GOVERONMENT OF PUNJAB
ENVIRONMENTAL PROTECTION AGENCY

Environmental Assessment Checklists and Guidelines

Tourist Facilities in Ecologically Sensitive Areas

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1. Introduction

Tourism and environmental conservation are closely interconnected. The quality of the natural environment is one of the primary attractions for visitors, making clean air, safe water, scenic landscapes, healthy ecosystems, and rich biodiversity essential components of a successful tourism industry. At the same time, tourism development can place considerable pressure on these natural resources if it is not properly planned and managed.

Ecotourism is a form of sustainable tourism that promotes responsible travel to natural areas while conserving the environment, respecting local cultures, and improving the well-being of local communities. When appropriately planned, ecotourism can generate employment, support conservation efforts, and contribute to regional economic development without compromising ecological integrity.

Province of Punjab possesses a diverse range of natural and cultural resources that offer significant opportunities for ecotourism. These include forests, riverine ecosystems, wetlands, lakes, protected areas, wildlife habitats, the Salt Range, Soon Valley, and numerous historical and cultural sites. These environmentally sensitive areas support important ecological functions, including biodiversity conservation, groundwater recharge, watershed protection, and climate regulation, while also providing recreational and educational opportunities.

The construction of tourist facilities such as hotels, resorts, restaurants, camping sites, visitor centres, access roads, parking areas, and other supporting infrastructure within or near ecologically sensitive areas has the potential to cause adverse environmental impacts if not carefully planned. These impacts may include loss of vegetation and wildlife habitat, soil erosion, disturbance to flora and fauna, increased generation of solid waste and wastewater, deterioration of surface and groundwater quality, increased air and noise pollution, visual impacts on the landscape, and excessive pressure on local natural resources.

In recent years, increasing tourism-related development in environmentally sensitive locations has highlighted the need for stronger environmental planning and management. Inadequately planned construction, encroachment into forests and wetlands, uncontrolled disposal of solid waste and wastewater, and excessive visitor pressure have contributed to the degradation of natural habitats and scenic landscapes in several areas of Pakistan. Such degradation not only threatens biodiversity and ecosystem services but also diminishes the very environmental qualities that attract tourists.

1.2 Purpose of the Guidelines

These Environmental Assessment Guidelines have been prepared to assist project proponents, environmental consultants, and regulatory agencies in identifying, assessing, and mitigating the potential environmental impacts associated with the planning, construction, operation, expansion, and decommissioning of tourist facilities in ecologically sensitive areas. The Guidelines provide practical guidance on the preparation and review of Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) reports, environmental management planning, and compliance with the environmental requirements of Punjab. Their objective is to promote environmentally responsible tourism development that conserves natural resources, protects biodiversity and ecosystem services, safeguards the ecological integrity of sensitive areas, and contributes to sustainable socio-economic development.

1.3 Scope of the Guidelines

These guidelines are applicable to future developments of commercial and public tourist facilities, for example hotels and resorts in forest and ecologically sensitive areas.

Although for the regulatory purpose these guidelines are applicable to facilities that cater for tourist needs, many of its recommendations can be used to for constructing environmentally sound buildings for other purposes in the forest and ecologically sensitive areas.

1.4 How to use these Guidelines

The project proponent (the local government, municipal government, city government or the cantonment board) is obliged to use these guidelines. 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 **Section I**]

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

Step 3: Describe the physical, biological and social environment [use **Section III**]

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

Step 5: Provide undertaking to the EPA on mitigation measures and compliance [use **Section V**]

Completed form is to be submitted to the Punjab Environmental Protection Agency for evaluation. EPA Punjab may request for additional information or decide to undertake visit to the proposed project site in order to assess the environmental impact of the proposed project.

1.5 Glossary

Act: means the Punjab Environmental Protection Act, 1997.

Aesthetic Value: the visual, scenic, and cultural qualities of a landscape or environment that contribute to its attractiveness and recreational value.

Air Emissions: the release of gases, dust, smoke, fumes, particulate matter, or other pollutants into the atmosphere from construction or operational activities.

Biodiversity: the variety and variability of living organisms, including plants, animals, microorganisms, and the ecosystems in which they occur.

Buffer Zone: an area adjacent to an ecologically sensitive area where development activities are restricted or managed to minimize adverse environmental impacts.

Carrying Capacity: the maximum level of visitor use or development that an area can sustain without causing unacceptable environmental degradation or reducing visitor satisfaction.

Construction Waste: solid waste generated during site preparation, construction, renovation, or demolition activities, including excavated material, concrete, bricks, timber, metals, plastics, and packaging materials.

Contamination: the introduction of physical, chemical, or biological impurities into the environment that may adversely affect human health or natural ecosystems.

Conservation: the sustainable use, protection, and management of natural resources to prevent depletion and maintain ecological functions.

Ecologically Sensitive Area (ESA): an area possessing significant ecological, biological, geological, hydrological, or landscape value that is vulnerable to disturbance. Such areas include forests, wetlands, protected areas, wildlife habitats, riverine ecosystems, steep slopes, and habitats of threatened species.

Ecosystem: a biological community of interacting organisms and their physical environment functioning as an ecological unit.

Ecotourism: responsible travel to natural areas that conserves the environment, supports the well-being of local communities, and promotes environmental awareness.

Effluent: liquid waste or wastewater discharged from a facility, establishment, or activity into the environment after use, whether treated or untreated.

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

Environmental Assessment: a technique and process by which information about the environmental effects of a proposed project is collected, evaluated, and considered by the competent authority in deciding whether the development should proceed.

Environmental Impact: any change in the physical, biological, or socio-economic environment resulting directly or indirectly from a proposed project or activity.

Environmental Management Plan (EMP): a site-specific plan describing the mitigation measures, monitoring requirements, institutional responsibilities, and reporting procedures for managing the environmental impacts of a project.

Erosion: the detachment and movement of soil or rock by water, wind, gravity, or human activities.

Gradient: the longitudinal slope of land or rock, usually expressed as a ratio, percentage, or angle.

Habitat: the natural place or physical environment in which a plant or animal species normally lives.

Hazardous Waste: waste possessing toxic, corrosive, flammable, reactive, or infectious characteristics that may pose a risk to human health or the environment.

Impact on Environment: any effect on land, water, air, biodiversity, wildlife, natural resources, or any other component of the environment, including impacts on the social, cultural, and built environment or heritage resources.

Landscape: the visible features of an area, including landforms, vegetation, water bodies, and built structures, viewed together as a whole.

Landslide: the downward movement of rock, soil, or debris under the influence of gravity.

Lightning Conductor: a metal conductor installed on a structure to safely transfer lightning current to the ground, thereby protecting the structure from damage.

Mitigation Measure: a measure adopted to avoid, minimize, control, rectify, restore, or compensate for adverse environmental impacts arising from a proposed development.

Native Species: a plant or animal species that occurs naturally in a particular geographical area without human introduction.

Noise Pollution: unwanted or excessive sound generated by construction, transportation, machinery, or operational activities that may adversely affect human health, wildlife, or the environment.

Pollution: the presence in, or introduction into, the environment of substances, energy, or contaminants that cause harmful or undesirable effects on human health or the environment.

Preservation: the protection of natural resources or ecosystems from alteration or exploitation in order to maintain them in their original or undisturbed condition.

Protected Area: a geographically defined area designated and managed through legal or other effective means for the long-term conservation of biodiversity, ecosystems, and natural resources.

Rehabilitation: the process of restoring disturbed land or ecosystems to a stable and environmentally acceptable condition following project completion.

Regulations: means the Punjab Environmental Protection Agency (Review of Initial Environmental Examination and Environmental Impact Assessment) Regulations, 2022.

Riparian Zone: the area adjacent to a river, stream, lake, or wetland that supports characteristic vegetation and performs important ecological functions.

Sedimentation: the deposition of soil particles or other suspended materials in rivers, lakes, wetlands, or other water bodies as a result of erosion or surface runoff.

Sensitive Receptor: any person, community, structure, ecological resource, or environmentally sensitive area that may be adversely affected by environmental impacts, including residential areas, schools, hospitals, forests, wetlands, and wildlife habitats.

Septic Tank: a watertight underground tank in which domestic sewage is collected, allowing solids to settle and undergo anaerobic decomposition before the effluent is discharged to a soakage system.

Soil Erosion: the physical removal and transportation of soil by water, wind, gravity, or human activities.

Solid Waste: any discarded solid or semi-solid material generated from construction, operation, or maintenance activities, excluding liquid effluents and gaseous emissions.

Stormwater Runoff: rainwater flowing over land surfaces that may transport sediment, oil, chemicals, nutrients, or other pollutants into nearby water bodies.

Sustainable Tourism: tourism that meets the needs of present visitors and host communities while protecting environmental, cultural, and economic resources for future generations.

Threatened or Endangered Species: a plant or animal species that is at risk of extinction throughout all or a significant portion of its natural range.

Tourist Facility: any building, structure, infrastructure, or service developed to support tourism activities, including hotels, resorts, eco-lodges, guest houses, restaurants, visitor centres, camping sites, picnic areas, parking areas, recreational facilities, access roads, and associated utilities.

Wastewater: water whose physical, chemical, or biological quality has been adversely affected by domestic, commercial, tourism, or construction activities and requires appropriate treatment before discharge or reuse.

Wetland: an area of marsh, swamp, peatland, or shallow water, whether natural or artificial, permanent or temporary, that supports aquatic or semi-aquatic ecosystems.

Wildlife Habitat: an area that provides food, water, shelter, breeding sites, and other resources necessary for the survival and reproduction of wild animal species.

2. Project Profile

2.1 Description

Tourism is an important contributor to the socio-economic development of Punjab, generating employment and supporting local businesses and infrastructure. To accommodate the growing number of domestic and international tourists, various tourist facilities are being developed by both the public and private sectors. These facilities include hotels, resorts, guest houses, eco-lodges, restaurants, visitor centres, camping sites, picnic areas, recreational facilities, parking areas, access roads, and associated utilities.

Many tourist facilities are proposed in or near ecologically sensitive areas because of their scenic beauty, biodiversity, forests, wetlands, riverine ecosystems, lakes, and cultural or historical significance. In Punjab, such areas include the Murree Hills, Soon Valley, Salt Range, Kallar Kahar, Changa Manga Forest, Lal Suhanra National Park, Uchhali Wetland Complex, Head Balloki, Head Marala, and other protected areas and natural landscapes that attract visitors throughout the year.

The construction and operation of tourist facilities involve land development, construction of buildings and supporting infrastructure, installation of water supply and sanitation systems, access roads, and utility services. If these developments are not properly planned and managed, they may result in adverse environmental impacts such as loss of vegetation, habitat disturbance, soil erosion, water pollution, increased generation of solid waste and wastewater, air and noise pollution, and degradation of the natural landscape. Therefore, environmental considerations should be integrated into all stages of project planning, design, construction, operation, and decommissioning to ensure that tourism development is environmentally sustainable and compatible with the conservation of ecologically sensitive areas.

The proponent after deep consultation must describe the project and all related allied activities which may include but not limited to followings:

i. General Information
ii. Site Description
iii. Forest Resource Characteristics
iv. Harvesting Methodology
v. Machinery and Equipment
vi. Transportation and Access Roads
vii. Workforce and Support Facilities
viii. Construction and Operational Activities
ix. Environmental Protection Measures
x. Environmental monitoring

3. Environmental Impacts

The construction and operation of tourist facilities in ecologically sensitive areas can provide important socio-economic benefits through employment generation, improved infrastructure, and increased tourism revenues. However, if not properly planned, designed, and managed, these developments may adversely affect the *physical, biological, and socio-economic environment*. The nature and magnitude of impacts depend on the location, scale, design, construction methods, and operational practices of the project. The environmental issues associated with the construction of hotels, resorts and other structures in forest and ecologically sensitive areas are described below.

3.1 Land Use and Topography

- Permanent or temporary conversion of natural land for tourism infrastructure.
- Loss of topsoil due to site clearance, excavation, and grading.
- Soil erosion and land degradation, particularly on steep slopes.
- Slope instability and increased risk of landslides in hilly areas.
- Alteration of natural landforms and landscape features.

3.2 Vegetation and Forest Resources

- Clearing of trees and natural vegetation for construction activities.
- Loss or fragmentation of natural habitats.
- Damage to protected, rare, or indigenous plant species.
- Reduction in forest cover and ecosystem services.
- Introduction of invasive plant species through landscaping.

3.3 Wildlife and Biodiversity

- Disturbance to wildlife due to construction activities and increased human presence.
- Habitat degradation and fragmentation.
- Disruption of wildlife movement corridors.
- Disturbance to breeding, nesting, and feeding habitats.
- Increased human-wildlife interactions and conflicts.

3.4 Surface Water and Groundwater

- Increased sedimentation in rivers, streams, lakes, and wetlands.
- Contamination of water bodies from untreated wastewater and solid waste.
- Pollution from accidental spills of fuels, oils, and chemicals.
- Alteration of natural drainage patterns.
- Increased demand for freshwater resources.

3.5 Air Quality

- Dust generation during site preparation and construction.
- Exhaust emissions from construction machinery and vehicles.

- Air pollution from backup generators and operational activities.
- Reduced local air quality due to increased traffic.

3.6 Noise and Vibration

- Noise generated by construction equipment and vehicles.
- Disturbance to nearby communities and wildlife.
- Temporary vibration from heavy machinery and earthworks.

3.7 Solid Waste Management

- Generation of construction debris and excavated materials.
- Increased generation of municipal solid waste during operation.
- Improper disposal of waste causing visual pollution and environmental degradation.
- Attraction of pests and scavenging animals due to poor waste management.

3.8 Wastewater Management

- Generation of domestic sewage and greywater.
- Risk of contamination of surface and groundwater from inadequate treatment or disposal.
- Overloading of existing sanitation systems where available.

3.9 Landscape and Visual Quality

- Visual intrusion caused by inappropriate building design or excessive development.
- Modification of natural scenery and viewpoints.
- Reduction in the aesthetic value of environmentally sensitive areas.

3.10 Traffic and Transportation

- Increased traffic during construction and operation.
- Road safety risks for local communities and visitors.
- Dust, noise, and congestion along access roads.
- Damage to existing roads due to movement of heavy vehicles.

3.11 Socio-economic Environment

- Creation of employment and business opportunities for local communities.
- Increased demand for public utilities and municipal services.
- Potential conflicts over land use and natural resource utilization.
- Increased pressure on local infrastructure during peak tourist seasons.
- Possible disturbance to local cultural heritage and community lifestyles.

3.12 Occupational Health and Safety

- Risk of injuries during construction activities.
- Exposure of workers to dust, noise, hazardous materials, and machinery.
- Fire and electrical hazards.

- Inadequate emergency preparedness and first-aid facilities.

3.13 Community Health and Safety

- Increased risk of accidents due to construction activities and traffic.
- Public exposure to dust, noise, and construction hazards.
- Risks associated with improper waste and wastewater management.
- Restricted access to community resources during construction.

3.14 Climate Change and Energy Use

- Greenhouse gas emissions from construction equipment, vehicles, and generators.
- Increased energy consumption during operation.
- Reduced carbon sequestration due to vegetation clearance.
- Increased vulnerability of infrastructure to extreme weather events.

3.15 Cumulative Impacts

- Progressive loss of natural habitats due to multiple tourism developments.
- Increased pressure on water resources and ecosystem services.
- Incremental degradation of landscape quality and biodiversity.
- Combined impacts on wildlife, wetlands, forests, and protected areas.
- Reduced ecological resilience and long-term sustainability of tourism destinations

4. Environmental Mitigation Measures

4.1 Land Use and Topography

- Select sites to avoid ecologically sensitive areas, protected areas, wetlands, and unstable slopes wherever feasible.
- Minimize land clearing and site disturbance by optimizing the project layout.
- Restrict construction activities to approved project boundaries.
- Preserve natural landforms and avoid unnecessary cutting and filling.
- Stockpile and reuse topsoil for landscaping and site restoration.
- Prevent soil erosion by engineering techniques. Stabilize exposed slopes using retaining structures, terracing, vegetation, or bioengineering techniques.
- Immediately restore temporarily disturbed areas immediately after construction.

4.2 Vegetation and Forest Resources

- Minimize the removal of trees and native vegetation.
- Avoid cutting protected, rare, or endangered plant species.
- Clearly demarcate vegetation to be retained before construction.

- Implement compensatory plantation using native species where tree removal is unavoidable.
- Prohibit unnecessary clearing outside the approved construction footprint.
- Control the spread of invasive plant species during landscaping.
- Restore disturbed areas with indigenous vegetation.

4.3 Wildlife and Biodiversity

- Avoid construction within critical wildlife habitats and breeding areas.
- Schedule construction activities outside sensitive breeding or nesting seasons where practicable.
- Maintain ecological corridors and wildlife movement routes.
- Prohibit hunting, trapping, collection, or disturbance of wildlife by project personnel.
- Restrict nighttime construction and unnecessary lighting near wildlife habitats.
- Educate workers on wildlife conservation requirements.
- Install wildlife crossing signs where access roads intersect wildlife movement routes.

4.4 Surface Water and Groundwater

- Maintain buffer zones around rivers, streams, lakes, wetlands, and springs.
- Avoid disposal of wastewater, construction debris, or excavated material into water bodies.
- Install sediment barriers, silt fences, and drainage controls during construction.
- Treat domestic wastewater before discharge in accordance with applicable standards.
- Store fuels, lubricants, and chemicals in designated areas with secondary containment.
- Develop spill prevention and emergency response procedures.
- Regularly inspect drainage systems and erosion control measures.

4.5 Air Quality

- Sprinkle water on exposed surfaces and haul roads to control dust.
- Cover trucks transporting soil and construction materials.
- Maintain construction equipment and vehicles to minimize exhaust emissions.
- Avoid open burning of construction waste and vegetation.
- Use low-emission machinery where feasible.
- Limit vehicle speeds within the project site.

4.6 Noise and Vibration

- Restrict noisy construction activities to daytime hours.
- Maintain equipment to minimize noise generation.

- Install temporary noise barriers where construction occurs near sensitive receptors.
- Provide hearing protection to workers exposed to high noise levels.
- Inform nearby communities about construction schedules.

4.7 Solid Waste Management

- Prepare and implement a Solid Waste Management Plan.
- Segregate waste into recyclable, reusable, and non-recyclable categories.
- Provide covered waste collection bins throughout the site.
- Dispose of waste only at approved disposal facilities.
- Recycle construction materials wherever practicable, However, leftover, materials should be buried in a manner so that not to obstruct natural flow and disturb ecology of the area. No hazardous waste (oil filters, batteries, waste oil, etc.) should be buried.
- Prohibit open dumping and open burning of waste.
- Maintain good housekeeping throughout construction and operation.

4.8 Wastewater Management

- Install appropriately designed sewage treatment systems or septic tanks with soakage arrangements where centralized sewerage is unavailable.
- Prevent untreated wastewater from entering natural water bodies e.g. no oil changes, refueling or lubricating of construction equipment should be conducted within 50 meters of open water.
- Regularly inspect and maintain wastewater treatment facilities.
- Promote water conservation through efficient plumbing fixtures and reuse where feasible.
- Monitor treated wastewater quality prior to discharge.

4.9 Landscape and Visual Quality

- Design buildings to blend with the surrounding landscape using appropriate architectural styles and materials.
- Minimize building height and visual intrusion in scenic areas.
- Preserve mature trees and natural vegetation wherever possible.
- Restore disturbed areas through landscaping using native plant species.
- Screen utility structures and service areas from public view.

4.10 Traffic and Transportation

- Prepare a Traffic Management Plan before construction.
- Designate approved routes for construction vehicles.
- Install traffic signs, warning boards, and speed control measures.

- Schedule delivery of construction materials during off-peak hours where feasible.
- Repair any roads damaged by construction traffic.
-

4.11 Socio-economic Environment

- Give preference to local employment where qualified personnel are available.
- Procure construction materials and services locally where feasible.
- Conduct regular consultations with local communities.
- Establish a grievance redress mechanism.
- Protect community access to roads, public facilities, and natural resources.
- Respect local customs, traditions, and cultural heritage.

4.12 Occupational Health and Safety

- Prepare and implement an Occupational Health and Safety Plan.
- Provide appropriate Personal Protective Equipment (PPE) to all workers.
- Conduct regular safety training and toolbox meetings.
- Ensure safe operation of construction machinery.
- Provide first-aid facilities and trained personnel at the site.
- Develop emergency response and fire safety procedures.
- Install appropriate safety signs and barricades.

4.13 Community Health and Safety

- Secure construction sites with fencing and warning signs.
- Control public access to hazardous work areas.
- Suppress dust and minimize noise affecting nearby communities.
- Maintain safe pedestrian and vehicular access around the project site.
- Develop emergency response procedures for accidents and natural hazards.

4.14 Climate Change and Energy Use

- Maximize the retention of existing vegetation.
- Plant native trees and vegetation to offset unavoidable tree removal.
- Incorporate energy-efficient building designs and equipment.
- Utilize renewable energy sources where feasible.
- Promote water-efficient fixtures and rainwater harvesting.
- Encourage sustainable transportation options for visitors.

4.15 *Fire Prevention*

- Lightening conductors should be provided in the building constructed in the forests.
- A fire contingency plan should be prepared (e.g. Designate a person as Safety, Health and Environment officer, follow protocol to avoid forest fire etc).
- No open fires should be lit in the hotel or resort premises

4.16 Cumulative Impacts

- Consider cumulative environmental impacts during project planning and Environmental Assessment.
- Coordinate development with local land-use and tourism plans.
- Limit development density within environmentally sensitive areas.
- Maintain ecological connectivity between habitats.
- Periodically review environmental performance and implement adaptive management measures where necessary.

5. Environmentally Sustainable Operations

5.1 Sustainable Building Management

- Operate tourist facilities in accordance with environmentally sustainable management practices.
- Use environmentally friendly and locally available construction and finishing materials wherever feasible.
- Regularly maintain buildings and utilities to prevent leaks, wastage, and environmental pollution.
- Minimize disturbance to natural landforms and surrounding vegetation during maintenance activities.

5.2 Energy Conservation

- Install energy-efficient lighting, appliances, and electrical equipment.
- Maximize the use of natural lighting and ventilation in building design.
- Install solar water heaters or solar photovoltaic systems where feasible.
- Switch off unnecessary lighting and equipment during non-operational hours.
- Regularly maintain generators and electrical equipment to improve energy efficiency.

5.3 Water Conservation

- Install water-efficient taps, showerheads, dual-flush toilets, and other water-saving fixtures.
- Harvest rainwater for landscaping and other non-potable uses where feasible.

- Reuse treated wastewater for irrigation, landscaping, or toilet flushing, where permitted.
- Regularly inspect water supply systems to detect and repair leaks.
- Encourage responsible water use among staff and visitors.

5.4 Waste Management

- Implement waste segregation at source using color-coded waste bins.
- Promote reduction, reuse, and recycling of solid waste.
- Compost biodegradable waste where feasible.
- Eliminate the use of single-use plastics wherever practical.
- Dispose of hazardous waste through authorized waste management facilities.

5.5 Wastewater Management

- Ensure that wastewater treatment systems are properly operated and maintained.
- Regularly inspect septic tanks, soakage pits, or sewage treatment plants.
- Prevent untreated wastewater from entering nearby rivers, streams, wetlands, or groundwater.

5.6 Biodiversity Conservation

- Preserve existing native trees and natural vegetation.
- Use indigenous plant species for landscaping.
- Avoid planting invasive ornamental species.
- Prohibit feeding, hunting, trapping, or disturbing wildlife.
- Minimize outdoor lighting in environmentally sensitive areas to reduce disturbance to wildlife.

5.7 Air Quality Management

- Maintain vehicles and generators to minimize emissions.
- Avoid open burning of waste or vegetation.
- Encourage shared transportation, walking, and cycling within the tourist facility where appropriate.

5.8 Noise Management

- Maintain machinery and generators to reduce noise levels.
- Restrict loud outdoor activities during environmentally sensitive periods and nighttime hours.
- Locate generators and other noisy equipment away from sensitive receptors.

5.9 Green Procurement

- Purchase environmentally friendly, biodegradable, and locally produced products where available.
- Prefer sustainably sourced timber and certified building materials.
- Minimize excessive packaging and encourage suppliers to adopt environmentally responsible practices.

5.10 Visitor Awareness

- Display environmental awareness and conservation information at prominent locations.
- Encourage visitors to conserve water and energy.
- Promote responsible waste disposal through adequate signage.
- Inform visitors about environmentally sensitive areas and prohibited activities.
- Encourage responsible nature-based tourism practices.

5.11 Staff Training

- Provide regular environmental awareness training to employees.
- Train staff on waste segregation, emergency response, spill prevention, and biodiversity conservation.
- Assign environmental responsibilities to designated personnel.

5.12 Climate Change Adaptation

- Increase tree plantation and green spaces within the facility.
- Incorporate climate-resilient landscaping.
- Develop contingency plans for floods, heatwaves, storms, and other extreme weather events.

5.13 Environmental Monitoring and Continuous Improvement

- Regularly monitor water and energy consumption.
- Periodically inspect environmental protection measures.
- Maintain records of waste generation and disposal.
- Conduct periodic environmental audits.
- Review and improve environmental performance on a regular basis.

6. Eco-friendly Tourism Practices

- Promote ecotourism principles and responsible visitor behaviour.
- Limit visitor access to environmentally sensitive locations where necessary.
- Develop designated walking trails and viewing platforms to reduce habitat disturbance.

- Encourage the use of reusable water bottles and eco-friendly packaging.
- Avoid activities that disturb wildlife or damage natural habitats.
- Support local communities by promoting local handicrafts, cultural heritage, and locally sourced products.
- Install interpretive signage explaining the ecological importance of the area.
- Encourage visitors to follow a "Leave No Trace" policy.
- Organize periodic environmental awareness and clean-up campaigns involving staff, visitors, and local communities.

Environmental Assessment Checklist

Section I: Project Description

File No _____ (To be filled by EPA)

Date _____

General Information

1. Project Name or Title___
2. Project Proponent (Department, organization, or owner)
3. Address_____
4. Telephone ____
5. Fax ___
6. E-mail
7. Representative of the Proponent
8. Designation ___
9. Name of the person who conducted this assessment ____
10. Designation ___
11. Qualification___

Project Information

12. Project Location _____
13. Name of Forest
14. Cost of the Project_____
15. Period of construction (start and end dates) ____
16. Total land area m^2
17. Size of the Facility (Rooms and beds)___
18. Brief Project Description _____

_____

_____

Please attach a map of the proposed project area

19. What material will be used for the external finish of the facilities?

_____

20. Number and type of major construction equipment that will be used _____

_____

_____

21. The total construction material that will be utilized? ___

_____

_____

22. Will any new 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? _____

23. 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? _____

24. Is construction work during the night planned? _____

25. How many trees will be removed from the construction site? _____

26. Describe the proposed wastewater disposal system?_____

Section II: Screening

Is the proposed facility or part of the facility inside an ecologically sensitive area:

☐ Yes ☐ No

If yes, then the project would require an initial environmental examination or an environment impact assessment. Refer to the Punjab Environmental Protection Agency Review of Initial Environmental Examination and Environment Impact Assessment Regulations, 2022 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 500 m of the proposed site?

   ☐ Yes ☐ No

   If yes, please describe (where, nature) _____

3. Is there any surface water body (river, canal, stream, lake, wetland) within 1,000 m of the proposed site?

   ☐ Yes ☐ No

   If yes, describe each water body:

Name (including type, ie, river, canal or stream)	**Dimensions**	**Status and Uses** (Is it polluted? Is domestic or other wastewater discharged to it? What are its uses, eg, agriculture, domestic, industrial, washing, fishery

4. 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)

5. Is any critical wildlife habitat found on, or within 1 km of the proposed site of the facility?

   ☐ Yes ☐ No

   If yes, please describe _____

It is recommended that the opinion of the NWFP Wildlife Department should be obtained regarding the wildlife sensitivity of the proposed site.

Please attach the relevant opinion or no objection certificate of the NWFP Wildlife Depart if the opinion of the Department has been sought.

6. How many trees are there on the proposed site? _____

   Please list by species _____

7. What other flora species are found on the proposed site? _____

8. Please provide the traffic count for all main roads adjacent to the proposed site or roads that will provide access to the site. The count should be based on data collected, for both directions, on at least three typical working days. Use the following format:

Road_____ Count Location _____

	6:00 am-9:00 am	9:00 am-12:00 noon	12:00 noon-3:00 pm	3:00 pm-6:00 pm	6:00 pm-9:00 pm
Large vehicles (trucks, buses, tractor trolleys, Minibuses)					
Medium sized vehicles (Suzuki pickups, cars, jeeps, taxis)					
Small vehicles (Rickshaws, motorcycles, scooters)					
Slow vehicles (animal-driven carts, tongas)					
Others					

(*Please add additional sheets for every road*)

9. What is the present land use in the vicinity (roughly a radius of 500 m) of the proposed site?

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

(*Please attach a map of the proposed project site and indicate roughly the area that you have considered for this evaluation*)

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

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

11. Roughly, how many houses are within a radius of 500 m of the proposed site?

_____

12. What proportion of the houses in the area are *pukka, semi-pukka, and* kutcha? _____

13. How are the general hygienic conditions of the project area?

☐ Generally clean

☐ Fair

☐ Poor

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

☐ Yes ☐ No

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. What other main sources of pollution exist within a radius of 500 m of the proposed site:

Name of the Source	**Type of Pollution** (Noise, air water)	**Location** (Village, road, mohalla, etc.)	**Distance from Site**

Section IV: Impact Assessment and Mitigation Measures

Potential Negative Environmental Impacts	Tick, if relevant	Mitigation Measures	Tick, if proposed	Monitoring Plan
Site Selection and Design	☐	The proposed tourist facility is not located within protected areas or critical wildlife habitats unless specifically approved by the competent authority.	☐	Verify approved site plan and field inspection.
		The facility is not located deep inside forests where development may adversely affect ecological integrity.	☐	Site inspection.
		Natural drainage patterns have been maintained.	☐	Construction supervision.
		Environmentally sensitive areas such as wetlands, rivers, lakes, springs, and riparian zones have been avoided.	☐	Verify site layout.
		Steep slopes and erosion-prone areas have been avoided where feasible.	☐	Site inspection.
		Existing mature trees have been retained to the maximum extent possible.	☐	Tree inventory and inspection.
		Building layout minimizes land disturbance and preserves natural landscape features.	☐	Review approved drawings.
		Buffer zones have been maintained around forests, streams, lakes, and wetlands.	☐	Periodic inspection.
Land Use and Topography	☐	Site clearance has been minimized.	☐	Construction inspection.
		Topsoil has been stockpiled and reused for landscaping.	☐	Site inspection.
		Cut-and-fill operations have been minimized.	☐	Construction records.
		Exposed slopes have been stabilized using engineering or bioengineering measures.	☐	Inspection after rainfall.
		Disturbed land has been restored immediately after construction.	☐	Post-construction inspection.
Vegetation and Forest Resources	☐	Tree removal has been minimized and approved by the relevant authority.	☐	Verify permits and inspection.
		Protected, rare, and endangered plant species have not been disturbed.	☐	Ecological inspection.

Potential Negative Environmental Impacts	Tick, if relevant	Mitigation Measures	Tick, if proposed	Monitoring Plan
		Compensatory plantation using native species has been carried out where required.	☐	Plantation survival monitoring.
		Construction activities have remained within approved boundaries.	☐	Routine inspection.
		Native species have been used for landscaping.	☐	Landscape inspection.
Wildlife and Biodiversity	☐	Construction avoids wildlife breeding and nesting areas.	☐	Ecological monitoring.
		Wildlife movement corridors have been maintained.	☐	Field inspection.
		Hunting, trapping, and disturbance of wildlife by workers are prohibited.	☐	Contractor compliance inspection.
		Night-time construction near wildlife habitats has been minimized.	☐	Site inspection.
		Outdoor lighting has been designed to minimize disturbance to wildlife.	☐	Operational inspection.
Surface Water and Groundwater	☐	No untreated wastewater is discharged into natural water bodies.	☐	Water quality monitoring.
		Sediment control measures have been installed.	☐	Inspection after rainfall.
		Fuel and chemicals are stored in designated containment areas.	☐	Weekly inspection.
		Spill response equipment is available on site.	☐	Safety inspection.
		Drainage channels remain unobstructed.	☐	Routine inspection.
Air Quality	☐	Water sprinkling is carried out to control dust.	☐	Daily inspection.
		Trucks carrying construction materials are covered.	☐	Visual inspection.
		Construction machinery is regularly maintained.	☐	Maintenance records.
		Open burning of waste is prohibited.	☐	Site inspection.
Noise and Vibration	☐	Construction activities are limited to approved working hours.	☐	Site inspection.
		Equipment is maintained to minimize noise emissions.	☐	Maintenance records.
		PPE is provided to workers exposed to excessive noise.	☐	PPE inspection.

Potential Negative Environmental Impacts	Tick, if relevant	Mitigation Measures	Tick, if proposed	Monitoring Plan
Solid Waste Management	☐	A Solid Waste Management Plan has been implemented.	☐	Review waste records.
		Waste is segregated into recyclable and non-recyclable categories.	☐	Site inspection.
		Covered waste bins are provided throughout the facility.	☐	Inspection.
		Waste is disposed of through approved disposal facilities.	☐	Disposal records.
		Open dumping and open burning are prohibited.	☐	Routine inspection.
Wastewater Management	☐	Septic tanks or wastewater treatment facilities have been provided.	☐	Facility inspection.
		Wastewater treatment facilities are regularly maintained.	☐	Maintenance records.
		Treated wastewater meets applicable discharge standards.	☐	Water quality monitoring.
Landscape and Visual Quality	☐	Buildings blend with the surrounding landscape.	☐	Site inspection.
		Existing natural vegetation has been retained wherever possible.	☐	Landscape inspection.
		Utility structures are screened from public view.	☐	Visual inspection.
Traffic and Transportation	☐	A Traffic Management Plan has been prepared and implemented.	☐	Traffic inspection.
		Construction vehicles use designated routes.	☐	Site inspection.
		Warning signs and speed limits are provided.	☐	Traffic inspection.
		Roads damaged during construction are repaired.	☐	Post-construction inspection.
Socio-economic Environment	☐	Local communities have been consulted.	☐	Consultation records.
		Preference has been given to local employment where feasible.	☐	Employment records.
		A grievance redress mechanism has been established.	☐	Grievance register.
		Community access has not been obstructed.	☐	Field inspection.

Potential Negative Environmental Impacts	Tick, if relevant	Mitigation Measures	Tick, if proposed	Monitoring Plan
Occupational Health and Safety	☐	An Occupational Health and Safety Plan has been implemented.	☐	OHS audit.
		Workers are provided with appropriate PPE.	☐	Daily inspection.
		First-aid kits and emergency equipment are available.	☐	Weekly inspection.
		Safety training is regularly conducted.	☐	Training records.
Community Health and Safety	☐	Construction sites are secured with fencing and warning signs.	☐	Routine inspection.
		Public access to hazardous areas is controlled.	☐	Site inspection.
		Dust and noise are minimized near nearby communities.	☐	Community feedback.
Climate Change and Energy Use	☐	Existing vegetation has been retained where feasible.	☐	Site inspection.
		Energy-efficient equipment and lighting have been installed.	☐	Energy audit.
		Renewable energy technologies have been considered.	☐	Operational inspection.
		Rainwater harvesting and water-saving fixtures have been incorporated.	☐	Operational inspection.
Fire Prevention	☐	Lightning conductors have been installed where required.	☐	Building inspection.
		A Fire Management and Emergency Response Plan has been prepared.	☐	Emergency drills.
		Firefighting equipment is available and regularly maintained.	☐	Monthly inspection.
		Open fires are prohibited within the premises.	☐	Routine inspection.
Environmentally Sustainable Operations	☐	Energy-efficient appliances and lighting are used.	☐	Energy consumption records.
		Water-saving fixtures have been installed.	☐	Water consumption records.
		Rainwater harvesting and treated wastewater reuse are practiced where feasible.	☐	Operational inspection.
		Waste segregation and recycling are implemented.	☐	Waste records.
		Single-use plastics are minimized.	☐	Site inspection.

Potential Negative Environmental Impacts	Tick, if relevant	Mitigation Measures	Tick, if proposed	Monitoring Plan
		Buildings and utilities are regularly maintained to prevent leaks and pollution.	☐	Maintenance records.
Eco-friendly Tourism Practices	☐	Environmental awareness information is displayed for visitors.	☐	Site inspection.
		Visitors are encouraged to follow "Leave No Trace" principles.	☐	Visual inspection.
		Visitor access is controlled in environmentally sensitive areas.	☐	Visitor management records.
		Designated walking trails and viewing platforms are provided.	☐	Field inspection.
		Local communities and environmentally friendly products are promoted.	☐	Periodic review.
		Environmental awareness and clean-up activities are organized periodically.	☐	Activity records.

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	_____	_____	_____