



**GOVERNMENT OF PUNJAB
ENVIRONMENTAL PROTECTION AGENCY**



Environmental Assessment Checklists and Guidelines

Basic Health Units (BHUs)

Contents

No.	Contents	Page No.
1.	Introduction	
1.1	Background	1
1.2	Purpose of the Guidelines	
1.3	Scope of the Guidelines	
1.4	How to Use these Guidelines	
1.5	Glossary	
2.	Project Profile	4
2.1	Project Description	
3.	Environmental Impacts	5
3.1	Land Acquisition and Site Selection	
3.2	Dust, Noise, and Waste Generation During Construction	
3.3	Medical and Infectious Waste Management	
3.4	Wastewater and Sanitation	
3.5	Safe Handling of Sharps and Hazardous Waste	
3.6	Water Supply and Drinking Water Quality	
3.7	Air Emissions from Standby Generators	
3.8	Occupational Health and Safety	
3.9	Community Health and Safety	
3.10	Energy Consumption and Resource Efficiency	
4.	Environmental Mitigation Measures	6
4.1	Land Acquisition and Site Selection	
4.2	Dust, Noise, and Waste Generation During Construction	
4.3	Medical and Infectious Waste Management	
4.4	Wastewater and Sanitation	
4.5	Safe Handling of Sharps and Hazardous Waste	
4.6	Water Supply and Drinking Water Quality	
4.7	Air Emissions from Standby Generators	
4.8	Occupational Health and Safety	
4.9	Community Health and Safety	
4.10	Energy Consumption and Resource Efficiency	

1. Introduction

1.1 Background

Basic Health Units (BHUs) are the primary healthcare facilities established by the Government of Pakistan to provide essential preventive, promotive, curative, and maternal and child healthcare services to rural and peri-urban populations. They serve as the first level of contact between communities and the public healthcare system and are generally designed to serve a population of 10,000 to 25,000 people, depending on local conditions.

In Punjab, BHUs are managed by the Primary & Secondary Healthcare Department (P&SHD) through the respective District Health Authorities. Many BHUs have also been upgraded and revitalized under various provincial healthcare initiatives to improve the quality and accessibility of primary healthcare services.

i. Typical Components of a Basic Health Unit

A Basic Health Unit generally comprises the following facilities:

- Outpatient consultation rooms.
- Maternal and child healthcare unit.
- Immunization room.
- Minor procedure and dressing room.
- Pharmacy/dispensary.
- Basic diagnostic laboratory.
- Observation beds.
- Waiting area.
- Administrative office.
- Staff accommodation (where applicable).
- Water supply and sanitation facilities.
- Medical waste storage area.
- Standby power supply and boundary wall.

ii. Services Provided by BHUs

Basic Health Units typically provide:

- General outpatient medical care.
- Maternal, neonatal, and child healthcare services.
- Immunization under the Expanded Programme on Immunization (EPI).
- Family planning services.
- Basic emergency treatment and first aid.
- Health education and disease prevention programmes.

- Nutrition counselling.
- Management of common communicable and non-communicable diseases.
- Referral of complicated cases to higher-level healthcare facilities.

1.2 Purpose of Guidelines

These guidelines have been prepared to assist project proponents, environmental consultants, and regulatory authorities in identifying, assessing, and managing the potential environmental impacts associated with the planning, design, construction, operation, and maintenance of bus terminal projects. The guidelines provide practical guidance for the preparation of Initial Environmental Examination (IEE) reports, implementation of appropriate mitigation measures, environmental monitoring, and preparation of Environmental Management Plans (EMPs). They are intended to facilitate compliance with the applicable environmental legislation, regulations, and standards in Punjab while promoting environmentally sustainable development of basic health units (BHUs).

1.3 Scope of the Guidelines

These guidelines are applicable to all basic health units to be constructed in the Punjab in private or public sectors.

1.4 How to Use These Guidelines

The project proponent (Primary & Secondary Healthcare Department (P&SHD) through the respective District Health Authorities.) 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

Dust: are fine powdery material such as dry earth or pollen that can be blown about in the air

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

Environment: means (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-clause (a) to (f).

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.

Environmental Management: to carry out the developmental activities in sustainable manner

Eco-friendly: environment-friendly

Habitat the general place or physical environment in which a population lives

Hazardous Hospital Wastes: It is also called risk wastes and it includes waste that may pose a risk to human health or the environment and requires special handling, treatment, and disposal. Under the Punjab Hospital Waste Management Rules, 2014, it includes the categories including Infectious Waste, Pathological Waste, Sharps, Pharmaceutical Waste, Genotoxic Waste, Chemical Waste and Radioactive Waste.

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

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

Noise: is defined as unwanted sound; sound that is loud, unpleasant or unexpected.

Non-risk waste: It refers to waste that does not pose an infectious, chemical, or radioactive hazard and is similar to ordinary municipal solid waste.

Waterlogged Land: land soaked with moisture.

2. Project Profile

2.1 Project Description

i. Construction Phase

Construction of a Basic Health Unit (BHU) typically begins with site preparation, which includes land acquisition (where required), site demarcation, clearing of vegetation, grading, and leveling of the land. Temporary construction facilities, material storage areas, and worker amenities may also be established. Earthworks involve excavation for building foundations, septic tanks, soak pits, underground water supply lines, sewerage pipelines, and stormwater drainage systems, followed by backfilling and compaction.

Civil construction activities include the construction of foundations, reinforced concrete structures, brick masonry, roofing, flooring, plastering, and finishing works. Boundary walls, entrance gates, internal roads, walkways, ramps, parking areas, and landscaping are also developed as part of the project. Utility installation comprises water supply systems, sewerage and sanitation facilities, stormwater drainage, electrical wiring, lighting, communication systems, and standby diesel generators. The final stage includes installation of medical equipment and furniture, testing and commissioning of utilities and safety systems, and final inspection before the facility becomes operational.

ii. Operation Phase

During the operational phase, the BHU provides primary healthcare services including outpatient consultations, maternal and child healthcare, immunization, family planning, minor medical procedures, pharmacy services, and basic laboratory investigations. Routine operation also involves administration, patient registration, storage and dispensing of medicines, and maintenance of medical records.

Operational activities include the generation and management of medical, infectious, pharmaceutical, and general waste, as well as wastewater from healthcare services, laboratories, cleaning, and sanitation facilities. Safe handling and disposal of healthcare waste, including sharps, are essential to prevent risks to human health and the environment. The facility also requires a reliable supply of safe drinking water, operation and maintenance of sanitation systems, routine cleaning and disinfection, pest and vector control, and maintenance of buildings, equipment, and landscaping.

The BHU consumes electricity for lighting, medical equipment, refrigeration of vaccines, and other essential services. Standby diesel generators are operated during power outages to ensure uninterrupted healthcare services. Regular maintenance of electrical, plumbing, sewerage, and drainage systems, together with implementation of occupational health and safety measures and environmental management practices, is necessary to ensure safe and efficient operation of the facility.

These construction and operational activities may give rise to environmental impacts such as dust and noise emissions, construction waste generation, medical and infectious waste, wastewater generation, energy consumption, air emissions from generators, and occupational and community health and safety risks. Appropriate mitigation measures should therefore be

incorporated into project planning, construction, and operation to minimize adverse environmental impacts and ensure compliance with applicable environmental regulations.

The proponent, after consulting Annexures should provide a concise description of the proposed project, including but not limited to followings:

- Name of the project
- Project location (district, tehsil, mouza, and coordinates)
- Nature of the project (new or expansion or rehabilitation)
- Government's designate nature of proposed area
- Total project area.
- Estimated water demand during construction and operation phases
- Covered and open areas
- Land ownership status
- Estimated project cost
- Detail of different categories of houses and others structures
- Number of employees during construction phase.

3. Environmental Impacts

3.1 Land Acquisition and Site Selection

Construction of a Basic Health Unit (BHU) may require acquisition of land, potentially resulting in changes in existing land use and limited loss of vegetation. Inappropriate site selection may affect environmentally sensitive areas, natural drainage, or nearby residential communities.

3.2 Dust, Noise, and Waste Generation During Construction

Construction activities, including excavation, transportation of materials, and operation of machinery, may generate dust, noise, and construction waste. These impacts may temporarily affect nearby residents, healthcare workers, and the surrounding environment.

3.3 Medical and Infectious Waste Management

Operation of a BHU generates infectious waste such as contaminated dressings, cotton, gloves, laboratory waste, and other healthcare waste. Improper segregation, storage, transportation, treatment, or disposal may pose risks to public health and the environment.

3.4 Wastewater and Sanitation

Wastewater generated from patient care, laboratories, cleaning activities, and sanitation facilities may contain pathogens and other contaminants. Improper collection, treatment, or disposal of wastewater may pollute surface water, groundwater, and surrounding land.

3.5 Safe Handling of Sharps and Hazardous Waste

Sharps, including needles, syringes, and scalpel blades, as well as pharmaceutical and chemical waste,

present significant health and environmental risks if not properly handled and disposed of. Improper management may result in injuries, infections, and environmental contamination.

3.6 Water Supply and Drinking Water Quality

A reliable supply of safe drinking water is essential for healthcare services. Inadequate water quantity or poor water quality may affect patient care, sanitation, infection control, and the overall functioning of the BHU.

3.7 Air Emissions from Standby Generators

Standby diesel generators used during power outages emit exhaust gases, including particulate matter, nitrogen oxides, carbon monoxide, and greenhouse gases. These emissions may temporarily affect local air quality and contribute to noise pollution.

3.8 Occupational Health and Safety

Healthcare workers and construction personnel may be exposed to occupational hazards such as infectious diseases, sharps injuries, hazardous chemicals, electrical hazards, slips and falls, and construction-related accidents if appropriate safety measures are not implemented.

3.9 Community Health and Safety

Construction activities may temporarily create safety risks for nearby residents due to dust, noise, traffic, and excavation works. During operation, improper management of healthcare waste or infectious materials may expose the surrounding community to health risks.

3.10 Energy Consumption and Resource Efficiency

Operation of a BHU requires electricity, water, medical equipment, lighting, and other utilities. Inefficient use of energy and water resources may increase operating costs, place additional pressure on local resources, and contribute to greenhouse gas emissions.

4. Environmental Mitigation Measures

4.1 Land Acquisition and Site Selection

The project proponent shall:

- Select sites in accordance with approved land use plans and local development plans.
- Prefer government-owned land to minimize land acquisition.
- Avoid environmentally sensitive areas, flood-prone locations, and natural drainage paths.
- Minimize removal of vegetation and preserve mature trees wherever practicable.
- Provide adequate space for future expansion, waste management, parking, and emergency access.

4.2 Dust, Noise, and Waste Generation During Construction

The project proponent shall:

- Sprinkle water on construction areas and unpaved access roads to control dust.
- Restrict construction activities to daytime hours.
- Maintain construction machinery in good operating condition.

- Cover vehicles transporting construction materials and excavated soil.
- Segregate construction waste and dispose of it at approved disposal sites.
- Restore disturbed areas immediately after completion of construction.

4.3 Medical and Infectious Waste Management

The project proponent shall:

- Segregate healthcare waste at the point of generation using colour-coded containers as prescribed under the Punjab Hospital Waste Management Rules.
- Store infectious waste in designated, secure areas prior to collection.
- Ensure timely collection, transportation, treatment, and disposal of healthcare waste through authorized facilities.
- Train healthcare staff in proper waste segregation and handling procedures.
- Maintain records of healthcare waste generation and disposal.

4.4 Wastewater and Sanitation

The project proponent shall:

- Provide an adequate sewerage system connected to the municipal sewer network where available.
- Install a properly designed septic tank and soakage system where sewerage is unavailable.
- Prevent discharge of untreated wastewater into open drains or water bodies.
- Regularly inspect and maintain sanitation facilities to prevent leakage and blockages.
- Ensure availability of clean and functional toilets and handwashing facilities.

4.5 Safe Handling of Sharps and Hazardous Waste

The project proponent shall:

- Collect used needles and other sharps in puncture-resistant safety boxes immediately after use.
- Never recap, bend, or manually break used needles.
- Store hazardous healthcare waste separately from general waste.
- Ensure safe transportation and disposal of sharps and hazardous waste through authorized facilities.
- Provide staff training on safe handling of sharps and hazardous materials.

4.6 Water Supply and Drinking Water Quality

The project proponent shall:

- Ensure a continuous supply of safe drinking water for patients and staff.
- Periodically test drinking water quality in accordance with national drinking water standards.
- Maintain water storage tanks in a clean and hygienic condition.
- Provide backup water storage to meet emergency requirements.
- Promote water conservation through efficient plumbing fixtures and maintenance.

4.7 Air Emissions from Standby Generators

The project proponent shall:

- Install generators in well-ventilated locations away from patient care areas.
- Maintain generators regularly to minimize exhaust emissions.
- Use low-sulphur diesel fuel where available.
- Operate generators only during power outages or emergencies.
- Install appropriate exhaust systems to safely disperse emissions.

4.8 Occupational Health and Safety

The project proponent shall:

- Develop and implement an Occupational Health and Safety Plan.
- Provide appropriate personal protective equipment (PPE) to healthcare workers and maintenance staff.
- Vaccinate healthcare workers against occupationally relevant diseases as recommended by health authorities.
- Provide first-aid facilities and emergency response equipment.
- Conduct regular training on infection prevention, fire safety, and emergency response.
 - Ensure safe storage and handling of chemicals and pharmaceuticals.

4.9 Community Health and Safety

The project proponent shall:

- Restrict public access to construction areas through fencing and warning signs.
- Maintain clean and hygienic premises to prevent disease transmission.
- Ensure proper management of medical waste to avoid exposure of the public.
- Develop emergency procedures for fire, medical emergencies, and infectious disease outbreaks.
- Establish a mechanism for receiving and addressing public complaints.

4.10 Energy Consumption and Resource Efficiency

The project proponent shall:

- Install energy-efficient lighting and electrical equipment.
- Maximize the use of natural lighting and ventilation in building design.
- Switch off lights and equipment when not in use.
- Regularly maintain electrical systems and water supply facilities to reduce resource losses.
- Promote water conservation through leak detection and efficient water use.
- Consider solar energy systems where technically and economically feasible.

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. Cost of the Project _____
14. Period of construction (start and end dates) _____
15. Total land area _____ m²
16. Size of the Facility (Rooms and beds) _____
17. Brief Project Description _____

Please attach a sketch showing the layout of the proposed facilities

18. 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? _____

19. 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? _____

20. How many trees will be removed for the construction of the road? _____

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 500 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 Punjab Wildlife Department should be obtained regarding the wildlife sensitivity of the proposed site.

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

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

7. 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 _____

Environmental Assessment Checklists and Guidelines – Basic Health Units (BHUs)

	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, if needed)

8. 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)

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

- ☐ Generally clean
☐ Fair
☐ Poor

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

- ☐ Yes ☐ No

What is the source of the odor? _____

11. 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? _____

12. What main sources of pollution exist within a radius of 1000 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	☐	Health facility will be located at a distance of ____ m from the edge of a main roads or highways.	☐	
		Un-drained soils, waterlogged areas and saline soils have been avoided.	☐	
		Appropriate construction techniques have been planned to ensure that the building structure is	☐	
		protected from moisture and salts.		
		Health facility is not planned close to streams and rivers	☐	
		School/health facility is not planned in the riparian zones	☐	
		Health facility is not planned in or within 1 km of critical wildlife habitat	☐	
		Health facility is not planned on steep slopes	☐	
		Health facility is not planned on a site that will require extensive cutting of trees	☐	
		Health facility is not planned within 100 m of any high voltage power line	☐	
		Health facility is not planned within 100 m of large waste dump or low lying area in water	☐	
		can potentially stagnate after rains	☐	
Waste Disposal	☐	Appropriately sized septic tank and soaking pit will be constructed for disposal of wastewater	☐	
		Medical waste will be collected in bins and disposed off at the medical waste handling incinerator at -----	☐	
		Medical waste will be collected in colour coded bins as per HWM Rules and disposed of in a lined landfill at the site	☐	
		During construction, all excess construction garbage will be continuously collected and disposed of at a designated area surrounded by containing walls.	☐	

Environmental Assessment Checklists and Guidelines – Basic Health Units (BHUs)

Continues

Potential Negative Environmental Impacts	Tick, if relevant	Mitigation Measures	Tick, if proposed	Monitoring Plan
		The construction waste will be recycled or reused where applicable. Any leftover, material will be buried	☐	
		No hazardous waste (oil filters, batteries, waste oils) will be buried.	☐	
Noise and Dust	☐	Exposed soil in the premises will be landscaped and vegetated to improve the atmosphere and reduce emission of dust	☐	
		Medical wards in health units will be located away from highway and roads	☐	
		Native species of trees will be planted around the BHU.	☐	

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
