NOTIFICATION

Peshawar Dated the 23/06/2025

No. SO/ENVT/CCFE&WD/4-2/ECP-2025: In exercise of powers conferred under Clause xxii of Section 7 of the Khyber Pakhtunkhwa Environmental Protection Act, 2014, (Khyber Pakhtunkhwa Act No. XXX of 2022), the Khyber Pakhtunkhwa Environment Protection Council (EPC) in its 3rd Meeting held on 13.05.2025 has been pleased to approve the following guidelines;

Govt. of Khyber Pakhtunkhwa
Environmental Protection Agency
General Environmental Assessment Guidelines
Mini/Micro Hydropower Projects (less than 1 MW)

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1.1. Glossary

Act: The Khyber Pakhtunkhwa Environmental Protection Act, 2014 (Khyber Pakhtunkhwa Act No. XXXVIII of 2014).

Ancillary Elements: Activities, facilities, and infrastructure directly related to the project (e.g., workers' camps, transmission line for supply of construction power).

Area of Influence: Anticipated extent of direct or indirect potential impacts of the proposed hydropower project.

Associated Facilities: Facilities needed for a successful hydropower project that would not be constructed or expanded without the project and without which the project would not be viable (e.g., transmission lines).

Community: Definition refers to the population living in the vicinity of the project area.

Construction Period: Time taken to construct the hydropower project from the initial site preparation to the start of commercial operation. The time normally includes the initial testing of the plant (commissioning).

Dam: Concrete or earthen barrier constructed across a river and designed to control water flow or create a reservoir.

Design Discharge: Volume of water required to run the turbines at full capacity that is diverted from the river through the channel to the powerhouse, measured in cubic meters/second (m3/s).

Environmental Assessment: A technique and a process by which information about the environmental effects of a project is collected, both by the developer and from other sources, and taken into account by the planning authority in forming their judgments on whether the development should go ahead.

Environment: (a) Air, water, and land; (b) all layers of the atmosphere; (c) all organic and inorganic matter and living organisms; (d) the ecosystem and ecological relationships; (e) buildings, structures, roads, facilities, and works; (f) all social and economic conditions affecting community life; and (g) the inter-relationships between any of the factors in sub-clauses (a) to (f).

Flushing gates (bottom and sediment): Bottom gates used for draining the reservoir and rarely used, e.g., unless there was an emergency or significant maintenance issue. Sediment flushing can also be done through the bottom gates, although special sediment flushing gates can also be built into the dam structure.

Habitat: The general place or physical environment in which a population lives.

Head: Pressure created by the difference in elevation between the intake axis and the water turbine axis.

Hydrology: The branch of geology that studies water on the earth and in the atmosphere: its distribution and uses and conservation.

Impact on Environment: Any effect on land, water, air, or any other component of the environment, as well as on wildlife harvesting. It includes any effect on the social and cultural environment or on heritage resources.

Installed Capacity: Designed electrical output of the hydropower project when operating at full load.

Intake Structure: Structure that allows water to be moved from the reservoir and delivered to the penstock and turbines.

Landslide: A slide of a large mass of dirt and rock down a mountain or cliff.

Mini/Micro HPPs: Hydropower projects with a capacity less than 1 MW.

Mitigation Measure: A measure for the control, reduction, or elimination of an adverse impact of a development on the environment, including a restorative measure.

Non-perennial Stream: Stream not flowing throughout the year.

Operating Head: Elevation difference between the forebay pond and the turbines in the powerhouse.

Peak Load: Generation of electricity to meet the peak demand.

Penstock: Set of pipes that ensure uniform flows from the reservoir/diversion to the turbines.

Powerhouse: Building that houses the turbines and control equipment.

Regulations: The Pakistan Environmental Protection Agency Review of Initial Environmental Examination and Environment Impact Assessment Regulations, 2000.

Reservoir (Headpond): Area of land inundated for the storage of water within the river channel or as a pondage outside of the main river channel.

Rules: "The Khyber Pakhtunkhwa Environmental Assessment Rules 2021.

Siltation: Accumulation of silt in a water body.

Soil Erosion: Physical removal of soil, either by wind or by running water.

Spillway: Structure to pass surplus and floodwaters downstream to prevent overtopping of the dam.

Storage Capacity: Storage volume of water stored in the reservoir; used for power generation.

Switchyard Area: Area where outdoor/indoor switching equipment is installed or electricity substation and control structures through which the power is transferred from the hydropower plant to the transmission lines.

Tailrace: Canal that carries water away from the powerhouse after electricity generation to discharge into a natural stream.

Tunnel or Headrace Channel: Channel designed to maintain the head between the intake and powerhouse to divert water to the penstock.

Turbines: Engine in a powerhouse that rotates with the force of falling water to generate electricity with the help of a generator.

Vulnerable Groups: Vulnerable people are those who, by virtue of gender, ethnicity, age, physical or mental abilities, or social status, may be more adversely affected by adverse impacts as defined by the Government.

Waterlogging: The rising of the water table over time and soaking of soils in areas.

Weir: Dam on a river to stop and raise the water level for the purpose of conveying it to a mill, forming a fish pond, or the like.

1. Introduction

Hydropower has become an important source of renewable energy and green electrification worldwide. Pakistan, particularly its northern region of Khyber Pakhtunkhwa, is blessed with abundant hydropower potential. In addition to large hydropower projects, there is a significant opportunity for the development of numerous mini/micro hydropower systems (generating less than 1 MW) along streams and rivers. These small-scale hydropower projects play a significant role in meeting energy demands while minimizing greenhouse gas emissions and promoting sustainable development.

In this part of the country, a majority of the population lacks access to clean and affordable energy. However, the utilization of water resources from perennial flows presents a viable solution to address the growing energy requirements. The development of mini- micro hydropower projects is essential to meet the energy demand of people for domestic use, small-scale businesses, enterprises, and tourism, particularly in remote rural areas. It also serves as a response to the challenge of electrification in these underserved regions.

To harness the potential of hydropower in off-grid and remote areas, government organizations, non-governmental organizations (NGOs), and financing agencies are actively working together. However, it is crucial to ensure that these projects are implemented in an environmentally responsible manner, considering the potential impacts on ecosystems, communities, and the overall environment.

To address these concerns, these guidelines have been devised. They aim to assess the environmental and social impacts associated with hydropower projects and specify the general principles of site selection. The objective is to ensure sustainability during the planning and design stages of the project. Additionally, the guidelines emphasize the importance of implementing good environmental practices throughout the construction, operation, and commissioning stages of the project, thus ensuring responsible and sustainable development of small-scale hydropower in the region.

1.1 *Scope of Guidelines*

These sectoral guidelines outline a comprehensive framework and checklist for developers, operators, and other stakeholders involved in the environmental assessment processes of hydropower development projects in the province of Khyber Pakhtunkhwa. The guidelines align with the KP Environmental Assessment Rules, 2021, established under the KP Environmental Protection Agency (EPA) Act, 2014. They specifically provide guidance for small-scale hydropower projects undergoing an environmental assessment process that falls under Schedule-IV, Categories of Projects requiring General Environmental Approval (GEA), A. Energy.

The guidelines apply to mini/micro hydropower projects generating less than 1 MW of power and located on run-of-river/streams or canals. They aim to ensure the preservation of ecosystems and biodiversity at the project site, with certain exemptions for pico/family hydro power projects regarding detailed studies.

This manual serves as a resource for government authorities, hydropower developers, consultants, civil society groups, and other relevant parties. It should be used in conjunction with existing national and regional standards, administrative systems, processes, and guidelines applicable to all Environmental Assessments. The primary goal is to facilitate a timely and appropriate environmental assessment of project risks and mitigation measures. This will contribute to the efficient planning, management, and execution of hydropower projects, reducing cost overruns and ensuring successful project delivery.

1.2 *How to use these Guidelines*

The project proponent (the government, private developer, NGOs) is obliged to use these guidelines and enclose the following Documents required with the Project Proposal before starting any activity at the project site:

i. Environmental Appraisal Questionnaire/check list as prescribed in Appendix II – Form-I of these guidelines.
ii. Feasibility/project report
iii. Final layout plan
iv. The location map of the proposed project (Proposed location of key project infrastructure/ Componwenta (Weir, Forebay, Power House, Tail water discharge point) GPS Coordinates in WGS system and KMZ/KML File
v. Catastrophic events like cloud bursts and flash floods, if any would be documented.
vi. Any other documents/ information required by the Agency

The project proponent has to fill in an environmental impact assessment form. The following steps are to be taken in this regard:

Step 1: Provide information on project [use Annex 1: **Section I**]

Step 2: Determine Applicability (*Are you sure that IEE is not required?*) [use Annex 1: **Section II**]

Step 3: Describe the physical, biological and socio-economic and environmental context of the site [use Annex 1: **Section III**]

Step 4: Assess potential impacts and applicable mitigation measures [use Annex 1: **Section IV**]

Step 5: Provide undertaking to the EPA on mitigation measures and compliance [use Annex 1: **Section V**], and completed form need to be submitted to the Khyber Pakhtunkhwa Environmental Protection Agency for evaluation. KP-EPA may request for additional information or decide to undertake visit to the proposed project site in order to validate the assessment.

2. Project Profile

2.1 *Overview of Mini/Micro Hydropower Projects*

Mini/micro hydropower projects (low, medium and high head) are small-scale power

generation facilities that harness the energy of water resources to generate electricity. These projects involve the construction of structures such as water diversion and intake systems, which channel water towards hydraulic turbines housed within a powerhouse. As water flows through these turbines, they drive electricity generators, producing electrical power.

The generated electricity is then transmitted to a substation and distributed through high voltage power transmission lines. Mini/micro hydropower projects are typically situated on run-of-river streams or canals, ensuring minimal disruption to the natural flow of water and preserving ecosystems and biodiversity in the project area.

In addition to the core components of the hydropower facility, mini/micro hydropower projects may also involve ancillary elements and associated facilities. These elements include various activities, infrastructure, and facilities directly related to the project. Examples of ancillary elements can include access roads and bridges, quarries and waste disposal areas, stockpiling areas, crusher plants, bunkers (if required), construction worker's camps and associated cafeterias and food processing areas, site offices, laydown areas, and maintenance areas.

Furthermore, the transmission lines and hubs are essential components that enable the distribution of electricity generated by the hydropower project to consumers. These transmission lines connect the project's substation to the larger power grid, ensuring the efficient delivery of electricity to end-users.

2.2 *Technology characteristics*

Mini/micro hydropower projects utilize the energy of moving water to generate electricity through a turbine. The technology involves the following characteristics:

i. **Water Intake**: Water from a flowing stream enters the forebay of the hydropower facility through a canal or intake ditch. Intake screens are installed to remove debris from the water, ensuring smooth operation of the system.

ii. **Penstock**: The water flows through a penstock, which is a pipeline that transports the water from the forebay to the turbine. The penstock maintains a controlled flow and directs the water to the turbine with sufficient pressure.

iii. **Turbine**: The water strikes the blades of the turbine, causing it to rotate. The mechanical energy from the turbine's movement is the primary source of power generation in mini/micro hydropower projects.

iv. **Generator Unit**: Connected to the turbine, the generator unit converts the mechanical energy into electrical energy. This conversion is achieved through the interaction of magnetic fields within the generator.

v. **Transmission System**: The electricity generated by the hydropower project is transmitted from the generator unit to the point of use via a transmission system. This system typically involves power transmission lines that connect the project to the electrical grid, allowing the electricity to be distributed to consumers.

3. Environmental and Social Aspects

Like all energy and water management works, hydropower projects including small scale have negative and positive environmental and social impacts. Hydropower may have

significant environmental impacts at local and regional level but also provides advantages at macro ecological level. Depending on the size and location of the Mini/Micro Hydropower various types of environmental and social issues may be associated with it. These are discussed below.

3.1 *Environmental issues and impacts*

Environmental impacts and considerations play a crucial role in the planning and implementation of mini/micro hydropower projects. It is essential to address these aspects to ensure the sustainable development of such projects. The following subsection highlights the key environmental aspects to be considered:

3.1.1 *Habitat Conservation and Biodiversity Protection*

Hydropower projects, even on a smaller scale, can potentially lead to the loss or degradation of natural ecosystems. It is important to minimize habitat fragmentation and isolation caused by these projects. Measures should be implemented to maintain connectivity and preserve aquatic habitats. By considering the potential impacts on habitats and biodiversity, the project can be designed and managed to minimize adverse effects.

3.1.2 *Downstream Hydrological and Morphological Impacts*

Hydropower projects can significantly impact downstream hydrological and morphological conditions. In the bypass stretch (intake to tail race) people using water for irrigation and other uses will have negative impact depending on the water use in case no provision of Eflow and required irrigation water allowance and other uses is kept in the bypass stretch. It is crucial to avoid fundamental alterations that may disrupt the natural flow patterns, sediment transport dynamics, and morphology of downstream river systems, floodplains, and estuaries. Preserving the integrity of these systems is essential for the overall health and functioning of the ecosystem.

3.1.3 Cumulative Impact Assessment

Even though mini/micro hydropower projects may not individually cause significant habitat loss, their cumulative effects can be substantial. It is necessary to consider the clustering of projects within a single river basin or region and assess their cumulative impact on natural habitats. Measures should be taken to mitigate potential cumulative impacts and ensure the preservation of ecosystem integrity.

3.1.4 Ecosystem Services and Socio-economic Considerations

Hydropower projects can impact various ecosystem services, including freshwater availability, fish populations, erosion control, and natural disaster protection. A comprehensive assessment of ecosystem services is important to understand the project's potential impacts and benefits. It is also crucial to consider the socio-economic aspects, ensuring that the project contributes to local development and benefits communities while minimizing negative social impacts such as community relocations.

3.2 *Social Issues and Impacts*

Hydropower projects have significant social impacts and risks that need to be addressed. Physical and economic displacement can occur, leading to the loss of property, assets,

resources, and social networks. Changes in employment patterns, livelihoods, and cultural heritage can also result from these projects. Occupational and public health, safety, and security are important considerations as well. Additionally, disruptions to ecosystem services, such as altered water and sediment flows and changes in microclimate, can affect agricultural productivity. It is crucial to recognize and mitigate these impacts to minimize negative socioeconomic consequences.

3.2.1 Physical and Economic Displacement and Loss of Access

Hydropower projects may physically displace communities or cause economic displacement, particularly in cases where large reservoirs permanently flood substantial areas. Access to important economic and cultural assets, resources, and social networks can be disrupted due to changes in water flows or the creation of exclusion zones. Land tenure issues related to ownership and access rights for water and land should be carefully considered, especially in remote areas with indigenous or ethnic minority populations.

3.2.2 Economic Development, Employment, and Livelihoods

During the construction phase, hydropower projects can stimulate economic activity through employment and the provision of goods and services. However, operational projects typically require a small number of highly skilled staff, limiting revenue flows into the local economy. Loss of productive land and disruption of access to assets and resources can impact economic and leisure activities both upstream and downstream of the project. It is important to ensure that the project benefits local communities and considers the needs of women and vulnerable groups.

3.2.3 Cultural Heritage

Hydropower projects have the potential to disturb tangible and intangible cultural heritage. The risks to cultural heritage are higher in new projects, especially those involving large reservoirs. Stakeholder consultation, ground surveys, and remote sensing can help identify and protect significant cultural heritage resources. Recognition and preservation of intangible cultural heritage values associated with water, such as sacred features or locations, are essential.

3.2.4 Public Health, Safety, and Security

Hydropower projects can create health, safety, and security risks for nearby communities. Water quality issues and changes in water conditions may pose direct health risks or harbor disease vectors. Downstream communities may face risks from water releases and fluctuations in water levels. Safety hazards can arise from static and moving water bodies. Conflict potential, particularly in fragile environments, should also be considered.

Electricity will also help in raising awareness among people by using modern technologies such as mobile, internet etc. Although there would be side-effect of the technologies if not used properly such as ethical or moral issues, increase in cybercrimes, and wastage of time etc. Use of electricity will help in reducing workload on women if use technologies such as Washing, cooking etc. However, at the same time, it could source of increase in extra burden on women if gender concerns are not included from the designing to management phases.

because both the genders have their own preferences and needs.

Another issue is the affordability and capability of the low-income families (particularly women headed families in rural areas), which include capital cost of house electrification and afterwards its maintenance (wear and tire).

Overall, the mini/micro hydropower projects will contribute in socio-economic and environmental benefit of the larger population especially by providing clean energy, improved health and education activities, less use of fossil fuels and income generation activities.

4. Baseline Data Collection and Analysis:

This section on Baseline Data Collection and Analysis is a critical component of the guidelines for small-scale hydropower projects. It aims to provide a comprehensive overview of the necessary baseline data required for the Rapid Environmental Assessment (REA). The following sections outline the key types of baseline data that should be collected:

4.1 *Hydrological Data:*

Hydrological data is essential for understanding the water dynamics and assessing the potential impacts of a hydropower project. It includes information such as river flow rates, water levels, sediment transport, and seasonal variations. Collecting accurate and reliable hydrological data helps in predicting changes in water availability, assessing potential impacts on downstream water users and ecosystems, and designing appropriate water management strategies.

4.2 *Water Quality Parameters:*

Baseline data on water quality parameters is crucial for assessing the current water quality conditions and potential impacts of the hydropower project. Parameters such as pH, turbidity, dissolved oxygen levels, nutrient concentrations, and the presence of pollutants need to be measured. Accurate water quality data allows for the identification of existing pollution sources, understanding potential risks to aquatic ecosystems, and developing effective mitigation measures to ensure water quality is maintained or improved throughout the project lifecycle.

4.3 *Biodiversity Surveys:*

Baseline biodiversity surveys are necessary to evaluate the existing flora and fauna within the project area. These surveys help identify species composition, richness, and ecological value. They involve studying vegetation types, tree species, wildlife populations, and the presence of threatened or protected species. Comprehensive biodiversity data enables an understanding of the ecological significance of the project area, identification of potential impacts on habitats and species, and the development of appropriate conservation and biodiversity management plans.

4.4 *Cultural Heritage Assessments:*

Cultural heritage assessments are vital for identifying and documenting any cultural or archaeological sites within the project area. This involves conducting surveys, consulting with local communities and cultural experts, and considering traditional knowledge. Cultural heritage assessments ensure that valuable cultural resources and sites are identified, protected, and appropriately incorporated into the project planning process. It helps in mitigating potential adverse impacts on cultural heritage and respecting the rights and values of local communities.

Collecting accurate and reliable baseline data is crucial for an effective REA. It enables decision-makers, project developers, and stakeholders to have a comprehensive understanding of the existing environmental conditions and potential impacts of the proposed hydropower project. Accurate baseline data allows for informed decision-making, impact assessment, and the development of effective mitigation measures. It also facilitates stakeholder engagement, transparency, and compliance with environmental regulations.

To ensure the collection of accurate baseline data, it is important to follow standardized methodologies, employ qualified experts, use appropriate sampling techniques, and conduct field surveys during relevant seasons. Data collection should be conducted over an appropriate timeframe to capture variations in environmental conditions. Quality control measures, including calibration of instruments, data validation, and peer review, should be implemented to ensure the reliability and integrity of the collected data.

In conclusion, the Baseline Data Collection and Analysis chapter of the guidelines emphasizes the significance of collecting baseline data, including hydrological data, water quality parameters, biodiversity surveys, and cultural heritage assessments. Collecting accurate and reliable baseline data is fundamental for a robust REA process and facilitates informed decision-making, effective impact assessment, and the implementation of appropriate mitigation measures.

5. Mitigation Measures and Environmental Management

Mitigation measures and effective environmental management are crucial components of small-scale hydropower projects to minimize and manage potential environmental impacts. The primary mitigation measure for most of the environmental and social issues is appropriate site selection. In addition, use of the techniques given in these guidelins will result in minimizing unacceptable social and environmental impact. The following comprehensive guidelines outline a range of measures to address these concerns.

Incorporating these mitigation measures and implementing effective environmental management plans will help minimize and manage potential environmental impacts associated with small-scale hydropower projects. By adopting a proactive and adaptive approach, these guidelines can ensure the long-term sustainability of hydropower

development while preserving ecological integrity and promoting responsible energy generation.

5.1 *Mitigation Options in designing/planning stage*

The primary mitigation measure for most of the environmental and social issues is appropriate site selection. In addition, use of the following techniques will result in minimizing unacceptable social and environmental impact.

5.1.1 *Site Selection and Feasibility Study:*

The site selection and feasibility study for small-scale hydropower projects play a crucial role in determining the success, sustainability, and environmental compatibility of the project. It involves assessing various factors, including environmental, social, and economic considerations, to identify suitable sites for development while minimizing adverse impacts on the environment and surrounding communities. When selecting a site for a small-scale hydropower project, it is essential to give careful consideration to environmental factors. This includes avoiding environmentally sensitive areas, protected habitats, and critical ecosystems, such as national parks, wildlife sanctuaries, or areas with high biodiversity value. By avoiding these areas, the potential impacts on flora and fauna can be minimized, preserving the ecological balance and protecting vulnerable species.

In addition to environmental factors, the feasibility study should also evaluate social considerations. It is important to assess the potential social impacts and benefits of the project on local communities. This involves engaging with the affected communities, understanding their needs and concerns, and ensuring their participation in the decision-making process. The feasibility study should consider factors such as displacement of communities, loss of livelihoods, and the potential for conflicts arising from project implementation. Taking these social aspects into account helps to foster social acceptance and ensure the project's long-term sustainability.

Furthermore, the feasibility study should assess the availability of water resources and the potential impacts on downstream water users and ecosystems. It is crucial to evaluate water availability, flow rates, and the potential for altering natural water regimes. This assessment helps to understand the potential impacts on aquatic ecosystems, downstream water users, and the overall water balance in the area. It is essential to avoid significant alterations to natural flow patterns that could negatively affect downstream communities, irrigation systems, and aquatic habitats.

Incorporating a comprehensive hydrological analysis in the feasibility study provides valuable insights into the project's sustainability and its compatibility with existing water uses. This analysis should consider factors such as minimum flow requirements, seasonal variations, and the potential for sedimentation and erosion. By understanding these dynamics, appropriate mitigation measures can be identified to minimize the project's impact on downstream water resources and maintain ecological balance.

The site selection and feasibility study should consider the economic viability of the project as well. It should assess factors such as the project's capacity to generate electricity, the potential for revenue generation, and the overall cost-effectiveness. Economic considerations are essential to ensure the financial feasibility and long-term sustainability of the project.

In conclusion, the site selection and feasibility study for small-scale hydropower projects should integrate environmental, social, and economic factors. By considering these key considerations, including the avoidance of environmentally sensitive areas, the assessment of water availability and impacts on downstream water users, and the evaluation of social implications, developers can identify suitable project sites that minimize environmental impacts and maximize benefits to local communities. This approach ensures the selection of sites that are environmentally sustainable, socially acceptable, and economically viable for small-scale hydropower development.

5.1.2 *Socioeconomic*

The following guidelines shall be incorporated in project planning, construction and operation phase to minimize socioeconomic issues.

- The land acquisition process should be transparent and fair.
- The land should be priced at the prevalent market values on re-settlement cost.
- In order to avoid community conflicts, to the extent possible, local labor should be used for unskilled, semi skilled and skilled jobs.
- A formal resettlement plan should be prepared, if any resettlement is envisaged. The plan must identify the affected population as well as the affected activities such as agriculture, irrigation, forestry, social/leisure, commercial and industrial etc.
- It should be a key objective of the mini/micro hydropower design to ensure that an appropriate share of the benefits go to the population directly affected.
- All communities, upstream and downstream, should be fully consulted. The consultation process should be documented. The consultation process should also include village elders, local government and non-governmental organizations.
- All socioeconomic benefit and adverse impact of the project should be documented and quantified and made publicly available.
- All possible users of the electricity should be identified and operational mechanism such as tariff determination, collection and usage shall be predetermined and agreed before start of the project. Wherever needed, mitigation measures such as development of alternate routes of transmission line, and project layout shall be considered.
- To the extent possible the level of impact should be quantified and consent be obtained from the people, especially the land owners. If severe negative impact is expected, the land may be purchased and developed as public land.

5.1.3 *Hydrological*

At design stage hydrological assessment shall be considered as key aspect, especially impacts of floods and flash floods. The project structures should be design with flood resilience aspects.

As far as possible, the powerhouse should be kept well above the highest flood and flood protection wall should be considered appropriately.

Flow required to maintain vegetation and river fauna and flora should be determined and it should be ensured that the flow is maintained during operation. Operational rules should be defined for regulating downstream flows at critical times to protect habitat for reproduction or migratory routes and irrigation requirements.

Provisions for the migration of fish and other aquatic organisms should be provided, where needed.

5.2 *Mitigation Options in Construction Phase*

5.2.1 *Safety Concerns*

- The surrounding communities should be informed about the construction schedule and should be briefed about the safety procedures, particularly if dynamite is used for blasting rocks during construction.
- A comprehensive plan for operation, maintenance and rehabilitation should be prepared. This should include inspections, evaluations, modifications and upgrades of the mini/micro hydropower projects to ensure that they meet safety standards.
- Health and Safety awareness related to use of electricity should carried out for the local community, schools, health centers, women and children.
- Climate change impacts on hydrology of the basin should be undertaken to monitor the changes in the flow patterns, especially sever and flash floods.

5.2.2 *Other Mitigation Measures*

1. Fish Passage Facilities: Install fish-friendly measures such as fish ladders, fishways, or bypass channels to facilitate the upstream and downstream migration of fish species. These structures should be designed based on the specific requirements of local fish populations and should be regularly monitored and maintained to ensure their effectiveness.

2. Sediment Control Measures: Implement erosion and sediment control measures during construction and operation phases to minimize the release of sediment into water bodies. This can include implementing erosion control practices, sedimentation ponds, or sediment traps to prevent excessive sedimentation and maintain water quality.

3. Erosion Prevention: Adopt best management practices, such as vegetative cover, slope stabilization, and erosion control structures, to minimize soil erosion and protect the integrity of surrounding ecosystems. Proper management of construction activities, including the use of

sediment barriers and sediment fencing, is crucial to prevent sediment runoff into nearby water bodies.

4. Water Quality Management: Implement measures to monitor and maintain water quality throughout the project's lifecycle. This can involve regular monitoring of key parameters such as temperature, dissolved oxygen, pH, turbidity, and nutrient levels. If water quality standards are not met, appropriate actions should be taken to improve conditions, such as implementing water treatment or implementing source control measures to prevent pollution.

5. Restoration of Affected Areas: Develop plans for the restoration and rehabilitation of areas affected by the project, including the restoration of vegetation, habitats, and aquatic ecosystems. This may involve implementing reforestation programs, wetland restoration, or habitat enhancement measures to promote biodiversity and ecological balance.

6. Environmental Management Plans: Develop comprehensive environmental management plans that outline specific mitigation measures, responsibilities, and timelines for implementation. These plans should address all stages of the project, including construction, operation, and decommissioning, and include measures to address key environmental concerns identified during the assessment phase.

7. Monitoring Programs: Establish robust monitoring programs to assess the effectiveness of mitigation measures and track changes in environmental indicators over time. Regular monitoring should be conducted to assess water quality, sedimentation levels, fish populations, and overall ecosystem health. Monitoring data should be used to inform adaptive management strategies and identify the need for any adjustments to mitigation measures.

8. Stakeholder Engagement: Ensure active and meaningful engagement with local communities, indigenous groups, and other stakeholders throughout the project's lifecycle. Consultation and collaboration with these stakeholders can provide valuable insights and contribute to the development and refinement of mitigation measures.

6. Decision-Making:

- After conducting a rapid environmental assessment for mini/micro HPP projects that do not require a detailed Environmental Impact Assessment (EIA), the decision-making process is initiated based on the findings and recommendations of the assessment.
- The Environmental Protection Agency (EPA) carefully evaluates the environmental implications identified during the rapid assessment, taking into account the potential impacts on water resources, aquatic and terrestrial ecosystems, local communities, and other relevant factors.
- The decision-making process involves considering the feasibility, sustainability, and compatibility of the proposed mini/micro HPP project with the existing environmental

guidelines and regulations.

- The EPA assesses the severity and significance of the potential environmental impacts and determines if the project can proceed without significant adverse effects.
- If the rapid environmental assessment indicates that the project poses minimal or manageable environmental risks, the EPA may grant approval for the mini/micro HPP project to proceed, subject to specific conditions and mitigation measures.
- These conditions and measures aim to ensure that potential adverse impacts are minimized or mitigated effectively, such as implementing erosion control measures, maintaining water quality standards, protecting sensitive habitats, or addressing potential social and cultural concerns.
- The decision-making process may also involve public consultation and engagement to gather stakeholders' perspectives and incorporate their input into the final decision.
- If, however, the rapid environmental assessment reveals substantial environmental risks or indicates that the project cannot be implemented within the established guidelines, the EPA may reject the proposal or recommend modifications to address the identified concerns.
- The decision-making process strives to strike a balance between promoting renewable energy development and safeguarding the environment, ensuring that mini/micro HPP projects align with sustainable practices and contribute positively to local communities and ecosystems.
- The EPA's decision is communicated to the project proponents and relevant stakeholders, along with the specified conditions and requirements for compliance throughout the project's lifecycle.
- Regular monitoring and periodic evaluations may be conducted to verify ongoing compliance with the approved mitigation measures and environmental guidelines, promoting accountability and adaptive management for sustained environmental protection.

7. Conclusion

In conclusion, these guidelines provide a comprehensive framework for conducting a rapid environmental assessment (REA) for small-scale hydropower projects. Throughout the guidelines, we have highlighted key considerations and provided recommendations to ensure environmental protection and sustainable development in the planning and implementation stages of these projects.

The guidelines emphasize the importance of conducting a comprehensive REA to assess potential environmental impacts, identify mitigation measures, and promote effective environmental management. By following these guidelines, project developers can make informed decisions, minimize negative environmental impacts, and maximize the benefits of small-scale hydropower projects.

It is crucial to reinforce the significance of adhering to these guidelines. By doing so, project developers can ensure that their projects are designed and implemented in a manner that protects the environment, preserves biodiversity, and minimizes social impacts. Compliance with the guidelines will contribute to the long-term sustainability of small-scale hydropower projects.

We strongly encourage project developers, regulatory authorities, and other stakeholders to utilize these guidelines as a valuable resource. By incorporating the principles and recommendations outlined in this document, they can contribute to the responsible and sustainable development of small-scale hydropower projects.

In conclusion, these guidelines serve as a roadmap for balancing the need for renewable energy generation with environmental protection. Through their implementation, we can achieve the dual goals of meeting energy demands and preserving our natural resources for future generations.

Annexure-I

Environmental Assessment Check List/ Form-1

Section I: Project Description

File No_____(To be filled by EPA)

Date _____

General Information

1. Project Name or Title_____
2. Project Proponent (organization, NGO, or owner) _____
3. Address _____
4. Telephone _____
   Fax _____
   E-mail _____
5. Representative of the Proponent_____
6. Designation _____
7. Name of the person who conducted this assessment _____
8. Designation _____
9. Qualification_____

Project Information

12. Project location with coordinates _____
13. Cost of the project _____
14. Project beneficiaries (hhs)_____Population _____
15. Name of the river or stream or canal _____
16. Is it seasonal or perennial _____
17. Total flow/discharge_____m^3/s
    Minimum_____m^3/s Maximum_____m^3/s
18. Design discharge_____m^3/s

19. Design Capacity _____ kW

20. Brief Project Description _____

_____

Please attach location map of the proposed project site showing the location of the key structures, access, etc.

21. Quantity of construction material (stone, concrete, gravel, sand, steel, poles, etc.) required and their source:

_____

_____

_____

Construction

22. Who owns the proposed land for the project? _____

23. What is the present use of the land? _____

24. Are there any structures on the proposed site now? Yes No

If yes, will any structure be demolished? Yes No

If yes, where the demolition waste will be disposed? _____

25. Are there any trees on the proposed site? Yes No

26. Will any tree to be removed? Yes No

If yes, how many? _____

27. Period of construction

(start date) _____

(end date) _____

28. What major construction equipment (dozer, grader, crane, etc.) will be used?

_____

_____

_____

29. Will any land be acquired? _____

If yes, please specify

The total area: _____

Present ownership of land _____

What is the present use of the land? _____

How the land will be acquired (Through Land Acquisition Act or Direct Purchase)? _____

When the compensation will be paid? _____

30. In case of state land, are there any squatter settlements on the land? _____

If yes, please specify

Number of settlements _____

Will any compensation be paid? _____

When the compensation will be paid? _____

Section II: Screening

Does the proposed project or part of the project falls in an ecologically sensitive area?

Yes No

The total capacity of the project is more than 1 MW?

Yes No

Does the project require peaking reservoir more than one square kilometer?

Yes No

If the answer to any of the above questions is yes, then the project would require an Initial Environmental Examination (IEE) or an Environment and Social Impact Assessment (ESIA).

If so then refer to the Khyber Pakhtunkhwa Environmental Protection Agency Rules, 2021, for appropriate category.

Section III: Environmental Profile

1. Describe the terrain of the project area:

Flat or Level (Slope < 3%)

Level to moderately steep (Slope 3%-30%)

Moderately steep to mountainous (Slope > 30%)

2. Are there signs of soil erosion or landslide anywhere within 2,000 m of the proposed site?

Yes No

If yes, please describe (where, nature) _____

_____

3. Please describe the hydrological conditions of the stream or river, run-off characteristics, rainfall, rainfall variability, groundwater, and drought patterns.

_____

_____

Please attach the hydrological study of the project.

4. The current stream is polluted? 'Does domestic or other wastewater discharged to it?

5. What are the present uses of the stream, e.g, agriculture, domestic, industrial, washing, fishery.

_____

_____

_____

_____

_____

_____

6. Is there any groundwater well on the proposed site or within 500 m of the proposed site?

Yes No

If yes, describe each well:

Type (Dug well, tube well, hand pump)	Location (Village, road, mohalla, etc. and distance from the site)	Depth and Yield	Uses (Drinking, agriculture, domestic, industrial, washing, livestock)

7. Based on the interview of the surrounding population or a wildlife expert, is any form of wildlife found on, or around the proposed site of the project?

Yes No

If yes, please describe _____

_____

8. Are there any existing trees or vegetation on the proposed site?

Yes No

If yes, how many? _____

9. Are there any community forest, reserved forest or protected area within 2,000 m of the proposed site?

Yes No

If yes, please describe?_____

10. What is the present land use of the proposed dam site and its vicinity (roughly a radius of 500 m) of the proposed site?

Description	Residential	Commercial	Open Land	Industrial	Other
	(Thick, Moderate, Sparse)	(Office, Shops, Fuel Stations)	(Parks, Farmlands, unutilized plots, barren land		

Please attach a map of the proposed site and indicate roughly area that you have considered for this assessment

11. For any agricultural farmland on the proposed site and a radius of 500 m around it, provide the following information:

Main crop(s) and average yield _____

Source of irrigation water_____

Area affected by salinity or water logging

_____

12. Please describe all the sensitive receptors within 500 m of the proposed site:

Type	Name	Size	Location	Distance from Site
schools, colleges hospitals, and clinics		(Number of students number of beds) or	(Village, road, Mohalla	

13. Generally clean air

Yes No

Yes No

14. Is there any bad odor in the project area?

What is the source of the odor?_____

15. What are the main sources of income of the surrounding community? _____

_____

16. Is there any site of cultural importance (graveyard, shrine, mosque, archeological site) within 1,000 m of the proposed scheme?

Yes No

If yes, please describe?_____

17. Will the reservoir submerge any:

Village or house_____

Wetland _____

Forest _____

Sensitive vegetation _____

Wildlife habitat _____

Tomb or graveyard _____

Archeologically important site _____

Positive Negative Impacts	Mitigation Measures	Tick if proposed	Monitoring Plan
Soils (Soil erosion and Soil contamination)			
Vegetation clearance	• Avoiding clearing in riparian areas and prevent arable land for laydown areas and dumping areas		
Erosion due to construction activities	Good engineering practices will help controlling soil erosion both at construction sites and in peripheral areas, particularly in borrow and dumping areas and along access roads. Following measures have been mentioned: • Install sediment traps • Drainage channels where necessary • Prevent steep slopes, define optimum height of work evaluating the instability of the rock, soil etc. • Stabilize, compact and strengthen steep slopes • Adequate selection of road tracks, taking into account the landscape, technical, environmental and social aspects • Construct drainage ditches at roads if there are passing through mountainous area If the slope is more that 16 % they have to be paved • install culverts with enough capacity for strong rains, drainage pipes and channels have to be of an adequate size and should be equipped with screens at entrance and exit points to reduce the risk of clogging • Re-vegetation were possible with focus on steep slopes		
Maintenance work at equipment and	• The maintenance of machinery and lorries has to be done in workshops, liquids including cleaning water should be		

vehicles **Accidental spillages from maintenance work in generals and specific**	collected in tanks. • Storage of fuel and lubricants has to be in tight containers placed on sealed surfaces underneath a roof. The storage has to be equipped with all safety measures to prevent oil spilling including fire-fighting equipment. The area needs to be marked. • In the case of an oil spill sufficient quantities of oil absorbent have to be stocked. The contaminated absorbent has to be disposed of properly. • Hazardous waste has to be stored in designated closed tanks or areas. • Solid waste generated during construction and at campsites will be properly treated and safely disposed of only in demarcated waste disposal sites. • All activities which could contaminate the soil have to be carried on a sealed surface and if accidental spillage occurs that the contaminated soil has to be excavated and disposed properly. • Awareness has to be raised within the workforce to properly dispose of the waste.		
Waste and waste- water of the personnel	• Any domestic waste needs to be disposed of at the communal waste deposit sites. • Implement portable toilets, sewage has to be treated • Open defecation must be forbidden		

Hydrology			
Reduced discharge in the river stretches between intake and outlet	• Priority must be given to irrigation in the case of water shortage during early spring (March to April)		
Water (Water quality. Degradation of surface water/ groundwater quality if a spill/release occurs and is not contained immediately)			
Maintenance work at equipment and vehicles **Waste and wastewater of the personnel** **Inadequate storage and disposal of oils and lubricants, etc.** **Accidental spillages from maintenance work in generals**	In general, all equipment, machinery, trucks, and camp installations have to be located in a distance of more than 150 m to water used for human consumption. Strict measures must be taken to prevent oil pollution of the river. The most important are: • Storage of fuel and lubricants away from the river, in tight containers placed on sealed surfaces. • Storage areas shall be designed such that they will contain 110 % of the largest container/ vessel stored in the storage area and waterproof; have available on-site equipment and materials to execute clean-up (sufficient absorbent). • Good maintenance of vehicles and machines to prevent oil losses. • No cleaning or maintenance of vehicles or machines in close proximity to the river. This must be done on specially prepared places (workshops) equipped with oil skimmers.		
Sewage and greywater	• Wastewater from the camp and construction site must be collected in portable latrines or septic tanks and has to be treated before releasing into a river.		

Air quality and Climate Change - Particulate matter (dust) and nitrogen oxides (NOx), carbon dioxide (CO2), carbon monoxide, sulphur dioxide (SO2).			
Vehicle movements and operation of machinery during construction	• All the vehicles should be attached with the latest, advanced pollution control measures • Limit traffic speed • Periodic vehicle maintenance • Shut off motorized equipment and machines when they are not in use • Construction site organization (good housekeeping) • Optimize storage of materials known to be whirled up by wind • Keep soil moist while loading during excavation, sprayed on piles of cleared debris/loose soil during the dry season near working areas especially if they are close to settlements, including regularly spraying water on the road network leading to the locations under construction • Trucks which transport construction material for longer distances (quarry to construction site) should be covered also those of sub-contractors.		
Vehicle movements during maintenance and operations	• Limit traffic speed • Ensure all project vehicles and equipment are in good operating condition.		

Noise and vibration			
Increased noise pollution due to the vehicular movement.	• Use of appropriate vehicles and machines with state-of-the-art built-in systems (muffler) to reduce the noise. Avoid using equipment producing excessive noise • Periodic vehicle maintenance • Work scheduling (no noisy work during night: 6 pm to 8 am) • No transport through residential areas during night • Adequate distance between installation areas and recreation areas at the construction site • Periodic noise monitoring at sensitive areas OHS Management Plan • Operators of noise generating equipment are to be protected with PPE against adverse effects of noise.		

Waste, hazardous material and storage of hazardous materials Contamination of soil, water, health risk			
Contamination of soil, water, health risk **Domestic waste and wastewater (very small workforce)** **Solid waste from excavation material.** **Storage and handling of oil, fuel and lubricants during construction and for maintenance and operation.**	• Develop a Waste Management Plan • Domestic waste: collect and deposit in municipal waste deposit • Separate waste according to categories and dispose of properly • Forbidden to dispose-off or buried waste on the site. Illegal dumping, along the roads or in the surrounding areas, or into the river is forbidden. • Provide specific collection points for hazardous waste. Hazardous waste (oil, chemicals, etc.) has to be stored in a designated closed tanks and area. Until it will be delivered to companies specialized on the proper disposal or recycling of those hazardous wastes. • Containers have to be available at the workshops for the disposal of used filters, gaskets and other spare parts. • The construction wastes have to be dumped in selected pits, developed on infertile land and approved. Acquire all applicable waste disposal licenses. A full clean-up of the site must be carried out after construction. All wastes accumulated during construction and all demolishment wastes from temporary structures must be disposed properly. • A continuous monitoring of the proper waste handling by the contractor and by the Owner is indispensable to ensure that problems are identified and addressed early • Instruct workforce on appropriate measures to minimize waste and raise the awareness of the workforce.		

Visual Intrusion /aesthetic			
Permanent changes of landscape	• Revegetation where required		
Vegetation Loss of habitat, loss of topsoil, Loss of timber			
Vegetation clearing **Loss of vegetation through due to dumping of waste material and stocking of project equipment etc.**	• Avoiding clearing in riparian areas and prevent arable land for laydown areas and dumping areas • The construction wastes have to be dumped in selected pits, developed on infertile land and approved. Acquire all applicable waste disposal approval from concerned, if needed. • Topsoil should be stores separately in an appropriate manner to reuse it after closing the trenches. • Landscaping and revegetation (with native plant species) of all areas not anymore in use. • Illegal logging of the work force must be forbidden		
Terrestrial Fauna Disturbance of species, risk of illegal hunting.			
Disturbance to wildlife during vegetation clearing and illegal hunting.	• Hunting by members of the work force must be strictly forbidden • Limitation of working hours to max 7:00 am to 5:00 pm. • Ensure proper storage and management of liquid hazardous and non-hazardous waste • Ensure proper storage and management of hazardous chemicals		

Socio-economic			
Resettlement and economic displacement.	• Develop and implement the simplified RAP for Project, where needed • Compensation for land permanent acquired land and temporary leased land including requirements for landscaping and revegetation if required by the owner. • Compensation for crops and trees • Lost infrastructure will have to be relocated or compensated • Skill development of local population with focus on women • Implementation of the stakeholder engagement plan		
Women mobility.	• As part of the stakeholder engagement activities, it is required to agree on times when women can pass freely the construction area. Dates and times need to be agreed		
Influx of workers. Local worker will compete with newcomers for jobs. Generation of jobs	• Local population should be prioritized, if possible, in relation to job opportunities at the construction sites • In case of high skilled or technical jobs cadre, local candidates would require to compete with outsiders/influx candidates and best among the pole should be selected. • Due to the small number of workers required for construction time it is • not expected that a large influx of workers will occur. However, a code of conduct will be developed and enforced.		

Public health			
Risk of increase in Diseases and risk of increase of pandemic disease cases	Management of communicable diseases, related to the workforce will be outlined in the labor force management plan, which includes pre-placement medical examination of all workers, and the code of conduct. • Health check for workers at employment • The Code of Conduct should contain the key health and safety elements o Zero tolerance of illegal activities by all personnel; o Forbidding illegal sale or purchase of alcohol; o Forbidding the sale, purchase or consumption of drugs; o Forbidding illegal gambling and fighting. Implement a pandemic response plan with suitable measures.		

Increased risk of accidents **Traffic from and to the different sites**	Management of safety and security risks Construction sections are limited in size and security will be engaged during night and daytime. To prevent people from entering the construction areas, excavation will be temporarily fenced off. The security personnel must be trained to comply with the Voluntary Principles on Security and Human Rights and have to follow the code of conduct implemented • Information of local population related to dangerous activities e.g. transportation of heavy equipment (pipelines) • Prevent school operation times and specifically when school is just ending for any heavy transport operation. • Adequate signing, warnings and controls have to be implemented like speed limits • A safety driving training should be implemented • Drivers' have to adapt their driving style to type of charge and the weight of the charge (braking distance increases with the weight), special caution has to be taken in front of schools where children suddenly cross the street. • Best practice related to maintenance of vehicles		
Leaking septic tanks and exposure to waste can cause the risk of increase in diseases.	• Good housekeeping • Regular inspections of septic tanks and portable toilets		
Disturbance created by dusts and noise	• During dry season, sprinkle dirt roads to cut down on dust that would irritate neighboring settlements and population. • Implement all air and noise pollution precautions measures		
Risk of floods (GLOF events to be taken into	• There is no any risk on the safety of the population in case of a flood event: however, it is not expected since this hydropower do not have any storage capacity		

Occupational Health and Safety and labor conditions			
Labor Conditions	Develop a Labor Force Management Plan in compliance with ADB and ILO Standards: The contractor will ensure a contractual commitment on the part of labor providers to comply with all relevant aspects of Pakistan national labor law, including the establishment of formal employment relationships with laborers – ensuring legal protection on form and frequency of pay, working hours, etc. • Commit, where requested, to provide a copy of employment registers and records including details of hours/overtime worked, wages paid and the employment status of workers, both those employed directly and indirectly; • prevention of child labor by checking the age • Commitment to comply with rights and human rights. • Put in place a worker grievance redressal mechanism and details of any complaints lodged under the procedure.		

Risk of accidents during construction activities **Risk of diseases through exposure to noise, vibration, air pollutants, hazardous material and waste**	Develop an Occupational Health and Safety Plan in compliance with ADB EHS Standards and ILO Standards for construction sites containing all activities required including emergency preparedness, documentation and reporting requirements etc. • Carry out site and activity specific risk assessment • Ensure supervision during project activities • Provide required health and safety measures (PPE) • Provide first aid on site • Accessible consultation sheets for review in case of contingency or emergency situations. • Provide training and instruction to workers in a way that the workers are able to apply them • Provide sufficient potable water and shading • Dangerous areas need to be restricted. • Assign during construction a special area for the food intake. • Install portable toilets for the disposal of manure generated by the builders in a distance of at least 15 m to the river. They should be regular cleaned and disinfected. The number of latrines is correlated with the number of employees and there should be one toilet for every ten (10) workers.		

Heritage and Cultural Resources			
Destruction of grave sites and or secret/heritage /cultural sites	Develop chance find procedure in the event of an unanticipated discovery of cultural heritage or human remains, the following will occur. • Work will be stopped in the immediate area. • The Client will be notified and will notify all other appropriate authorities. • The find will be protected. • A cultural heritage specialist will be contacted to identify the find. • If it is determined to be of cultural significance, additional notifications will be provided to Governmental agencies, and appropriate local indigenous (e.g. Kalasha) community leaders and the find will be documented appropriately.		

Section IV: Impact Assessment

Social Assessment

Socio-economic and Livelihood Impacts

1. What are the existing social livelihood system and common property resource management system of the communities? _____
   _____
   _____
   _____

2. Access to government facilities for health and education, and to drinking water
   _____
   _____
   _____
   _____

3. Access to proviate sector faciliteis such as bank, private school, communication (mobile and internet services etc.)?_____

4. What are the pattern of existing conflicts, and existing mechanism of conflict resolution for areas under cultivation and grazing lands? Are there any potential conflicts between the upstream and down stream communities?
   _____
   _____
   _____

5. What are the benefits perceived by communities from mini/micro hydropower (please consult men and women separately)
   _____
   _____
   _____

6. What role local institutions and communities will have in management and operation of the Mini/Micro hydropower?
   _____
   _____
   _____

7. Assessment of the potential conflicts between lower and upper riparian communities if any (history of conflicts in the area, claims on lands, disputes etc.)

_____

_____

_____

8. How was the process of consultation carried out, conducted and documented with communities above and below the proposed intake site?

_____

_____

_____

8. Cultural and religious sites of community significance in the area to be affected, if any

_____

_____

Gender related Impacts

9. What level of consultation with men and women for the project was carried out?

_____

_____

_____

_____

10. Who is the target (both direct and indirect) of the proposed project? Who will benefit? Who will lose? _____

_____

_____

_____

11. How marginalized communities will benefit by this project?

_____

_____

_____

12. Cultural, social and religious constrains to community participation (men and women) if any _____

_____

13. How women and poor families will have same benefit as other households and in what way they can better benefit then others?

Section V: Undertaking

I, _____ (*full name and address*) as proponent for _____ (*name, description and location of Project*) do hereby solemnly affirm and declare:

1. The information on the proposed project and the environment provided in Forms I, II and III are correct to the best of my knowledge
2. I fully understand and accept the conditions contained in the Guidelines for (*name, number and version of the guidelines*)
3. I undertake to design, construct and operate the project strictly in accordance with the project described in Form I, submitted with this undertaking.
4. I undertake to implement all mitigation measures and undertake monitoring stated in Form IV, submitted with this undertaking.

Date _____ Signature _____

Name

Designation

(With official stamp/seal)

Witnesses:

	Signature	Name	Address
1.			
2.			

-sd-
Secretary to Govt. of Khyber Pakhtunkhwa
Climate Change, Forestry, Environment & Wildlife Department

No. SO/ENVT/CCFE&WD/4-2/ECP-2025:

Copy for information to:

1. All members of Environmental Protection Council (EPC) Khyber Pakhtunkhwa.
2. PS To Secretary Climate Change, Forestry, Environment and Wildlife Department, Khyber Pakhtunkhwa.

23/6/25

Muhammad Ishaq
Section Officer (Environment)