish. Upstream migrants will arrive at the dam site during the flow phase. Long distant migrants such as *Tor spp.*, and Trout and mid-distance migrants *Schizothorax spp* and *Labeo* species are most affected by a dam. These species will abandon the original pool and colonize deep pool regions downstream or upstream. Populations of snow trout's are less affected, as they make a small-scale migration to tributaries to breed in clear and cool water during the monsoon and return to the main stream during the low flow period (Shrestha, 1995).

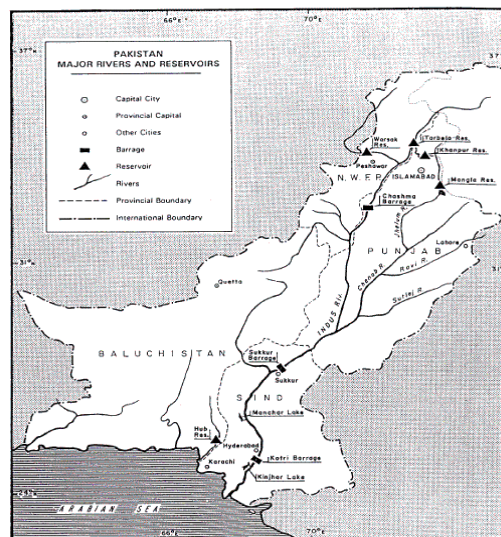


Fig. 1. Pakistan: location of major reservoirs

4.5 Socioeconomic impact of dams

A small number of fisher communities are dependent upon fishing for livelihood. The professional fishermen were also interviewed. According to them, the floods have damaged the fish and due to low rate of growth in local snow trout fish, the edible fish is no longer available in the area. Sometimes, with a good fortune they find brown trout paying them good return sold to the rich people. These fisher communities are classified as full time, part time and occasional fishermen depending upon the intensity of fishing. Full-time fishers devote 200-230 days/year to fishing, part-time 60-65 days/year and occasional about 25-30days/year. Local fresh survey and interviews have shown that about 12 families of the area below Ghari Habibullah to Rarra are full time dependent on fish, 12 are part time and 30 occasional. The fish catches have been reported to decline due to the high fishing pressure, use of chemicals, dynamiting, electro-fishing and the use of small-meshed nets gill and cross nets.

Kunhar River Fish of the study site is not sold in any market of the area.



5. Recommendations

- i. Appropriate fish pass should be designed for a sustainable development of cold water fishery
- ii. Adequate attention should be given to the conservation of cold water fish to maintain their gene pool
- iii. There should be a legal provision for discouraging illegal methods of fishing, such as the use of chemicals, dynamite, electro-fishing and the use of small mesh-sized nets
- iv. Expansion of cold water aquaculture will help in reducing emigration of hill people and sustain livelihood of fisher communities
- v. Development of sport fishery will enhance tourism and strengthen local and national income
- vi. Fish passage facilities should be incorporated in the hydro project design at the earliest stage of planning
- vii. Provisions in the law/Agreement should be made (if not there) to oblige power companies to pay for the most efficient mitigation measure and to prove its efficiency
- viii. Dependent fishermen community of the project area and downstream should be given the employment on any appropriate position

6. Conclusion:

The impact of the Power project at present is only confined to the intake and outlet of the diversion channel where speed of the water flow is very high. The fish survival chances are minimum when fish comes in this flow. Result of impact on downstream river can only be verified after the tunnel completion, diversion of water and minimum flow allowed. The dependence on the fish has been observed very low during the survey of the area so the economic and social impact will not be of any significance. If few fishermen are given the employment in the project this will reduce the social impact of the project. Local economy can be improved by the introduction of intensive fish culture in the reservoir emerging through the construction of Weir at Patrind by engaging the expertise in cold water fish culture. Indirectly, tourism can also flourish through trout fishing.

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Annex-8

VEGETATION STUDY- PATRIND HPP

**Vegetation Study on the
Patrind Hydro Project Area**



VEGETATION STUDY OF PATRIND HYDRO POWER PROJECT

1. Abstract

Patterns of species composition and diversity in the lesser Himalayan subtropical forests of the project area were studied in relation to environmental variables and underlying anthropogenic influence. Forest composition, community structure and diversity patterns are important ecological attributes significantly correlated with prevailing environmental as well as anthropogenic variables.

Deterrence correspondence analyses (DCA) revealed the altitude as the most influential factor controlling species distribution pattern. High deforestation and disturbed regeneration has been noticed in the area. A sharp decline in forest vegetation attributes occurred with increased levels of human and livestock interference. During the last three decades, the mainstream view of deforestation in the Hindukush-Himalayan region attributed the phenomenon to increased local use due to population growth.

Some of the other issues relevant to low vegetative cover are common property management, including political ecology, property rights, and co-management. Main tree uses are firewood consumption and timber extraction from the private and State land. The loss of vegetation is not compensated fully by reforestation and protection resulting into more forest depletion due to population growth. There is no land use policy implemented in Pakistan, due to which the steep slopes are not wisely used resulting into the massive vegetation loss which ultimately causes the land destabilization. Patrind is not the only area which has become so prone to land erosion, instead all adjacent areas on both sides of the river Kunhar, Jhelum and Neelum are showing the same picture.

Forest cover in Pakistan is only 5% of the total land area (GOP 1991) and is said to be rapidly deteriorating due to unsustainable use of the resources, especially in the mountain regions (IUCN 2002). Another main reason for low tree cover is the high demand for grazing land and fodder for the animals. Local people in the area burn the land after cutting the grass in the month of October and November. This leads to the loss of all vegetative cover on the steep slopes and leaving behind the exposed surface to the mercy of the Nature. The soil loses the water percolation capability hence, giving support to start of gully making and erosion on larger scales. Thus we can say that the original vegetation is almost destroyed due to the heavy grazing, lopping, poor agricultural practices and urbanization. Because of this shortage of vegetative cover, the area is very badly suffering from soil erosion.

2. Introduction

The study area is about 10 km up and downstream of river Kunhar from the weir point at Patrind (34° 20' 36" N and 73° 25' 10" E) at an elevation of 2516-3123 ft a.m.s.l) and around the outlet at Alda (34° 20' 06.05" N, 73° 27' 18.6" E) in AJK. It covers both the eastern aspects on the left bank of river Kunhar and right bank of river Jhelum in AJK. Total Area is about 100 Acres.



Site at Patrind



Site at Lower Chatter

The agricultural production system consists of upper catchments and gullied areas (wastelands), covering some 56% of the area, terraced fields along hillsides (39% of area) and irrigated agriculture (5%). Natural forests and rangelands are the major land use in the upper catchments. Agricultural production on the terraced fields depends on runoff water harvesting and soil moisture conservation. These terraced fields were created by leveling with bulldozers/manual labor during the last 3-4 decades. Subsidized machinery encouraged the farmers to level the hillsides without considering the requirements for water harvesting and safe disposal of surplus runoff during high rainstorms. The area has badly been disturbed due to forest fire on both the sites at Patrind and at Alda during the last few weeks after the second study of the area.

3. Study Type

There are two main components to the Density Management Study (DMS) vegetation study:

A). OSU is installing new vegetation monitoring plots at each of the initial thinning sites to evaluate overall treatment effects. These plots are randomly located within the treatments, including gaps and leave islands.

B). **Permanent vegetation monitoring plots (PVMP)** are established at each site to monitor the relationships of over story and understory vegetation to thinning prescriptions. These plots are only established in thinned forests, excluding gaps and leave islands. For this project study, Permanent vegetation monitoring plots were established one each at powerhouse side at Alda and other at the intake of the tunnel at Patrind

4. Forest Types (Ecological Zones)

The Patrind project area lies in the Sub-tropical ecological zone of the country. This zone is again classified in:

- a) Subtropical Scrub forest with broad leave tree species in the foot hills and
- b) Subtropical Chir pine Forest with a major tree species of Chir Pine.

5. Vegetation Cover

Project site vegetation does not contain any species listed as endangered or threatened by the Government of Pakistan or IUCN. Only two species *Celtis austarlus* (Batculd) and *Ficus carica* (Anjeer) were found rare in Pakistan but they are listed as common for the rest of the world. The presence of these two species will not be disturbed as they were found above the submerged area and away from the area where trees needed to be felled down. The rest of the vegetation species were found protected and common in Pakistan and for the rest of the world. So it is concluded that there will be no negative impacts of Patrind Hydropower Project on conservation status of the vegetation of the area.

Following Tree species were documented in the project area both in Patrind and in Alda:

Common Name	Botanical Name	Type of Tree	Status
Akhrot (Wallnut)	<i>Juglans regia</i> Fruit	Fruit	Common
Anjeer	<i>Ficus carica</i>	Fruit	Rare
Batang	<i>Pyrus patia</i>	fruit	Common
Batculd	<i>Celtis australis</i>	soil binder	Rare
Beence	<i>Salix spp</i>	Firewood	Common
Ber	<i>Zizyphus mauritiana</i>	fruit	Common
Chir	<i>Pinus roxburglii</i>	Timber	Common
Dhaman	<i>Grewia oppositifolia</i>	Fodder	Common
Drawa	<i>Ailanthus anus</i>	firewood	Common
Drek	<i>Melia azadrach</i>	firewood	common
Kangarr	<i>Pistacia khunjak</i>	soil binder	rare
Kau	<i>Olea cuspidate</i>	Agri tools	common
Kiker	<i>Acacia nilotica</i>	Firewood	common
Nim	<i>Azadirachata indica</i>	Firewood	common
Phagwarr	<i>Ficus Palmata</i>	soil binder	common
Phulai	<i>Acacia modesta</i>	firewood	common
Pipal	<i>Ficus religiosa</i>	Firewood	common
Robinia	<i>Robinia pseudoacacia</i>	firewood	common
Shahtoot	<i>Morus alba</i>	Fruit	common
Sherol	<i>Alnus nitida</i>	Firewood	common
Snatha	<i>Dodonaea viscosa</i>	soil binder	common
Talli (Shisham)	<i>Dalbergia sisso</i>	furniture wood	common

The main contributor grass species were *Heteropogon contortus* (Sariala), *Cenchrus ciliaris* (Dhaman), *Desmostachya bipinnata* (Dab ghaas), and *Cynodon dactylon* (Khabbal). Comparatively low vegetation cover was recorded in the flat area and highest from steep slope areas (74.29%) followed by gentle slope and gully bed areas.

6. Comparison of the Studies

Vegetative cover of the area has been badly damaged by the forest fire during the last few weeks outside of both the project sites at Alda and Patrind. There are three types of forest fires causing different level of losses to the vegetative Cover:

- i) Ground Fire
- ii) Crown Fire
- iii) Stump fire

Ground fire covers the soil surface and burns the grasses and dry leaves or pine needles. Crown fire burns grasses, bushes and foliage of the bigger trees due to which some bigger trees also dry up. Stump fire is more dangerous. The stems of the trees catch fire and whole vegetative cover gets burnt.

The areas around the project sites are grazing land of the cattle of local communities. They deliberately burn the area for avoiding the grasses of low nutritional value like Sariala (*Heteropogon contortus*) and burning the dry needles of the Chir Pine. This is mostly the ground fire which is not much harmful for the forest cover. Even the bushes are not affected by this type of fire. But; when the quantity of combustion material is more, then the ground fire converts into crown fire. This fire burns all the under growth and soil becomes exposed to the heavy shower of rain during the monsoon. This type of fire also damages the foliage part of the bigger trees.

The intention of burning the area was to give better chances of growing the grasses of nutritional value and eliminating the domination of unwanted grass species but, this ground fire became the crown fire damaging almost all the undergrowth of the tall tree species. Following are the plant species which are damaged to an extent of 90% in the fire affected area:

Ber	<i>Zizyphus mauritiana</i>
Snatha	<i>Dodonaea viscosa</i>
Sumbal	<i>Berberis lycium</i>
Bhakar	<i>Adhatoda vesica</i>
Timber	<i>Zanthoxylum altum</i>
Phulai	<i>Acacia modesta</i>



Area affected by fire hazard completely lacking the undergrowth

7. Effects of the Fire Hazard on the Project

The fire caught at Alda forest on 22nd of June 2014 was a crown fire. Somebody deliberately put the area under fire most probably for getting a better quality of grass. It could have come into the project area of Hydropower station and damaged the property but, the staff at the station efficiently extinguished the fire. The soil outside the Project area is exposed to direct hit of the rain drops which can lead to the gully erosion and Project area may come under the threat of landslide. Similar type of fire has affected the Patrind site of the Project. Staff there has also controlled the fire using fire extinguishers and throwing water on the outer boundary of the area. Both sites are now in the danger of soil erosion and if proper measures are not taken, the area may get huge damage in the future.



Area Affected by forest fire at Alda



Area affected by forest fire at Patrind

8. Study Outcomes

There has been observed a great change from the 2nd study. Both the areas, at Alda and at Patrind have been affected by the forest fire. Had it not been controlled by the staff, it would have caused damage to the installation, vehicles and equipment inside the project areas. This type of fire is expected to continue in future if not addressed properly.

The slide area around Alda is spreading with an alarming speed and may affect the power house area in future. Engineering structures alone cannot control the slides and again this will require a huge amount of funds for engineering structures. Treating with short creating instead of treating it with plantation and bio engineering will not be a permanent solution to it. The project is mostly looked after by the Engineers and to them, it is the easiest and permanent solution for treating the slides. The loss of biomass quantum is not as significant as there has been a low vegetative cover in this area.

Most of the Chir Pine trees in the area to be submerged were found in Pole stage (age 20-30 years) with few at tree stage. The same is the case with other broad leaved species. So all in all not much cutting was found involved due to the implementation of the project.

Some more trees have been harvested on the inlet and outlet of the tunnel where land has also been affected to some extent which needs a careful treatment.

Project site vegetation does not contain any species listed as endangered or threatened by the Government of Pakistan or IUCN. Only two species *Celtisaustarlus* (Butculd) and *Ficus carica* (Anjeer) were found rare in Pakistan but they are listed as common for the rest of the world. The presence of these two species will not be disturbed as they were found above the submerged area and away from the area where trees needed to be felled down. The rest of the vegetation species were found protected and common in Pakistan and for the rest of the world. So it is concluded that there will be no negative impacts of Patrind Hydropower Project on conservation status of the vegetation of the area except to a limited extent for which suggestions have been given below.

The present status of vegetation on Patrind side does not depend upon the water of river Kunhar but it depends on natural precipitation or water channels taken out of the side Nulah's. So reduction in water regime downstream will not affect the vegetation of the area. The average biomass for forage that will be submerged under water after the construction of weir was calculated as 3,468 Kg/ha. The total biomass to be inundated is estimated to about 200 tons. (Former Study Report for Patrind project)

The area affected on the weir site due to inundation is 57.2 ha and on the powerhouse site is 5.5 ha which will come under construction.

9. Possible Impact of the Project

The result indicate that landscape, the nature of the rock and the redistribution of rainfall water by run-off are the main sources of spatial variation in the study area. The construction of the dams will positively affect the groundwater at the upstream and negatively at the downstream of Patrind. Downstream the vegetation composition along the banks will make a huge difference as some area which is under river water will have no more water and some invasive species may appear on the tract. Water retention capacity of the soil above the tunnel will reduce as the percolation rate will increase and drain out from the tunnel. This will definitely have a negative impact on the water loving plant species and species of low water requirement will dominate changing the ecology of small area. This will also have a negative impact on the spring waters on and around the tunnel, affecting the vegetation fed by these spring waters. Ground water will be affected downstream of the Patrind, but the dependence on that water is not existing; **so no social impact is expected.**

10. Recommendations

Since the area close to the tunnel and inlet and outlet of the tunnel where working concentration is high, the impact on the vegetation and water courses will have negative impact. The lake will submerge some of the vegetation due to rise in water level. Similarly downstream the water area will reduce so new species may appear along the banks of the river course. There is a need to compensate this loss by some possible means listed below:

1. Tree species of alternate requirement of water and soil should be planted in these area like Shrole, Salix be replaced by Robinia, walnut
2. Some 6 water springs will be affected by the construction of tunnel; water from alternate sources should be made available to the spring dependent communities
3. Areas of high working concentration (in-let and outlet of the tunnel) are facing the problem of soil erosion and these have been treated by concreting. It was suggested in the first study to initiate the Bio-engineering technology to control these slides effectively which include vegetated soft gabions, vegetated loose stone walls, gabion check dams, live brush wood check dams, planting, sowing and tufting, dry seeding, hydro seeding, hay seeding, grass seeding, sowing with geo- textile sheets, brush wattles, brush layering, hedge layering, semi-dead fences with live hedges. Total engineering treatment has caused a loss for growing vegetative cover. This will also contribute in the process of global warming and environmental degradation which is not acceptable globally. This adverse effect should be compensated by treating the adjacent slides with Bio-engineering measures which will not only treat the soil but will also improve the environmental status.

4. Forest fires in future may damage the areas inside the fence if it went beyond the control of any one. So it is recommended that;


- a) Fire control path of 4-5 feet width should be prepared inside the fence and they should be regular cleared during the dry spell of the year.
- b) Another way of controlling the fire is that controlled burning should be carried out on the project sites to avoid the fire spread from outside.
- c) There is a need of awareness campaign for the community residing around the project sites to avoid burning the forest instead they can grow some useful trees giving them good economic return.
- d) Deep rooted and web rooted species should be planted inside and outside the project site to avoid the exposure of the soil as they are the fire resistant species like, Anjeer, Phagwarr, Dhaman, Kau etc.

The slide area around the power house site is very badly affected by the erosion and the rate of erosion is increasing with the passage of time. This may affect the project site as well. This issue of land sliding needs immediate attention


Annex-9

IMPLEMENTATION PLAN OF SOCIAL UPLIFT PLAN

Implementation Plan of Social Uplift Plan

SR.	PROPOSED ACTIVITY	STATUS
1.	BRIDGE ACROSS JHELUM RIVER	<p>✓ The construction of bridge was completed on 31st August 2012. The bridge has been connected Lower Chatter Muzaffarabad to Alda village on the right bank of Jhelum river. Now, vehicular traffic access is</p>  <p>available for the locals to across the river.</p>
2.	CONNECTS SARATI VILLAGE (KP) TO PATRIND VILLAGES (AJK)	<p>✓ Downstream cofferdam is being used temporary access bridge and after the completion of the construction there will be a permanent bridge on the weir deck which will be used by the locals to cross the Kunhar river between both the sides (by December 31, 2016)</p>

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SR.	PROPOSED ACTIVITY	STATUS
3.	IMPROVEMENT OF EXISTING ROAD	<p>✓ The road from Supreme Court to Children Park will be improved and upgraded where possible.</p>  <p>Improvement is an ongoing activity which is carried out as and when needed.</p>
4.	CONSTRUCTION OF NEW ROAD	<p>✓ New road will be constructed beyond the Children Park located in Lower chatter to the location of the Access Bridge for Powerhouse. The road will be available for physical use by the locals after construction phase.</p> <p>✓ At present unpaved has been constructed for construction activities which will be improved after construction phase</p>
5.	IMPROVEMENT OF THE SITES	<p>✓ After construction phase (January 2017)</p>
6.	MEDICAL TREATMENT FOR LOCAL RESIDENTS	<p>✓ HSE Clinic and ambulances are available in case of any emergency on both sites</p> <p>✓ A doctor and male nurses are placed in HSE office and local people can visit to get emergency treatment.</p>
7.	LOCAL EMPLOYMENT	<p>✓ Unskilled jobs have been provided to local residents whereas preference has been given to locals for technical positions but subject to availability.</p>
8.	SCHOOL SUPPORT	<p>✓ School located at Sarati village (Deedal) has partially been completed by EPCC (Roof, ceiling, windows, doors and internal finishing spending an amount of 37000 US\$).</p>
9.	IMPROVEMENT OF WATER SUPPLY	<p>✓ Water pipe line had been developed from existing water tank to Sarati village (GI Pipe : D50mm, L230m)</p> <p>✓ The well had been developed at Batching Plant area during construction period and it will be</p>

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SR.	PROPOSED ACTIVITY	STATUS
		<p>transferred to local residents after the construction phase i.e. January 2017.</p> <ul style="list-style-type: none">✓ New wells will be developed soon as plan has already been submitted and after due process work will be started on new wells.✓ Water quality tests of all sources in project vicinity and adjacent villages have been undertaken and results have been shared.
10.	IMPROVEMENT OF AREA AFTER COMPLETION OF CONSTRUCTION	✓ Project area used for stocks, temporary buildings, equipment storage and other various activities will be changed to the park, playground etc. after construction work i.e. January 2017.
11.	EMBANKNET PROTECTION	✓ From the Access Bridge area along the riverside, slope protection and embankment will be provided for avoidance erosion of river bank and inundation of Lower Chatter during flood season. The rip-rap protection will be installed at the surface of embankment and gabion protection will be installed around Access Bridge. Partial works have been undertaken and rest will be completed before 31 st August 2014.

Annex-10

MINUTES OF MEETING WITH REGARD TO COMMUNITY COMPLAINT

Minutes of Meeting

Meeting Date: 31-05-2014

A Meeting was held to resolve the local issues as per the agenda of meeting. Meeting was called on 11: 00 PKT at Committee Room Block NO.5 civil secretariat in Muzaffarabad AJ&K

Participants

1. Ch. Latif Akbar (Minister Finance & Development AJ&K)
2. Sardar Javed Ayub (Minister Forest AJ&K)
3. Syed Bazil Ali Naqvi (Minister Agriculture & Information)
4. Bashir Mughal Commissioner Muzaffarabad
5. Sohail Azam Deputy Commissioner Muzaffarabad
6. Raja Tahir Mumtaz Additional Deputy Commissioner Muzaffarabad
7. Asim Khalid Awan Assistant Commissioner Muzaffarabad
8. Muneer Secretary Electrical Department Muzaffarabad
9. Farooq Haider Director General Private Power Cell Muzaffarabad
10. Amjad Qureshi Deputy Director Private Power Cell Muzaffarabad
11. Mr. Mohsin Assistant Director Private Power Cell Muzaffarabad
12. Irfan Kashfi SSP Muzaffarabad
13. Kernel Ali Shan Star Hydro Power Limited
14. Kim Jin Myeong GM Daewoo E&C
15. Seong Bin Yoon DGM Planning E&C
16. Kwon Sang Chul GM Kyoung Dong
17. Muhammad Atif Manager Admin/Procurement Daewoo E&C
18. Taneer Chawan Admin Manager Kyoung Dong
19. Babar Hussain Admin Officer Daewoo E&C
20. Sardar Tasleem Local Community Patrind
21. Community Coordinators (Fayyaz Qureshi from Patrind & Mubark Awan from Lower Chatter)

AGENDA OF MEETING

1. Local employment
2. Compensation of 25 Shelters
3. Compensation of water mills
4. Appointment of more coordinators
5. Provision of drinking water
6. Building of technical college
7. Survey and compensation of damaged houses
8. Subletting works to locals

Topics discussed

1. During meeting, Sardar Tasleem representing local community raised concerns that majority of employees have been appointed from other areas and even unskilled labor has been taken from other areas instead of local villages.
2. He further highlighted that community has not been facilitated for medical and health facility
3. Patrind Community demanded to hire more coordinators from each village.

4. Sardar Tasleem informed the participants that natural water has been affected due to blasting activities.
5. It was demanded by the Action community representative that Scholarships must be given to PAP's children
6. Local employment issue was raised by the Minister Syed Bazil Naqvi that more employment should be provided to the locals.
7. As the Project administration is going to replace Kashmir Security Company so the security guards must be reemployed by new company as most of them are locals.
8. Commissioner Muzaffarabad asked company to provide full detail of employment including ID Card of each individual.

Conclusion

Meeting ended with concluding remarks by the Finance Minister AJK and all parties were agreed on following decisions:

1. Job list will be provided by the EPCC with ID cards to Addition Deputy Commissioner within one week
2. Joint Survey of water supply scheme will be undertaken by Government relevant technical staff and contractor representative along with PAPs
3. Instruction were given to Private Power Cell for water well survey and update either it is government responsibility or it is contractor scope of work
4. Suitable/responsible Security Guard should be hired/ appointed from AJ&K
5. Employees' contract must be provided to regular employees and labor as well.
6. Employee injured due to any reason must be provided medical and Financial Assistance by Project Management.