

Environmental Monitoring Report

Reporting Period: January-June 2022
July 2022

Pakistan: Balakot Hydropower Development Project

Prepared by Project Implementation Unit, Pakhtunkhwa Energy Development Organization, and Energy and Power Department, Government of Khyber Pakhtunkhwa, for the Asian Development Bank.

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ABBREVIATIONS

| | |
|-------|---|
| ADB | Asian Development Bank |
| CM | Construction Manager |
| CSSP | Construction Safety and Security Plan |
| EIA | Environmental Impact Assessment |
| EMP | Environmental Management Plan |
| EPA | Environmental Protection Agency |
| ERT | Emergency Response Team |
| EE | Environment Expert |
| GOP | Government of Pakistan |
| HSE | Health, Safety and Environment |
| km | Kilometer |
| L/S | Left Side |
| NEQS | National Environmental Quality Standards |
| NOC | No Objection Certificate |
| OHS | Occupational Health and Safety |
| PD | Project Director |
| PEDO | Pakhtunkhwa Energy Development Organization |
| PIU | Project Implementation Unit |
| PM | Project Manager |
| PMC | Project Management Consultants |
| R/S | Right Side |
| ROW | Right of Way |
| SOPs | Standard Operating Procedures |
| SSEMP | Site Specific Environmental Management Plan |

1. INTRODUCTION

1.1. Preamble

1. This Semi-annual Environmental Monitoring Report (SAEMR) has been prepared for Balakot Hydropower Project (300MW) in compliance with the Consultancy Contract requirements.
2. This is the second SAEMR, covering activities carried out under the project environmental portfolio during the period from January to June 2022.

1.2. Headline Information

3. During the reporting period, the Project Basic Design and preparation of Site Specific Environmental Management Plan (SSEMP) remained in progress whereby several meetings were held with the EPC Contractor at the Project Site and through video conferencing.
4. The PMC's review comments on third submission of SSEMP are currently being in process of incorporation by the EPC Contractor while the updated submission is expected in mid-July, 2022.
5. Consultation with the stakeholders on finalization of the Biodiversity Action Plan (BAP) implementation arrangements in the Area of Management remained continued during the reporting period. In this regard, separate consultation meetings were held with the field and headquarter officials of Fisheries, Wildlife and Forest departments of the Government of Khyber Pakhtunkhwa followed by a joint consultation meeting held on June 07, 2022 at PEDO House, Peshawar.
6. Fisheries and Wildlife departments will present their recommendations on the BAP institutional arrangement and composition of the BAP Management Committee in a joint meeting scheduled on July 05, 2022 at PEDO House, Peshawar.
7. No construction activities were carried out at Site being not planned under the conditions of contract. In fact, such activities will commence upon grant of possession of Site to the EPC Contractor, approval of the Project Basic Design and the ADB's concurrence to the SSEMP.

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1. Project Description

8. Balakot Hydropower Project (300MW) is run-of-the river scheme to be constructed on the Kunhar River in its 12 kilometer (km) stretch from Paras to Sangar village in District Mansehra. Upon completion, 1143 GWh clean energy will be added to the National Grid.
9. The dam site is located in Paras village while powerhouse site is identified near the Kappi Gali village, about 29 and 10 kilometer (km) upstream of the Balakot town respectively. Design discharge of 154 m³/sec will be conveyed to the powerhouse through a conveyance system comprising of diversion structures at dam site and 9.1km long headrace tunnel. Project residential colony is identified in Sangar village.
10. Access road to the dam and power intake is proposed to off-take from National Highway (N-15) on the left side of the Kunhar River in Paras village.
11. Project brief salient features are given in **Table 2.1** followed by location map and project setting in **Figures 2.1** to **2.4**.

Table 2.1: Brief Salient Features

| Hydrology and Design Flows | |
|--|-----------------------|
| River | Kunhar |
| Catchment area at dam site (km ²) | 1939 |
| Design Discharge (m ³ /s) | 154 |
| Design Flood (m ³ /s) T= 10 000 years | 3500 |
| Probable Maximum Flood (m ³ /s) | 5000 |
| Reservoir | |
| Normal Operation Level (NOL) | 1288.0 |
| Minimum Operation Level (MOL) | 1283.0 |
| Surface area (at MOL) (km ²) | 0.28 |
| Length of Reservoir (at NOL) (km) | 2.20 |
| Gross storage capacity (at NOL) (x10 ⁶ m ³) | 3.56 |
| Live storage (at NOL) (x10 ⁶ m ³) | 1.20 |
| Dam Structure | |
| Type | Concrete Gravity Arch |
| Dam crest elevation (masl) | 1292.0 |
| Maximum height above river bed (m) | 35.0 |
| Maximum height above foundation (m) | 58.0 |
| Crest length (m) | 130.0 |
| Spillways and Low Level Outlets / Flushing Sluices | |

| | |
|--|---|
| Spillway type | Upper Gated Ogee Crest Spillway + low level Gated Spillway |
| Upper spillway crest elevation (masl) | 1278.0 |
| Upper spillway gates No. and type | 3 (radial gates) |
| Upper spillway gates size (W x H) (m) | 11 x 10 |
| Low level spillway invert elevation (masl) | 1258.0 |
| Low level spillway gates no. and type | 2 (sluice gates) |
| Low level spillway size (WxH) (m) | 6 x 8 |
| Sediment Management | |
| Sediment Bypass Tunnel type | Gated Intake followed by Archway Tunnel |
| Intake size (WxH)(m) | 7.5 x 4.5 |
| Inlet invert elevation (masl) | 1261.0 |
| Tunnel cross section (W x H) (m) | archway (7.5 x 8.0) |
| Tunnel length (m) | 650 |
| Tunnel slope (%) | 1.5 |
| Outlet invert elevation (masl) | 1248.0 |
| Submerged guiding structure crest elevation (masl) | 1272.0 |
| Submerged weir/guiding structure height (m) | 21 (estimated maximum above foundation) |
| River Diversion | |
| Construction Flood (T= 20 years) (m ³ /s) | 900 |
| Diversion type | Openings left in the dam body for the low level spillway and a left bank diversion tunnel (which will be further converted to the sediment bypass tunnel) |
| Upstream Cofferdam type | concrete gravity solution (which will be further converted to guiding structure) |
| Upstream Cofferdam crest elevation (masl) | 1272.0 |
| Downstream Cofferdam type | concrete gravity solution |
| Downstream Cofferdam crest elevation (masl) | 1252.5 |
| Diversion tunnel type | archway (concrete lined) |
| Diversion tunnel no. (-) | 1 |
| Diversion tunnel size (WxH) (m) | archway (7.5 x 8.0) |
| Diversion tunnel length (m) | 650 |
| Diversion tunnel slope (%) | 1.5 |
| Diversion tunnel inlet invert El. (masl) | 1261.0 |
| Diversion tunnel outlet invert El. (masl) | 1248.0 |
| Power Intake Structure | |
| Intake type | Horizontal intake |
| Trash rack No. | 4 |
| Trash rack size (W x H) (m) | 8 x 10 |

| | |
|---|---|
| Service gates No. | 2 |
| Service gates size (W x H) (m) | 4 x 8 |
| Intake crest elevation (masl). | 1271 |
| Headrace Tunnel | |
| Tunnel section | Circular concrete lined (8.0 m inner diameter) |
| Length up to surge tank (m) | 9137 |
| Tunnel slope (%) | 0.56% |
| Upstream Surge Shaft | |
| Type | Concrete lined circular surge shaft |
| Internal diameter (m) | 14.5 |
| Surge shaft height (m) | 122 |
| Surge shaft bottom elevation (masl) | 1220.0 |
| Pressure Tunnel/Shaft and Penstock | |
| Pressure tunnel/shaft main section type and size | Steel lined circular cross section (5.6 m internal diameter) |
| Pressure tunnel/shaft length (m) | 152 |
| Penstock length (m) | 88 |
| Branch Section Type | Manifold (3 branches) |
| Size of each branch (m) | 3.2 m internal diameter conduits |
| Max. Length of branch (m) | ~30 |
| Powerhouse and Substation | |
| Powerhouse type | Conventional underground cavern |
| Main cavern general dimensions (LxWxH) (m) | 71 x 20 x 34 |
| Turbine type | Francis |
| No. of units | 3 |
| Turbine axis elevation (masl) | 1054.0 |
| No. of generators | 3 |
| Transformer / Substation type | Underground cavern (adjacent to the main powerhouse cavern) |
| Transformer cavern general dimensions (LxWxH) (m) | 88 x 14 x 20 |
| Downstream Surge Shaft | |
| Type | Concrete lined circular surge shaft |
| Internal diameter (m) | 3 |
| Surge shaft height (m) | 244 |
| Surge shaft bottom elevation (masl) | 1055.0 |
| Tailrace | |
| Type | Circular tunnel with transition to an archway section at the final length and Outlet portal |
| Tunnel section | Circular concrete lined (8.0 m diameter) |
| Length up to the final transition section (m) | 1515 |

| | |
|---|--|
| Tunnel slope up to the final transition section (%) | 0.23% (ascending slope) |
| Tunnel final section | Archway concrete lined section (8.0 W x 8.0 H) |
| Length from transition to outlet (m) | 50 |
| Tunnel slope up to the outlet portal (%) | 15% (ascending slope) |
| Power and Energy | |
| Gross Head (m) | 229.0 |
| Design Net Head (m) | 217.6 |
| Installed plant capacity (MW) | 300 (at the generator) |
| Mean annual energy (GWh) | 1143 (average of 55 years) |
| Project Access Facilities | |
| Access road to dam and related structures (length) | 550 m (Off taking from National Highway N-15 at the left side of Kunhar River, near Paras village) |
| Access road to sediment by-pass tunnel (length) | 440 m (from dam bridge deck up to sediment by-pass tunnel intake) |

Figure 2.1: Project Location in District Mansehra

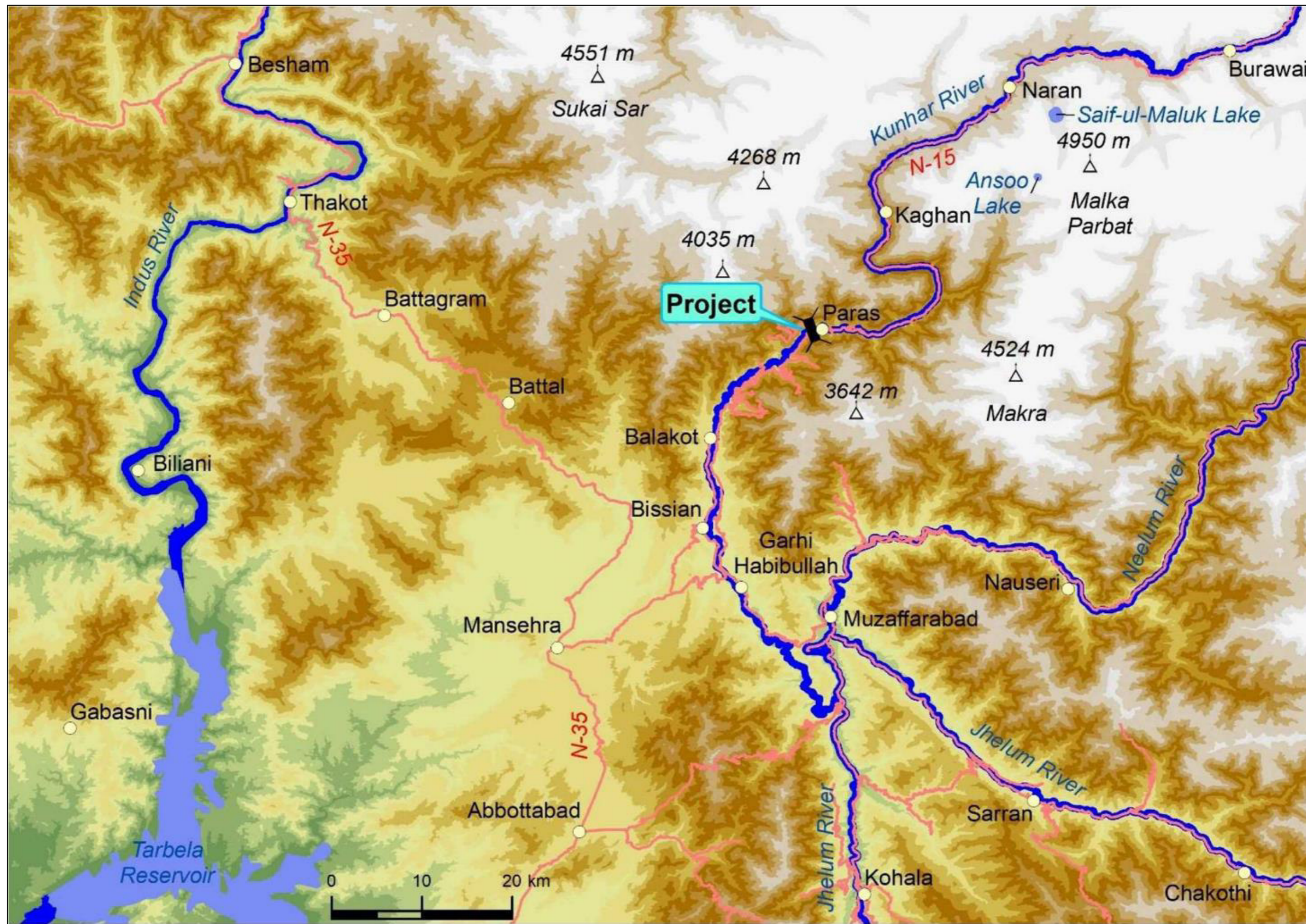


Figure 2.2: Project Layout Map

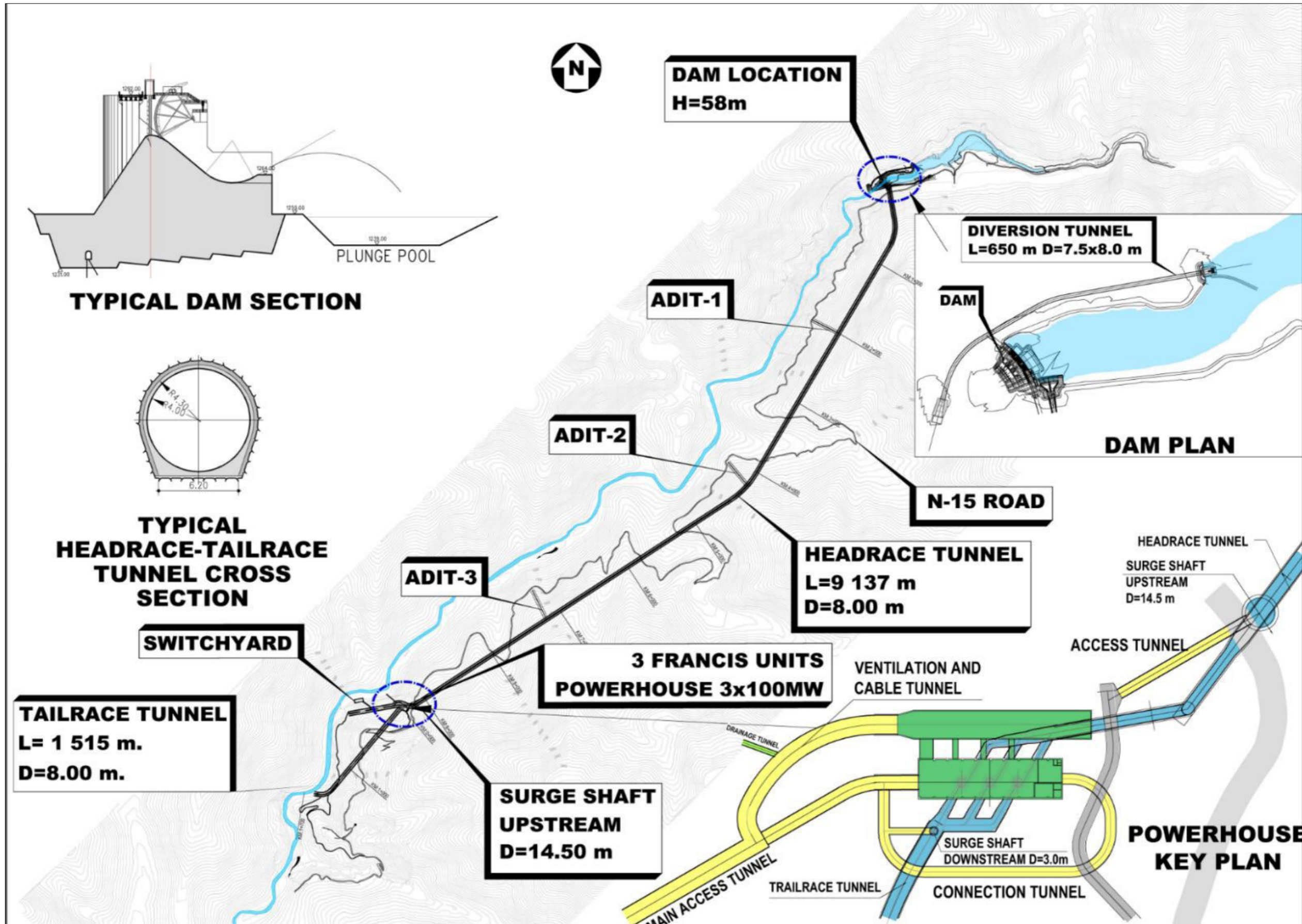


Figure 2.3: Project Setting-Dam Site

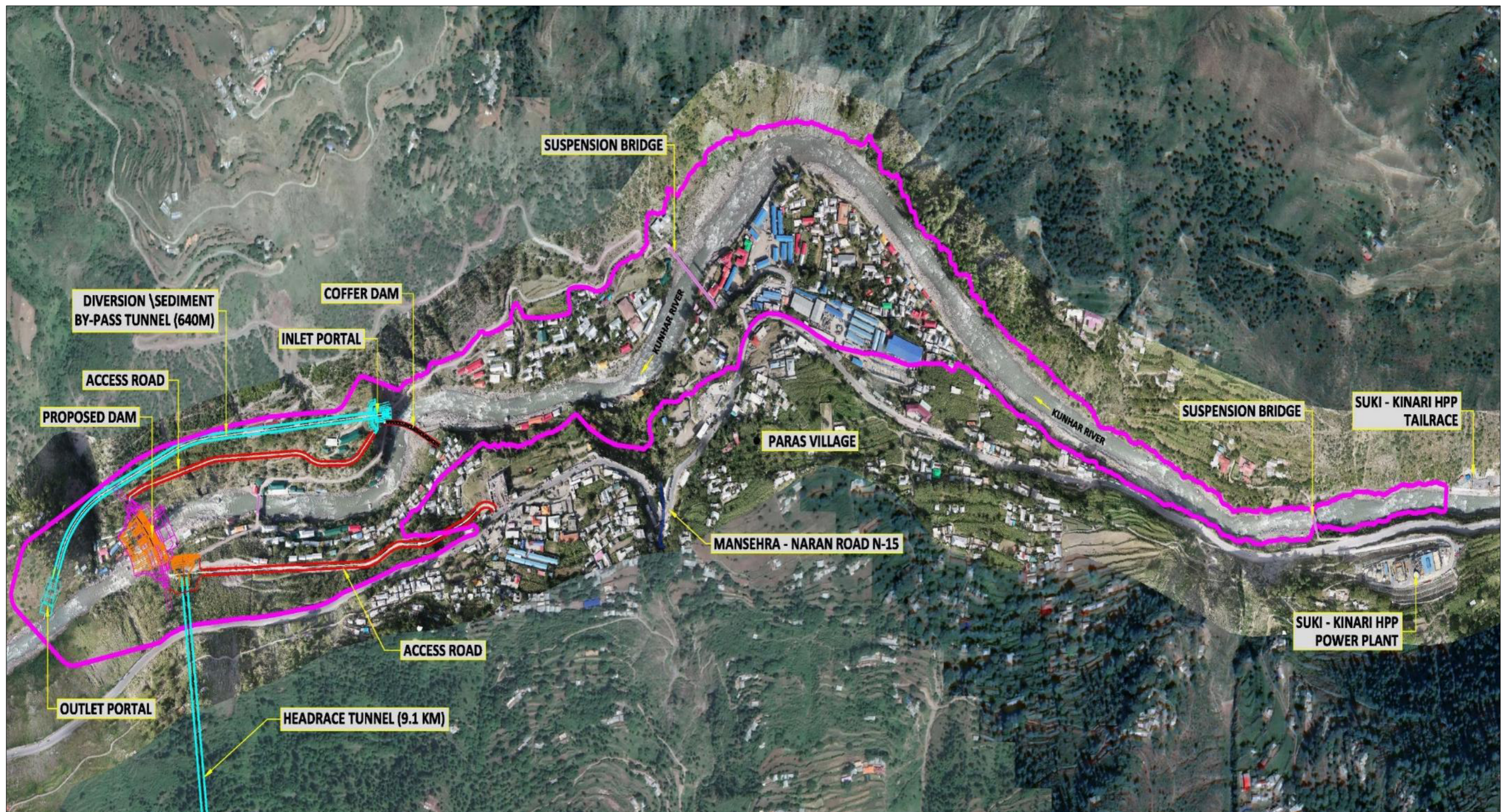
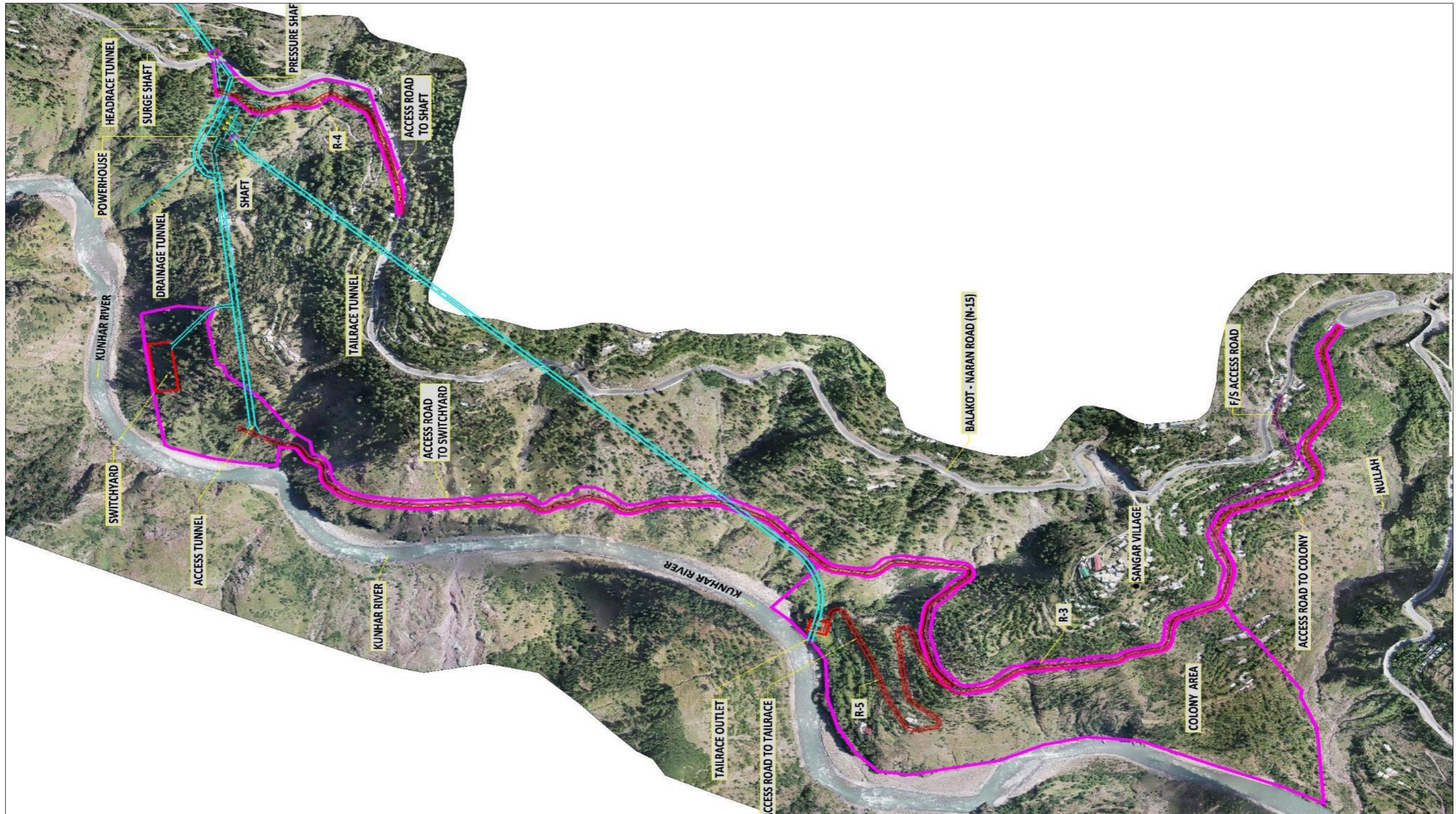


Figure 2.4: Project Setting-Powerhouse and Colony Sites



2.2. Project Contracts and Management

2.2.1. Project Implementation Arrangement

12. Balakot Hydropower Project (300MW) is being implemented through the arrangement as elucidated in the table below.

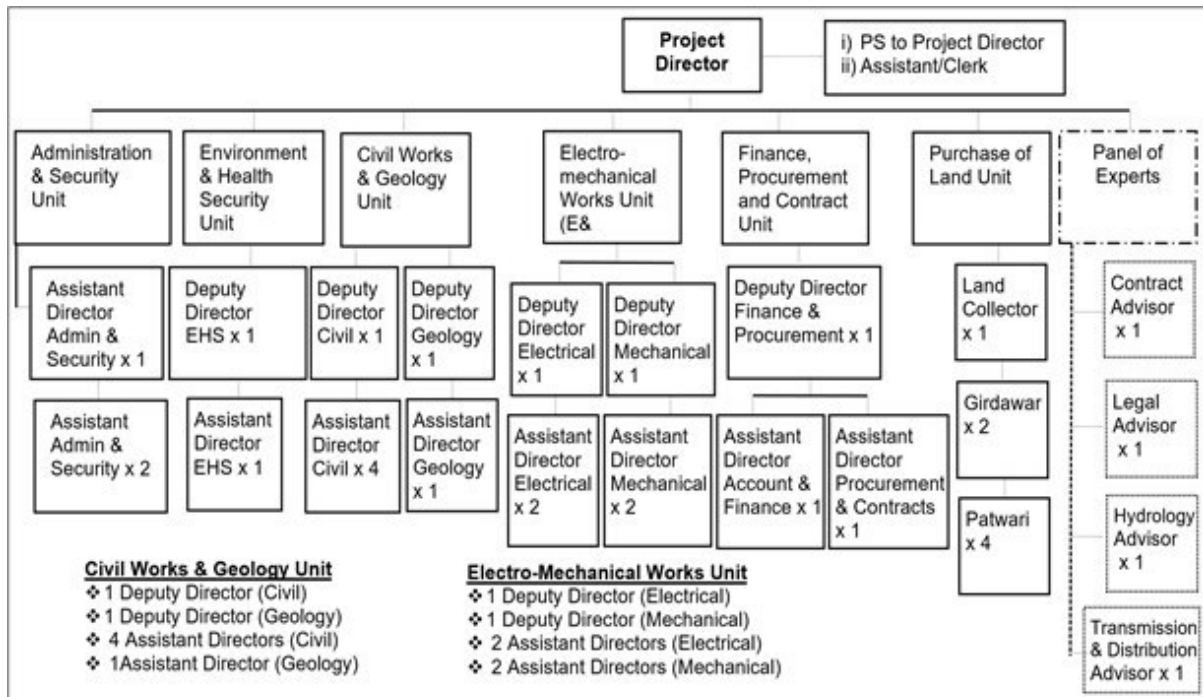
Table 2.2: Project Implementation Arrangement

| Arrangement | Organization/Agency |
|--------------------------------|--|
| Funding Sources | <ul style="list-style-type: none"> Asian Development Bank (ADB) and Asian Infrastructure Investment Bank (AIIB) through a loan to the Government of Pakistan (Loan No: 4057/8397 (AIIB)-PAK) Government of Khyber Pakhtunkhwa |
| Executing Agency | Energy and Power Department, Government of Khyber Pakhtunkhwa |
| Implementing Agency | Pakhtunkhwa Energy Development Organization (PEDO), Government of Khyber Pakhtunkhwa |
| Project Management Consultants | Joint Venture of: <ul style="list-style-type: none"> DOLSAR Engineering Inc. Co. (Turkey) Lead Firm AGES Consultants BAK Consulting Engineers CivTech Associates Electra Consultants Techno Legal Consultants (Pvt.) Limited from Pakistan |
| EPC Contractor | Joint Venture of China Gezhouba Group Company (CGGC), China & Ghulam Rasool and Company Pvt. Ltd (GRC), Pakistan |

13. For the project development, the Government of Khyber Pakhtunkhwa signed a loan agreement with the Asian Development Bank (ADB) on May 21, 2021 which became effective on July 7, 2021.
14. As Asian Infrastructure Investment Bank (AIIB) is the co-financier of the project, therefore, loan agreement was also signed with the Bank which is effective since October 25, 2021.

A. Project Implementation Unit (PIU)

15. The Project Implementation Unit (PIU), responsible for procurement and supervision of the project, is currently under establishment by the Implementing Agency (IA) i.e. Pakhtunkhwa Energy Development Organization (PEDO).
16. **Figure 2.5** shows the proposed organogram of the PIU wherein, as exhibited in **Table 2.2**, the Project Director, Deputy Directors and Assistant Directors along with some of the support staff are already onboard while procurement of the remaining personnel is in progress.

Figure 2.5: PIU Organogram**Table 2.3: PIU Staff Deployed During the Reporting Period**

| Staff Designation | Male/Female | No |
|---|-------------|----|
| Project Director | M | 1 |
| Deputy Director(Civil) | M | 2 |
| Deputy Director (Social & Resettlement) | M | 1 |
| Deputy Director (Environment Health ,Safety & Gender) | F | 1 |
| Deputy Director (Finance) | M | 1 |
| Deputy Director (Geology) | M | 1 |
| Assistant Director (Civil) | M | 1 |
| Assistant Director (Electrical) | M | 2 |
| Account Assistant | M | 1 |
| Land Patwari | M | 1 |

17. As evident from the table above, PIU is headed by the Project Director with whom the overall responsibility for environmental management and environmental monitoring rests. He will be assisted by the Environment & Health Security Unit, in matters pertaining to the Environmental, Health and Security aspect of the project. In this regard, Ms. Ibtesam Zaima, Deputy Director (Environment Health, Safety & Gender) is onboard since March, 2022 with full time project inputs and can be reached via:

Phone No: +92-3319844851

Email ID: ibtesaamz@gmail.com

18. During the reporting period, the PIU was also supported by the PEDO core staff like finance staff, Deputy Director EHS etc. through staff gap arrangement in the capacity of additional charge till deployment of the PIU dedicated staff.
19. Under the provisions of the EPC Contract, the PIU project office has been established at Site at the address given below and is operational since June 2022.

PIU Balakot HPP (300MW) Site Office

County Hotel

Shohal Najaf Khan

Kaghan Road Balakot

District Mansehra

Khyber Pakhtunkhwa, Pakistan

Phone No. 0997 360003

B. Project Management Consultant (PMC)

20. On September 03, 2020, PEDO entered into Management Consultancy Service Agreement for Balakot Hydropower Project (300MW) with a Joint Venture (JV) of DOLSAR Engineering Inc. Co. (Turkey), AGES Consultants, BAK Consulting Engineers, CivTech Associates, Electra Consultants and Techno Legal Consultants (Pvt.) Limited from Pakistan. The JV is led by DOLSAR Engineering Inc. Co. (Turkey).
21. Consultancy services are effective for 84 months since Commencement of Services on September 11, 2020. During this period, the JV will provide services specified in the consultancy contract as Project Management Consultant (PMC) and will act on behalf of PEDO as "Project Manager/Engineer".
22. Table below shows chronological order of the procurement of consultancy services.

Table 2.4: PMC Procurement Milestones

| S/No | Description | Date |
|------|--|------------------------|
| 1 | Expression of Interest (EOI) | July 29, 2019 |
| 2 | Technical & Financial Proposals | November 29, 2019 |
| 3 | Opening of Financial Proposals | May 19, 2020 |
| 4 | Contract Negotiation Meetings | August 06 and 07, 2020 |
| 5 | ADB Comments on / Concurrence to Negotiated Contract | August 25, 2020 |
| 6 | Signing of Contract for Consultancy Services | September 03, 2020 |
| 7 | Commencement of Services | September 11, 2020 |

23. Following table exhibits details of the PMC's personnel deployed to the Balakot Hydropower Project (300MW), during the reporting period.

Table 2.5: PMC's Personnel Deployed to the Project

| S/No | Name | Designation | Input |
|-------------------------|---------------------|--------------------------------------|--------------|
| Expatriate Staff | | | |
| 1 | Mehmet Çingisiz | Project Manager / Team Leader | Intermittent |
| 2 | Kağan Solmaz | Procurement Expert | Intermittent |
| 3 | Okan Alper Koruk | Contract Manager | Intermittent |
| 4 | Alican Aslan | Geotechnical Expert | Intermittent |
| 5 | Mustafa Arslan | Hydraulics Expert | Intermittent |
| 6 | Ali Osman Erdem | Sediment Management Expert | Intermittent |
| 7 | Hasan Çulha | Hydro-mechanical Expert | Intermittent |
| 8 | Burhan Arıöz | Electrical Expert | Intermittent |
| Local Staff | | | |
| 1 | Jamshed-ur-Rahman | Resident Engineer/Deputy Team Leader | Full Time |
| 2 | Assad Ali Khan | Environmental Expert | Intermittent |
| 3 | Muhammad Ishaq | Structures Engineer | Intermittent |
| 4 | Ali Akbar | Resettlement Expert | Intermittent |
| 5 | Iftikhar Uddin Syed | Transmission Line Engineer | Intermittent |
| 6 | Ibad Ullah | Assistant Resettlement Expert | Full Time |
| 7 | Fakhar-ul-Islam | CAD Operator | Full Time |
| 8 | Waseem Ullah | Cost / Time Controller | Full Time |
| 9 | Zahir Gul | Manager Administration | Full Time |
| 10 | Muhammad Imtiaz | Office Assistant | Full Time |
| 11 | Jamil Hussain | Manager Finance | Full Time |

24. Engineer Assad Ali Khan, the PMC Environmental Expert (EE) for Balakot Hydropower Project (300MW) is onboard with intermittent inputs since commencement of the services. The EE can be approached through:

Phone No: +92-3369555505

PMC official email ID: dtlbalakothpp@yahoo.com

25. The PMC office, established at Site at the address given below, is operational since June 2022.

PMC Balakot HPP (300MW) Site Office

Four Seasons Hotel, Near PTCL Exchange

Kaghan Road Balakot

District Mansehra

Khyber Pakhtunkhwa, Pakistan

Phone No: +92-0997-360155

C. EPC Contractor

26. The construction contract of Balakot Hydropower Project (300MW) was awarded to a Joint Venture of China Gezhouba Group Company (CGGC), China & Ghulam Rasool and Company Pvt. Ltd (GRC), Pakistan on March 09, 2021.
27. Consequent upon fulfillment of the requisite conditions of the EPC Contract, the Implementing Agency (IA) notified September 27, 2021 as an Effective Date for EPC Contract.
28. Various milestones achieved during procurement process of the EPC Contractor are tabulated below.

Table 2.6: EPC Contractor Procurement Milestones

| S/No | Description | Date |
|------|-----------------------|--------------------|
| 1 | Invitation for Bids | November 23, 2019 |
| 2 | Site visit to Bidders | December 10, 2019 |
| 3 | Pre-Bid Meeting | December 13, 2019 |
| 4 | Bids Submission | June 15, 2020 |
| 5 | Technical Bid Opening | June 15, 2020 |
| 6 | Financial Bid Opening | December 15, 2020 |
| 7 | Notification of Award | February 10, 2021 |
| 8 | Contract Signing | March 09, 2020 |
| 9 | Effective Date | September 27, 2021 |

29. The EPC Contractor's environmental obligations are specified in Volume-01 of 07 (Appendix-9) and Volume-03 of 07 (GCC & SCC) of the Contract Document.
30. Under the provisions of the EPC Contract, Contractor will prepare around 29 plans, including Site Specific Health and Safety Management Plan, for implementation of the Environment, Health and Safety (EHS) obligations of the contract. These plans will be prepared in light of the approved EIA report, the SPS 2009 guidelines and in pursuance of the conditions of "Environmental Approval" granted by the Khyber Pakhtunkhwa Environmental Protection Agency.
31. Although, environmental, health and safety portfolio is currently being taken care of by Mr. Wang He, Incharge of QHSE Section, however, the EPC Contractor is yet to seek the PIU/PEDO approval of Environmental Manager as per contract requirements. In this regard, necessary instructions have already been issued to the Contractor through letters/emails with the subsequent reminders for priority action.
32. During the last coordination meeting held at Site on June 22, 2022, the EPC Contractor appraised that non availability of professional environmentalist was the main reason attributed towards delay in hiring of the Environmental Manager however, a

professional has now been finalized for the assignment credentials of whom will soon be shared with the PIU for approval thereof under the provisions of the Contract.

33. The EPC Contractor has not initiated any permanent construction activities at Site as under the provision of conditions of contract and as provided in the Program of Works, such activities are conditional with the grant of possession of Site and approval of the project Basic Engineering Design. Nevertheless, the monitoring activities pertain to establishment of construction camp and installation of batching plant etc. will be carried out as per approved plans.

Figure 2.6: Consultancy and Construction Contract Awards



Consultancy Services Contract Award (2020)



Construction Contract Award (2021)

2.3. Activities During Current Reporting Period

34. As expounded above, the reporting period falls in the Pre-Construction Phase of the project hence, various pre-requisite activities for the initiation of permanent works remained in progress during this period. These include preparation of the Project Basic Design, formulation of SSEMP, surveys, geotechnical investigations and securing various NOCs from the concerned quarters including NOC from the provincial Forest department for construction of temporary access road to Tunnel Adit-1, etc.
35. Complete trail of activities, pertain to the project environmental portfolio, carried out till end of the reporting period are detailed as hereunder.

2.3.1. Virtual Meeting with ADB and AIIB

36. In connection with the Country Safeguards Review Mission (CSRМ) for Pakistan conducted by ADB, Social and Environmental Safeguard team of the PMC delivered presentation to ADB and AIIB representatives via video link on January 24, 2022. Deputy Director Environment (DDE) and Assistant Director (Civil) represented PIU Balakot HPP (300MW) in the presentation event while Deputy Team Leader (DTL) also participated.

37. The Environmental Expert of PMC highlighted progress made under the environmental portfolio and shared schedule for implementation of the Biodiversity Action Plan (BAP). The schedule envisaged: (i) consultation with the stakeholders i.e. officials of the Fisheries, Wildlife and Forest departments of the Government of Khyber Pakhtunkhwa on implementation of BAP in the Area of Management; and (ii) consultation in context of basin-wide BAP with officials of the Kohala HPP, Karot HPP, Mahal HPP, Azad Pattan HPP and NJHPP. Details of such consultation meetings and presentations made therein are given under subhead 2.3.2 below.

Figure 2.7: Virtual Meeting with ADB and AIIB



2.3.2. Consultation Meetings on Biodiversity Action Plan (BAP)

38. Finalization of modalities for implementation of BAP in the Area of Management (an impact zone of about 45 km length of the Kunhar River starting from 4km upstream of Balakot HPP (300MW) with extension up to 5km upstream of the Patrind HPP Reservoir) remained one of the focused activities undertaken during the reporting period.
39. In this regard, the PMC's Environmental Expert and the Deputy Director (PEDO) visited the Wildlife, Fisheries and Forest department offices at District Mansehra and delivered presentations on BAP, followed by similar presentations to the heads of the departments as per schedule exhibited in **Table 2.7**.

Table 2.7: Consultation Meetings and Presentation Schedule

| Activity | Schedule | Venue |
|---|-------------------|----------------------------------|
| BAP presentation on: | February 16, 2022 | DFO Wildlife office, Mansehra |
| <ul style="list-style-type: none"> • objectives; • institutional arrangement; | February 17, 2022 | DFO Forest office Jaba, Mansehra |

| Activity | Schedule | Venue |
|--|-------------------|---|
| <ul style="list-style-type: none"> • human, financial and logistical resources; • implementation arrangement; and • composition of Management Committee | February 18, 2022 | Deputy Director Fisheries office, Mansehra |
| | March 22, 2022 | Director General Fisheries Office, Peshawar |
| | | Chief Conservator Office, Peshawar |

40. During these meetings, detailed presentations, pertain to the BAP institutional and implementation arrangements as envisaged in the EIA report, were delivered while concerned were requested to make necessary preparations for the upcoming joint meeting at PEDO with the aim to finalize the BAP implementation modalities.

41. Following is the synopsis of the key findings of the BAP consultation meetings conducted so far whereas comprehensive details have been given in the BAP Consultation Report submitted to ADB on May 20, 2022.

A. Presentation to DFO Wildlife, District Mansehra

42. A detailed BAP presentation delivered to Mr. Sayyed Taimur Ali Shah, DFO Wildlife District Mansehra, at the date and venue mentioned above was also attended by Mr. Muhammad Mumtaz, SDWO Wildlife Balakot. Various aspects of the BAP including foreseeable legal impediments in its implementation were discussed in detail.

43. The DFO Wildlife was of the view that BAP implementation shall be made consistent with the prevailing applicable laws and requirements of the Area of Management.

44. The DFO opined that due to legal implications, involvement of the implementation organization for management and protection measures may not be of any fruitful avail. Also, upon completion of the project, there is high probability that Wildlife department would not continue services of such organization, which effect may fade the long term benefits of the interventions.

45. He suggested that the proposed Watch and Ward staff should work under the direct supervision of DFO office whereas PEDO will arrange logistic, pay remuneration and other related costs.

Figure 2.8: Presentation to DFO Wildlife- District Mansehra**B. Presentation to DFO Forest, Jaba (Balakot)**

46. Consultation meeting was held with Mr. Farukh Sair, DFO Forest, at his Jaba office Balakot wherein the Environmental Expert of PMC delivered a detailed presentation on the proposed intervention. The meeting was also attended by Mr. Muhammad Hanif, CDO Kaghan and Noor Rehman, Office Assistant, whereas PEDO was represented by Engr. Asif Khan, Deputy Director Balakot HPP (300MW).
47. The DFO Forest vouched his full support and cooperation in identification of plantation site(s) in the Area of Management. He however, advised that the Tree Plantation Plan should be shared with the relevant quarters at the Forest Department for consent and technical support thereof. He recommended that while devising Tree Plantation Plan, local species shall be proposed for plantation as invasive species are not recommended being non-beneficial for the project area environment.

Figure 2.9: Presentation to DFO Forest- District Mansehra

C. Presentation to Deputy Director Fisheries, District Mansehra

48. As Fisheries department has a leading role in implementation of the BAP therefore, as start up, consultation meeting was held with Mr. Faheem Akhtar, Deputy Director Fisheries, and his team comprising of Mr. Muhammad Saeed, Superintendent Fisheries and Mr. Atif Sultan, Assistant Fisheries, at District Mansehra. It is pertinent to mention here that the district team had familiarization with the project EIA report and various sectoral interventions proposed therein.
49. The Deputy Director Fisheries shed light on measures taken for protection of the Kunhar River fish fauna and array of impediments in implementation of such measures proposed under various hydropower projects in the basin.
50. He also apprised that in pursuance of the Fisheries Head Quarter directions, all correspondences in context of BAP shall be made with the head of the department.

Figure 2.10: Presentation to DD Fisheries- District Mansehra



D. Presentation to Chief Conservator Wildlife, Govt. of KPK

51. As exhibited in **Table 2.7**, on March 22, 2022, a presentation on BAP was scheduled to be delivered to the Chief Conservator Wildlife however, due to his official engagements, the same was delivered to his assignee Ms. Haseena Ambreen, DFO Extension, at her office.
52. The DFO Extension suggested that Forest Department should have a prominent role in implementation of the BAP as local forest is a key component of the project area wildlife habitat. The PMC's Environmental Expert, apprised that Forest department is onboard since the project inception with leading role in the impact assessment on flora and in the formulation of Tree Plantation Plan.

53. Also, she was of the view that BAP implementation process should be made simple while composition of the Management Committee need to be squeezed to make it more efficient in serving the intended purpose.

Figure 2.11: Presentation to DFO Extension, Wildlife Department



E. Presentation to Director General Fisheries, Govt. of KPK

54. To familiarize officials of the Headquarter of Fisheries department with the Balakot HPP (300MW) and the BAP provisions contained in the KPEPA approved EIA report, the PMC's Environmental Expert delivered a detail presentation to the Director General (DG) Fisheries Govt. of KPK and his team at his Peshawar office.
55. Mr. Khisro Kalim, DG Fisheries, and other participants of the presentation namely Mr. Zubair Ali, Director (HQ); Mr. Fawad Khalil, Deputy Director Fisheries (HQ); and Mr. Muhammad Ilyas, Deputy Director P&D, took keen interest in the project setting and institutional arrangement of BAP.
56. The Director General opined that composition of the BAP Management Committee and the Fisheries department role therein need to be re-drawn.
57. He also suggested that under the BAP interventions, PEDO should provide financial assistance in reconstruction/reinstatement of hatchery at Naran or elsewhere in the project area. He further suggested that for watch and ward, instead of hiring new staff PEDO should engage the Fisheries department existing staff in the project district.

Figure 2.12: Presentation to DG Fisheries Department

58. Participants lists of the foregoing consultation meetings are attached as **Annexure-01**.

2.3.2.1. BAP Consultation Report

59. As mentioned under para 41, details of the aforementioned consultation meetings were documented in the form of BAP Consultation report and submitted to ADB on May 20, 2022 for information and record.

2.3.2.2. Joint BAP Consultation Meeting

60. As recommended in the BAP Consultation report, a joint meeting of Wildlife and Fisheries departments of the Government of Khyber Pakhtunkhwa, PEDO and PMC was held on June 07, 2022 at PEDO House Peshawar under the chair of Deputy Director BTHPP (300MW). The meeting however, remained inconclusive in context of achieving its objectives as envisaged in the meeting invitation letter.

61. Following officials from the departments, PEDO and PMC participated in the joint consultation meeting.

- | | |
|------------------------------|--------------------------------------|
| i. Mr. Asif Khan: | Deputy Director Balakot HPP |
| ii. Miss Ibtesam Zaima Khan: | Deputy Director (EHSG) Balakot HPP |
| iii. Mr. Assad Ali Khan: | Environment Expert (PMC) |
| iv. Mr. Salahuddin: | DFO (HQ) Wildlife Department |
| v. Mr. Muhammad Ilyas: | Deputy Director Fisheries Department |

62. Minutes of Meeting (MOM) are attached as **Annexure-02**.

63. Owing to the delay in furnishing recommendations/assessment report by the DFO Wildlife District Mansehra on account of his official engagement in local body elections, the DFO Wildlife (HQ) suggested that a second round of meeting should be held in the first week of July 2022 enabling his team to present comprehensive recommendations

for effective implementation of BAP. Deputy Director Fisheries supplemented the suggestion and proposed July 05, 2022 for the next meeting.

64. Sequel to the foregoing, next round of Joint BAP consultation meeting will be held on July 05, 2022 at the Project Director (BTHPP) office PEDO House Peshawar. Invitation letters for the meeting have already been issued on June 27, 2022.

Figure 2.13: Joint Consultation Meeting



2.3.3. Preparation of Site Specific Environmental Management Plan (SSEMP)

65. Subsequent to the EPC Contractor's first SSEMP submission and the PMC's review comments transmitted during the reporting period correspond to previous SAEMR, thereafter Contractor submitted second and third versions during the current reporting period.
66. Both versions of the SSEMP were reviewed by the PMC while review comments were timely transmitted to the EPC Contractor. As second and third versions of SSEMP were more or less the same, without addressing any of the major review comments, therefore, brief of the review comments given in table below were largely remained same for both the versions.

Table 2.8: SSEMP Submissions and the PMC's Review Comments

| SSEMP Submission No. | Submission Date | PMC Response Date | Major Review Comments |
|----------------------|------------------|-------------------|--|
| 2 | January 15, 2022 | January 27, 2022 | <ul style="list-style-type: none"> i. In pursuance of SCC Sub-Clause 9.9 “Environmental Safeguards” of Volume-03 of 07 of the Contract Document, the Contractor shall share CVs of the environmental team with the PIU/PEDO for review and approval thereof prior of any appointment of such team. ii. Detail description of Project Boundaries, environmental values and sensitive receptors within the Site and its surrounding are missing. iii. Description of construction activities, to be undertaken during the currency of the contract, and construction schedule are missing. iv. Risk assessment chapter, which is one of the basic requirements of the SSEMP, is completely missing. v. The risks assessed and the mitigation measures proposed shall be superimposed on the project layout map. vi. Various plans contained in the report represent a set of guidelines and precautionary measures instead of site specific interventions and management. For example, the SSEMP is deficient of specific details of the Contractor’s camp, batching plant, spoil disposal points, tree plantation site(s) and species to be planted, borrow/quarry areas, traffic diversion arrangements, ERP, etc. vii. The map, showing locations (points) of instrumental environmental monitoring of air, noise, water etc. is missing. viii. The GRM, both notified by PEDO and the Contractor’s internal GRM, shall be made part of the SSEMP. |
| 3 | April 24,2022 | May 09, 2022 | |

67. As given below, during this period, the PMC's Environmental Expert held one virtual and two face to face meetings with the authors of the SSEMP wherein the review comments and requisites of SSEMP were discussed in detail. As results of these meetings and constant interaction with the EPC Contractor, the submission of SSEMP, updated in light of the review comments, is expected in mid-July, 2022.

Table 2.9: Meetings with the EPC Contractor on SSEMP

| Meeting | Meeting Date | Participants | Organization |
|-----------------|-------------------|---------------------------------|----------------|
| Virtual Meeting | February 11, 2022 | Deputy Director Environment | PIU |
| | | Deputy Team Leader | PMC |
| | | Environmental Expert | |
| | | Authorized Representative | EPC Contractor |
| | | Contractor's Environmental Team | |
| Face to Face | May 16, 2022 | Environmental Expert | PMC |
| | | QHSE Manager | EPC Contractor |
| Face to Face | June 22, 2022 | PD (BTHP) Office Staff | PIU |
| | | Environmental Expert | PMC |
| | | QHSE Manager | EPC Contractor |

Figure 2.14: Meeting with the EPC Contractor's Team



Figure 2.15: Discussion on SEMP with the EPC Contractor's QHSE Manager

2.3.4. Correspondences with Khyber Pakhtunkhwa Environmental Protection Agency

68. With reference to the Director General (DG) Khyber Pakhtunkhwa Environmental Protection Agency (KPEPA) decision on the Environmental Impact Assessment (EIA) report of Balakot HPP (300MW) for the “Environmental Approval”, conveyed to the Project Director Balakot HPP (300MW) vide KPEPA Letter No. EPA/EIA/HPP/300MW/Balakot/21/980 Dated July 06, 2021 (**attached as Annexure-03**), the PMC recommended that a waive-off request against construction of Fish ladder under condition No. (hh) of the “Environmental Approval” may be submitted by PIU to the Agency for their consideration.
69. The PMC recommendations are primarily based on: (i) findings of the ADB disclosed EIA report submitted to KPEPA for “Environmental Approval”; and (ii) non provision of Fish ladder in the upstream Sukki Kinari HPP and downstream Patrind HPP.
- On Page No. 6-12 of Volume C “Supporting Document” of the EIA report, it has been inferred that “...even if a fish channel is constructed, it will be challenging for fish to negotiate. Traveling and drifting through an extended water channel under strong pressure from the current will exhaust the fish if they are able to swim upstream at all, and injure them possibly resulting in mortalities. Moreover, if some of the fish are successful in reaching the reservoir, they will be in new territory, under unfamiliar conditions. Alwan Snow Trout is not a reservoir fish, it will be adversely affected....”;
 - On Page No. 6-32 of Volume A “Main Report” of the EIA report, the construction of Fish ladder in Balakot HPP (300MW) has technically been found unfeasible option.
70. In light of the PMC recommendations, the Project Director (BTHPP) vide letter No. 419-24/PEDO/PD Balakot HPP dated May 26,2022 (**attached as Annexure- 04**) submitted a waive-off request against condition (hh) of the “Environmental Approval”

to the Director General(DG) KPEPA. The DG KPEPA response is however still awaited.

71. As fish ladder was neither part of the Project bid document nor thereafter made part of the EPC Contract hence, in case KPEPA insist on implementation of the aforementioned condition (hh) in toto, there may occur changes in the bid level design.

2.4. Planned Activities

72. The major environmental activities planned for the period from July to December 2022 are given in the table below.

Table 2.10: Planned Activities for July-December 2022

| S/No | Activity | Schedule |
|------|--|----------------------|
| 1 | BAP Joint consultation meeting with Wildlife and Fisheries departments | July 05, 2022 |
| 2 | Finalization of SSEMP preparation and review | August 08, 2022 |
| 3 | Consultation meetings with stakeholders for basin-wide BAP | August 16-19, 2022 |
| 4 | Submission of Basin-wide BAP Consultation Report to ADB | August 30, 2022 |
| 5 | Pre-construction Instrumental Monitoring of air, noise,water,soil etc. at Site | September 5-10, 2022 |
| 6 | Signing of BAP Contract with Fisheries and Wildlife departments | October 04, 2022 |
| 7 | Supervision of HSE aspect of the construction Works | October 2022 onward. |
| 8 | Quarterly Instrumental Monitoring of air, noise,water,soil etc. at Site | December 20-25, 2022 |

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES


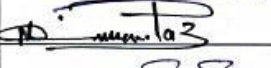

3.1. General Description of Environmental Safeguard Activities

73. The construction related environmental safeguard activities will be supervised upon grant of possession of land to the EPC Contractor and commencement of Works scheduled in September, 2022.

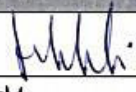

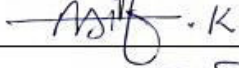
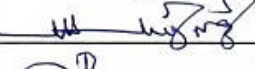

ANNEXURES

Annexure-01: Participants List of BAP Consultation Meetings

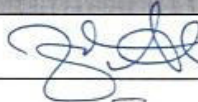
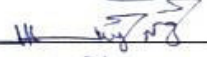


Balakot Hydropower Project (300MW)
District Mansehra
Consultation and Presentation on BAP
Attendance Sheet
February 16, 2022

| S/No | Name of Participant | Organization/Department | Signature |
|------|----------------------|---------------------------|---|
| 1 | Syed-Taimur Ali Shah | DFO Wildlife Mansehra |  |
| 2 | Muhammad Muntaz | SDWO WIL Balakot |  |
| 3 | Assad Ali Khan | PMC Environmental Project |  |
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Balakot Hydropower Project (300MW)
District Mansehra
Consultation and Presentation on BAP
Attendance Sheet
February 17, 2022



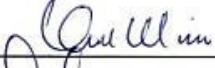

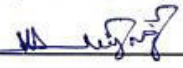
| S/No | Name of Participant | Organization/Department | Signature |
|------|---------------------|-------------------------|---|
| 1 | Farrukh Saif | DFO Kaghan. |  |
| 2 | Muhammad Hanif | CDO Kaghan |  |
| 3 | Engr. Asif Khan | Dy Director PEDO |  |
| 4 | Assad Ali Khan | Princ. BTAPP(300MW) |  |
| 5 | Noor ul-Perwez Khan | Assistant |  |
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Balakot Hydropower Project (300MW)
District Mansehra
Consultation and Presentation on BAP
Attendance Sheet
February 18, 2022

| S.No | Name of Participant | Organization/Department | Signature |
|------|---------------------|---------------------------|---|
| 1 | Fahim Akhtar | Deputy Director Fisheries |  |
| 2 | Assad Ali Khan | Environmental Expert-PMC |  |
| 3 | Engr. Asif Khan | Deputy Director PEDD | Asif.K. |
| 4 | Muhammad Saeed | Superintendent Fisheries |  |
| 5 | Aij Sultan | Asstt. Fisheries |  |
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Balakot Hydropower Project (300MW)
District Mansehra
Consultation and Presentation on BAP
Attendance Sheet

March 22, 2022

| S/No | Name of Participant | Organization/Department | Signature |
|------|----------------------|---------------------------|---|
| 1 | Dr. Khurao Kalim | D.G Fisheries |  |
| 2 | Mr. Zubair Ali | Director Fisheries |  |
| 3 | Mr. Fawad Khaliq | Deputy Director Fisheries |  |
| 4 | Mr. Muhammad Ilyas | Deputy Director Fisheries |  |
| 5 | Engr. Assad Ali Khan | EE BTHPP (300MW) |  |
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Balakot Hydropower Project (300MW)
District Mansehra
Consultation and Presentation on BAP
Attendance Sheet



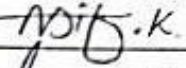
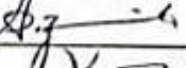
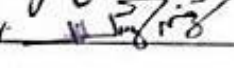
March 22, 2022

| S/No | Name of Participant | Organization/Department | Signature |
|------|---------------------|-------------------------|---|
| 1 | Haseena Anbarin | Wildlife Dept. KP |  |
| 2 | Assad Ali Khan | EE-BTHPP(300MW) |  |
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**Annexure-02: Participants List of BAP Joint Consultation Meeting
and Minutes of Meeting**

Balakot Hydropower Project (300MW)
District Mansehra
Consultation Meeting on BAP
List of Participants

June 07, 2022

| S.No | Name of Participant | Organization/Department | Signature |
|------|---------------------|--|---|
| 1 | Salahuddin | RP W/L Dept |  |
| 2 | MUHAMMAD ILYAS | Fisheries Deptt: |  |
| 3 | Asif Khan | PEDO |  |
| 4 | Ibtisam Zaira Khan | PEDO |  |
| 5 | Assad Ali Khan | (PMC) Project Management Consultant |  |
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P E D O
PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION
 Government of Khyber Pakhtunkhwa Peshawar
 Energy & Power Department



No.524 /PEDO/PD Balakot HPP
 Dated Peshawar the 21 /06/2022

To

1. Chief Conservator, Wildlife, Peshawar.
2. Director General, Fisheries, Peshawar.

Subject: - Minutes of Joint Consultation Meeting on Biodiversity Action Plan (BAP) of Balakot Hydropower Project (300MW).

Dear Sir

Enclosed please find herewith the subject meeting minutes regarding 300 MW Balakot HPP, held at PEDO House Peshawar on 7th June, 2022 for your information and further necessary action.

Shane
 Project Director 21/06/2022
 Balakot HPP,
 PEDO, Peshawar.

CC:

1. Chief Engineer (Dev), PEDO, Peshawar.
2. PS to CEO, PEDO, Peshawar.
3. Team Leader PMC Balakot HPP.

/

Project Director
 Balakot HPP,
 PEDO, Peshawar.

Minutes of Consultation Meeting on Biodiversity Action Plan (BAP)

Project : Balakot Hydropower Project (300MW)
Venue : Office of the Project Director Balakot HPP, PEDO House Peshawar
Meeting held on : June 07, 2022

List of Participants:

- Mr. Asif Khan: Deputy Director Balakot HPP
- Miss Ibtesam Zaima Khan: Deputy Director (Environment, Social and Gender) Balakot HPP
- Mr. Assad Ali Khan: Environment Expert (Project Management Consultant)
- Mr. Salahuddin: DFO (HQ) Wildlife Department
- Mr. Muhammad Ilyas: Deputy Director Fisheries Department.

In continuation to the BAP consultation with the Wildlife and Fisheries departments of the Government of Khyber Pakhtunkhwa, a joint meeting was held at the date and venue mentioned above to discuss suggestions/recommendations of the aforementioned departments enabling Project Implementation Unit (PIU) of Balakot HPP to finalize modalities towards BAP implementation in the Area of Management to achieve objectives envisaged in the approved Environmental Impact Assessment (EIA) report.

Proceedings:

Subsequent to the opening remarks by the Deputy Director (DD) Balakot HPP, the Project Management Consultant's (PMC) Environmental Expert (EE) briefly explained objectives of the meeting and synopsis of sequential details of the previous consultation meetings held in the context, followed by request to the participants to forward their suggestion or recommendations.

Though, the DFO (HQ) Wildlife appreciated the Pakhtunkhwa Energy Development Organization (PEDO) contribution in elimination of the unabated electricity load shedding in the country he however, opined that as execution of Balakot HPP will involve cutting of a large number of trees- which may consequently affect wildlife- therefore, Forest department shall be taken onboard while a No Objection Certificate (NOC) shall accordingly be obtained.

The EE apprised that Forest department is already onboard whereas essential NOCs, including NOCs from Forest and Wildlife departments have already been obtained, as they are the pre-requisite for "Environmental Approval" granted by the Khyber Pakhtunkhwa Environmental Protection Agency. Furthermore, to compensate impact on trees, the EPC Contractor, under the provision of Conditions of Contract and with the consent of DFO (Forest) office Jaba, will formulate Tree Plantation Plan whereby trees will be planted at the specified location(s) @ 1:10 i.e. against one affected tree, ten trees will be planted.

The DFO (HQ) Wildlife expounded that as DFO Wildlife Mansehra office is currently working on potential impact assessment and formulation of recommendations for interventions aligned with the BAP objectives therefore, another consultation meeting should be held in the first week of July 2022. He also asked DD Balakot HPP to provide him hard copy of the document containing BAP

and soft copy of the presentation delivered to the Wildlife department officials. Deputy Director Balakot HPP responded that copies of the foregoing will be provided by 10th of June 2022.

During the proceedings, Deputy Director Fisheries shed light on the importance of the Kunhar River trout fish and its role as mean of attraction for tourists. He argued that creation of barrier (dam) across the Kunhar River and its associated impacts on the fish fauna shall be compensated through construction of hatchery at Naraan and therein promotion of fish breeding in captivity. The Deputy Director (Environment, Social and Gender) Balakot HPP suggested that although, construction/rehabilitation of Fish hatchery at Naraan, as recommended by the DD Fisheries, is important for offsetting impact(s) on the Kunhar River fish fauna however, implementation of protection measures, as proposed in the EIA report, are also equally important.

Regarding the Fisheries department suggestion/recommendations on the proposed protection measures and composition of the BAP Implementation Committee, the DD Fisheries supplemented the DFO (HQ) Wildlife suggestion that a second round of consultation meeting should be held wherein his department will come up with a detail presentation on the matter.

Conclusion:

Deputy Director Balakot HPP concluded consultation meeting with vote of thanks to the participants and proposed next consultation meeting on July 05, 2022 for which, official intimation will accordingly be conveyed to the heads of the respective departments.

3/3

Annexure-03: Environmental Approval to the EIA Report



**Environmental Protection Agency
Forestry, Environment & Wildlife Department
Govt. of Khyber Pakhtunkhwa**

No. EPA/EIA/HPP/300MW/Balakot/21/980

Dated 06 / 07 / 2021



To,

The Project Director,
Balakot HPP, PEDO, Peshawar.
Contact No. 091-9217463

SUBJECT: DECISION ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT OF 300MW BALAKOT HYDRO POWER PROJECT FOR ENVIRONMENTAL APPROVAL

Kindly refer to the subject cited above and to enclose herewith Environmental Approval/Decision Note (in original) on EIA Report of the subject project for your information and further implementation.

Moreover, Schedule-VII must be submitted to this Agency within a month on Stamp Paper (Copy enclosed). The same shall be submitted as an undertaking for the compliance of terms and conditions as mentioned in the Environmental Approval as well as mitigation measures proposed in the EIA Report, please.


Director General

Copy for information to the;

1. Secretary, Forestry, Environment and Wildlife Department, Govt. of Khyber Pakhtunkhwa, Peshawar.
2. Commissioner, Hazara Division, Govt. of Khyber Pakhtunkhwa.
3. Secretary, Mines & Mineral Development Department Govt. of Khyber Pakhtunkhwa.
4. Chief Conservator, Forest Department, Govt. of Khyber Pakhtunkhwa.
5. Director General, Fisheries Department, Govt. of Khyber Pakhtunkhwa.
6. ~~Chief Conservator~~, Wildlife Department, Govt. of Khyber Pakhtunkhwa.
7. The Director North, EPA Regional Directorate, Abbottabad.

D:\EIA Section 2011\Sectors\Hydro Power Projects\300MW Balakot HPP District Mansehra

3rd Floor, SDU Building, Khyber Road, Peshawar Cantt
Telephone: 92 (91) 9210263, Fax: 92 (91) 9210280

SCHEDULE-VI
Decision on EIA

1. **Name, address of proponent:** The Project Director, Balakot HPP,
PEDO, Plot No. 38-B2, PEDO House,
Phase-V, Haytabad, Peshawar.
Contact No. 091-9217463

2. **Description of project.** M/S 300 MW Balakot Hydropower
Development Project located at 18.6km
upstream of the town of Balakot, District
Mansehra. The Dam will be a concrete
gravity dam with a maximum height of 35m
from the river bed and dam crest length of
130m. The top elevation will be 1292m
above mean sea level (amsl). The dam will
create a reservoir that will operate between
with a maximum level of 1288m and the
minimum operating water level of 1283m.
The reservoir volumes corresponding to the
maximum and minimum operating levels
are 3.6million cubic meter and 2.4 million
cubic meter, respectively. The surface area
of the reservoir will be approximately 28
hectares and it will be extend 2.2 km
upstream of the dam. A headrace tunnel
extending 9.1km will divert water from the
reservoir created by the dam to the
powerhouse. The powerhouse will be
underground caven-type powerhouse. A
1.565km long tailrace tunnel will discharge
the water back to the Kunhar River. The
total distance between the dam and the
outfall of the tailrace tunnel will be about
13.4km. The total installed capacity will be
300MW. The average annual energy
generation will be 1143 Gigawatt-hour
(GWh).

3. **Location of project.** District Mansehra.

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GPS Coordinates:

| S.No | Type | Latitude | Longitude | S.No | Type | Latitude | Longitude |
|------|--------|------------|------------|------|------------|------------|------------|
| 1 | Weir | 34.659454° | 73.449015° | 8 | Tunnel | 34.603045° | 73.381508° |
| 2 | Tunnel | 34.659567° | 73.449193° | 9 | Tunnel | 34.603295° | 73.380966° |
| 3 | Tunnel | 34.654372° | 73.451447° | 10 | Tunnel | 34.594936° | 73.371572° |
| 4 | Tunnel | 34.653311° | 73.451488° | 11 | Tunnel | 34.594429° | 73.370584° |
| 5 | Tunnel | 34.652587° | 73.451374° | 12 | Tunnel | 34.594230° | 73.369587° |
| 6 | Tunnel | 34.628207° | 73.430871° | 13 | Tunnel | 34.594324° | 73.368471° |
| 7 | Tunnel | 34.627600° | 73.429977° | 14 | Tunnel | 34.594638° | 73.367308° |
| - | - | - | - | 15 | Powerhouse | 34.604418° | 73.380401° |



4. **Date of filing of EIA.** 03/09/2019 (Ref: EPA Diary No.798)
5. After careful review, the Environmental Protection Agency, Govt. of Khyber Pakhtunkhwa has decided to accord Construction Environmental Approval of the Environmental Impact Assessment (EIA) Report of **"300MW Balakot Hydro Power Project, District Mansehra"** in line with the Khyber Pakhtunkhwa Environmental Protection Act, 2014 and the Review of IEE/EIA Regulations, 2000, subject to the following Terms & Conditions;
- The proponent shall adopt all precautionary and mitigation measures recommended in the EIA Report as well as replies of the proponent submitted to this Agency and any un-anticipated impacts arising during the Construction and Operation phase of the project.
 - Arrangement for compensation to the affectees, in case of loss of land, Crops, property, Schools, Water Springs, Water Supply Schemes, Hotels and Masjids will be finalized before the start of construction. Any money

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involved in compensation will be deposited with District Govt./Revenue Department for disbursement among the affectees. A committee shall be constituted ensuring fair representation of locals with properly documented grievance procedure. As far as possible recommendations of a committee comprising of land/house owners and tenants shall be taken into consideration during finalizing the compensation package. All conflicting issues regarding compensation, etc. should be settled before executing/commencing of the project activities and a certificate in this regard should be submitted to EPA;

- c) The Land Acquisition & Resettlement Plan (LARP) shall be properly implemented before execution of construction work. The proponent shall submit verified land acquisition and compensation documents prior commencement of construction activities. A certificate of payment to the locals shall be generated from the concerned Revenue Department and must be submitted to this Agency before commencement of the construction activity;
- d) In light of the LARP, in addition to other compensation measures, at least one male & one female from every affected household will be eligible for employment/labor or training or loan based on their willingness, based on the project requirement;
- e) The existing natural water springs, the water supply scheme/spring affected from the Project shall be properly compensated and alternate water supply for the affectees shall be ensured, Detail of the same shall shared with the Agency before commencement of the construction activity;
- f) The spring channels disturbed during tunnel excavation shall be connected to pipes and shall be used as source of drinking water for the locals of the area;
- g) Detail of steps/mitigation measures shall be taken to mitigate impacts of the project on River Kunhar/natural water streams;
- h) The Right of Way (RoW) of the River Kunhar shall be protected. Moreover, the River shall be also protected from all type of pollution from project related activities;
- i) The natural rainwater water sheds RoW shall not be disturbed;
- j) The contaminated waste water of the tunnels shall be retained in confined pits of proper size ensuring proper treatment, complying NEQS parameters before final disposal;
- k) The existing RoW of the nearby villages shall not be affected or alternate routes shall be provided to the villagers;
- l) The affected existing Houses, Bridges, BHU, School, Dispensaries, Electric Poles, Mosque and other structures shall be relocated &

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compensated to other appropriate area before start of construction work;

- m) A Committee shall be constituted under the supervision of District Administration comprising representatives of the affected villages i.e. Bela Balsehri, Nihan, Dhab, Rehtar, Sangar & Kappi Gali. The Committee will look into issues arising from the Project;
- n) In order to avoid the traffic congestion issues, the management of the project shall formulate Traffic Management Plan and be submitted to this Agency before commencement of Construction activity;
- o) The existing Graveyard shall be properly protected and not be disturbed by the project activity, however, unless allowed by elders of the area/local committee by mutual agreement;
- p) Proper mitigation plan shall be formulated and implemented to avoid soil erosion and land sliding before commencement of Construction activity;
- q) As per Section Officer (Tech) letter No. SO (Tech)/FE&WD/V-427/2021/PC dated 06/07/2021, after report submitted by Chief Conservator of Forest-II, there is no chance of disturbance to any vegetation & soil cover of the land and issuance of NOC from Forest Department is irrelevant. However, the management shall make no deviation in the project design and designated forest/trees shall not be disturbed;
- r) Minimum environmental flow of 6.1 Cumecs, with 10% extra provision, if required, shall be maintained in the downstream. In light of the submitted EIA Report, the project management shall made maximum efforts to operate the dam on preferable option of base load high protection operation mode;
- s) The muck/debris generated from the project shall be properly quantified, dumping sites for the same shall be properly identified & selected and this Agency shall be informed prior commencement of the construction activities. The proponent shall ensure to avoid dumping of debris into down slope or near River Kunhar Right of Way (RoW) or water bodies. The same shall be stabilized by proper plantation, bio engineering and engineering techniques. Retention walls of proper size shall be erected along the muck disposal material/site;
- t) The biodiversity action plan shall be implemented. Moreover, Wildlife, Forest Department and EPA shall be consulted in improvement of the Biodiversity Action Plan to mitigate the impact of the project on aquatic life, fauna, flora and Environment;
- u) Safety zone/adequate engineering measures should be provided to overcome fears of the residents regarding project activities to their houses;

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- v) The construction/installations shall be carried out keeping in view seismicity of the project area & ensuring implementation of updated building by-laws/codes;
- w) Proper Flood Management Plan shall be identified for the project site & site specific mitigation measures shall be implemented during floods;
- x) Primary baseline data comprising analysis reports of surface water (River Kunhar/water bodies), Soil, ambient air, noise etc of the project area & shall be carried out from KP-EPA certified Lab before commencement of the construction activity. Moreover, the analysis reports shall be submitted to EPA on quarterly basis;
- y) A sedimentation load study shall be carried out along with mitigation measures for the control of sedimentation from upstream of the reservoir;
- z) Road/Highway Submerged/damaged due to project activity should be reconstructed/repared/rehabilitated to another suitable place in consultation with concerned Govt. Department;
- aa) The effluents generated during tunnel blasting/excavating activities shall not be disposed to any surface water before NEQS compliance. The effluents generated shall be treated in a properly design facility;
- bb) In case, the blasting is inevitable, the controlled techniques, in accordance with Pakistan Explosive Act should be adopted in sliding and perspective sliding prone areas;
- cc) The camp site, asphalt plants, crush plants & batching plants shall be at least 500 m away from residential area/villages;
- dd) The proponent shall ensure the strict and efficient health and safety measures for the protection of workers and passersby backed by a comprehensive emergency response plan;
- ee) A comprehensive CSR policy shall be formulated keeping in view, the demands/needs of the locals and quantum of the project activity. The detail of the same shall be shared with this Agency before commencement of the construction activity;
- ff) Non-technical jobs shall be provided to local community/villages. Employment record for all positions shall be provided to EPA-Khyber Pakhtunkhwa and priority should also be given to locals in technical jobs. Regular trainings shall be arranged for the locals regarding acquiring knowledge of technical jobs;
- gg) Separate approval shall be obtained for establishment of Crushing Plant, Town/Colony, Asphalt plant, etc. under Khyber Pakhtunkhwa Environmental Protection Act, 2014 & the prevailing Rules/Regulations in-vogue; For temporary colony, proper treatment plant shall be constructed for municipal effluents treatment and bringing within the NEQS parameters before final discharge;

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- hh) Fish ladder of proper efficiency shall be constructed for fish movement. Moreover, the conditions suggested by Fisheries Department with his letter No. 2084 dated 16/06/2021, shall be implemented to ensure survival of aquatic life. Furthermore, a Fish Hatchery shall be established in consultation with Fishery Department;
- ii) A comprehensive plantation plan, in consultation with Forest Department, shall be submitted to this Agency along with GPS Coordinates of the plantation sites. Moreover, a nursery shall be established in consultation with Forest Deptt. & a forester along with other supporting staff shall be hired for the same;
- jj) Proper mitigation measures shall be adopted for control of land sliding, soil erosion and sedimentation to the nearby river/water channel;
- kk) An Environmentalist along with team shall be hired for the environmental issues redressal.
- ll) Copy of approval from Mines & Mineral Department shall be shared with this Agency prior commencement of construction activities.
- mm) The cultural values & social norms of the area shall be followed strictly;
- nn) The proponent shall adopt the mitigations measures as mentioned in the Wildlife Department letter No.4233/WI-M dated 24/06/2021 for fauna protection;
- oo) Refer to Mines & Mineral Department vide letter No. 7082/MDW/MA/Misc (01)/2021 dated 30/06/2021, clearance shall be taken from Mines& Mineral Department before commencement of construction activity;
- pp) This Agency shall suggest any additional mitigation measures/updated technology for the control of Environmental Pollution/degradation at any stage (construction & operational phase) of the project;
- qq) No extension would be permitted in the future in the existing hydropower project without prior approval of the EPA/Govt. of Khyber Pakhtunkhwa;
- rr) The proponent shall provide the copy of this approval and EIA Report to the contractor for information and compliance.
6. The Proponent shall be liable for correctness and validity of the information supplied by the environmental consultant.
7. There shall be no legal case pending in the courts against the project
8. The proponent shall be liable for compliance of Regulation 13, 14, 16, 17 and 18 of the IEE/EIA Regulations, 2000, regarding approval, confirmation of compliance, entry, inspections and monitoring.
9. This approval is accorded only for the installation/construction phase of the project. The Proponent will obtain approval for operation of the hydro


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power project in accordance with the Regulation 13 (2) (b) and Regulation 18 of the IEE/EIA Regulations, 2000.

10. Any change in the approved project shall be communicated to EPA, Khyber Pakhtunkhwa and shall be commenced after obtaining the approval.
11. This approval shall be treated as null and void if all or any of the conditions mentioned above is/are not complied with.
12. This approval does not absolve the proponent of the duty to obtain any other approval or clearance that may be required under any law in force.
13. The quarterly progress/compliance report of the above conditions shall be submitted to EPA.
14. In exercise of the power under Section-13 of the Khyber Pakhtunkhwa Environmental Protection Act, 2014, the undersigned is pleased to approve the EIA Report of "**300MW Balakot Hydro Power Project, District Mansehra**" for construction phase of the project with above mentioned terms and conditions.

Dated: Peshawar 06/07/2021

Tracking/File.No. EPA/EIA/HPP/300MW-Balakot/21/980


**DIRECTOR GENERAL,
EPA, Khyber Pakhtunkhwa,
3rd Floor, SDU Building,
Khyber Road, Peshawar Cantt.**

Annexure-04: PIU Waive-off Request to KPEPA Against Construction of Fish ladder



P E D O
PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION
Government of Khyber Pakhtunkhwa Peshawar
Energy & Power Department



No. 419-24/PEDO/PD Balakot HPP
 Dated Peshawar the 26 /05/2022

To

Director General,
 Environmental Protection Agency
 Khyber Pakhtunkhwa.

Subject: - Recommendation on Condition (hh) of the Environmental Approval of Balakot HPP (300MW).

Dear Sir,

With reference to the Khyber Pakhtunkhwa Environmental Protection Agency (KPEPA) decision on the Environmental Impact Assessment (EIA) report of Balakot HPP (300MW) for the "Environmental Approval", conveyed to the undersigned vide KPEPA Letter No. EPA/EIA/HPP/300MW/Balakot/21/980 Dated July 06, 2021 (attached as Annexure-01) and thereafter as recommended by the Project Management Consultant (PMC) of the Project, a waive-off request against construction of Fish ladder under condition No. (hh) of the "Environmental Approval", on the basis of justifications synopsisized below, is hereby submitted for your kind consideration.

1. During the course of EIA studies, carried out by Hagler Bailly Pakistan in 2017-19, the provision of Fish ladder and its efficiency was extensively studied with respect to fish fauna of the Kunhar River, their migration pattern and height of the proposed dam. Also, focused discussions were held with the officials of the Fisheries department, Khyber Pakhtunkhwa Environmental Protection Agency and other stakeholders in the context.
2. On Page No.6-12 of Volume C "Supporting Document" of the EIA report, it has been inferred that "...even if a fish channel is constructed, it will be challenging for fish to negotiate. Traveling and drifting through an extended water channel under strong pressure from the current will exhaust the fish if they are able to swim upstream at all, and injure them possibly resulting in mortalities. Moreover, if some of the fish are successful in reaching the reservoir, they will be in new territory, under unfamiliar conditions. Alwan Snow Trout is not a reservoir fish, it will be adversely affected...."
3. In the approved EIA report, it is envisaged that the project impact on the Kunhar River fish fauna will be offset through array of measures proposed in the Biodiversity Action Plan (BAP), to be implemented in the 45 kilometer stretch of the River (referred in the EIA report as Area of Management).
4. On Page No.6-32 of Volume A "Main Report" of the EIA report, the construction of Fish ladder in Balakot HPP (300MW) has technically been found unfeasible option.
5. Also, as evident from the No Objection Certificate (attached as Annexure-02) granted by the Fisheries department, there is no mention of provision of any Fish ladder in the Balakot HPP (300MW).

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6. Moreover, as there exists no Fish ladder in the upstream Sukki Kinari HPP (870 MW) and the downstream Patrind HPP (150MW), therefore, provision of such structure in the Balakot HPP (300MW) would be of no avail to the long distance migratory fish of the Kunhar River.

Above is submitted for your appropriate action please.

o/c
Project Director
Balakot HPP,
PEDO, Peshawar.

CC:

- 31-5-22*
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31-05-22
1. The Secretary, E&P Department KPK.
 2. Secretary Forestry, Environment & Wildlife Department, Govt. of Khyber Pakhtunkhwa.
 3. Chief Engineer (Dev), PEDO, Peshawar.
 4. PS to CEO, PEDO, Peshawar.
 5. Team Leader PMC Balakot HPP.

o/c
Project Director *26/05/2022*
Balakot HPP,
PEDO, Peshawar.

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