



**GOVERNMENT OF PUNJAB
ENVIRONMENTAL PROTECTION AGENCY**



Environmental Assessment Checklists and Guidelines

Rural Schools

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	7
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	
5.	Environmental Checklists	10

1. Introduction

1.1 Background

Rural schools are educational institutions established to provide accessible primary, elementary, secondary, and higher secondary education to children living in rural and remote areas. These schools play a vital role in improving literacy, promoting social and economic development, and ensuring equitable access to quality education. In Punjab, rural schools are primarily established, operated, and maintained by the School Education Department (SED), Government of the Punjab, with support from district education authorities and other public sector development programmes.

A typical rural school consists of classrooms, administrative offices, staff rooms, laboratories (where applicable), libraries, sanitation facilities, drinking water supply, playgrounds, boundary walls, and electricity supply. Depending on the level of education, schools may also include computer laboratories, science laboratories, multipurpose halls, and sports facilities.

Construction of new rural schools and expansion or rehabilitation of existing facilities are undertaken to accommodate increasing student enrolment, replace unsafe buildings, and improve educational infrastructure. These projects generally involve site preparation, civil works, installation of water supply and sanitation systems, electricity, drainage, and landscaping.

Although rural schools provide substantial social and economic benefits by enhancing educational opportunities and human resource development, their construction and operation may have temporary and localized environmental impacts. These may include land disturbance, dust and noise generation during construction, solid waste generation, wastewater management, water and energy consumption, and occupational and community health and safety issues. With appropriate planning, implementation of mitigation measures, and compliance with applicable environmental regulations, these impacts can be effectively managed while ensuring the provision of safe, healthy, and sustainable educational facilities.

i. Typical Components of a Rural Schools

A typical rural school comprises educational, administrative, utility, and supporting infrastructure required to provide a safe and functional learning environment. Depending on the level of the school (primary, elementary, secondary, or higher secondary), the components may vary in size and complexity. A Typical Rural school may comprise the following facilities:

- Academic classroom blocks.
- Administrative office and principal/head teacher's office.
- Staff room.
- Science laboratory (for secondary and higher secondary schools).
- Computer laboratory (where applicable).
- Library or reading room.
- Examination or multipurpose hall (where applicable).

- Toilets and handwashing facilities for boys, girls, and staff.
- Safe drinking water supply system.
- Sewerage and sanitation facilities (septic tank or sewer connection).
- Stormwater drainage system.
- Electrical supply and internal lighting.
- Standby power source (generator or solar system, where provided).
- Boundary wall with entrance gate.
- Internal pathways and paved areas.
- Assembly area.
- Playground and sports facilities.
- Bicycle and motorcycle parking area.
- Waste collection bins and temporary waste storage area.
- Landscaping and plantation.
- Signboards and safety signage.
- Fire safety equipment (fire extinguishers and emergency exits where applicable).

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 Rural Schools.

1.3 Scope of the Guidelines

These guidelines are applicable to construction of all rural schools to be constructed in the Punjab in private or public sectors.

1.4 How to Use These Guidelines

The project proponent (School Education Department) 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

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.

Waterlogged Land: land soaked with moisture.

2. Project Profile

2.1 Project Description

i. Planning and Design Phase

This phase involves identification and selection of the project site, land acquisition (where required), preparation of feasibility studies, architectural and engineering designs, estimation of project costs, obtaining statutory approvals, and planning for water supply, sanitation, drainage, electricity, and other essential infrastructure.

ii. Construction Phase

The construction phase includes site clearance, land leveling, excavation and earthworks, construction of foundations and buildings, installation of water supply and sanitation systems, electrical works, stormwater drainage, construction of boundary walls, internal roads and pathways, playground development, landscaping, installation of furniture and equipment, and testing and commissioning of all facilities.

iii. Operation and Maintenance Phase

Following completion of construction, the school becomes operational for educational activities. This phase includes teaching and learning, administrative functions, operation of water supply and sanitation facilities, routine cleaning, maintenance of buildings and utilities, solid waste management, landscaping, operation of electrical systems, use of laboratories and computer facilities (where available), and periodic repair and maintenance of infrastructure and equipment.

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 Environmental Impacts - Planning and Construction Phase

i. Land Acquisition and Site Selection

Construction of a rural school may require acquisition of land and conversion of existing land use. Inappropriate site selection may affect agricultural land, natural drainage, vegetation, or environmentally sensitive areas and may expose students and staff to environmental hazards such as flooding or traffic risks.

ii. Loss of Vegetation and Landscape Alteration

Site clearing and construction activities may require removal of trees, shrubs, and other vegetation, resulting in temporary loss of green cover, alteration of the landscape, and reduction in habitat for local wildlife.

iii. Soil Erosion and Land Disturbance

Excavation, grading, and foundation works may disturb soil surfaces and increase the potential for soil erosion, particularly during rainfall. Improper handling of excavated material may also affect nearby land and drainage systems.

iv. Dust, Air Emissions, and Noise

Construction activities involving excavation, transportation of materials, and operation of machinery may generate dust, exhaust emissions, and noise, causing temporary disturbance to nearby residents, educational institutions, and the surrounding environment.

v. Surface Water Pollution

Construction runoff carrying sediments, cement slurry, fuels, oils, or other contaminants may pollute nearby drains, ponds, canals, or watercourses. During operation, improper disposal of wastewater may also degrade surface water quality.

vi. Groundwater Contamination

Leakage from septic tanks, soak pits, or improper disposal of wastewater may contaminate groundwater resources, particularly in areas where groundwater is used for drinking purposes.

vii. Water Supply and Sanitation

Operation of the school requires a reliable supply of safe drinking water and adequate sanitation facilities. Insufficient water supply or poorly maintained sanitation systems may affect hygiene, increase the risk of waterborne diseases, and create an unhealthy learning environment.

viii. Solid Waste Generation

Construction activities generate excavated soil, concrete debris, packaging materials, and other construction waste. During operation, the school generates municipal solid waste such as paper, food waste, plastic packaging, and garden waste, which requires proper collection

and disposal.

ix. Traffic and Access

Movement of construction vehicles may temporarily disrupt local traffic and pedestrian access. During operation, increased traffic associated with student drop-off and pick-up may create congestion and safety risks around the school entrance.

x. Occupational Health and Safety

Construction workers may be exposed to hazards associated with excavation, working at heights, electrical installations, and operation of heavy machinery. Failure to implement appropriate safety measures may result in workplace accidents and injuries.

xi. Community Health and Safety

Construction activities may expose nearby residents to dust, noise, traffic hazards, and open excavations. During operation, inadequate maintenance of school facilities, poor sanitation, or unsafe infrastructure may affect the health and safety of students, staff, and visitors.

xii. Energy Consumption and Air Emissions

Operation of the school requires electricity for lighting, fans, computers, laboratories, and other facilities. Standby generators, where provided, may emit exhaust gases and noise during power outages, while inefficient energy use may increase operational costs and greenhouse gas emissions.

xiii. Stormwater Drainage

Construction of buildings and paved areas may increase stormwater runoff if drainage systems are not adequately designed. Poor drainage may result in localized flooding, soil erosion, and damage to school infrastructure.

xiv. Resource Consumption

Operation of the school involves continuous consumption of water, electricity, paper, and other materials. Inefficient use of these resources may increase operational costs and place unnecessary pressure on local natural resources.

ii. Environmental Impacts - Operation Phase

i. Solid Waste Generation

Operation of a rural school generates municipal solid waste, including paper, food waste, plastic bottles, packaging materials, and garden waste. Improper collection and disposal may create unhygienic conditions, attract pests, and degrade the surrounding environment.

ii. Wastewater Generation

Wastewater is generated from toilets, handwashing facilities, cleaning activities, and kitchens (where available). Inadequate collection, treatment, or disposal of wastewater may contaminate soil, surface water, or groundwater and create public health concerns.

iii. Water Supply and Sanitation

A continuous supply of safe drinking water and properly maintained sanitation facilities is essential for a healthy learning environment. Inadequate water supply or poor sanitation may increase the risk of waterborne diseases and affect the health and hygiene of students and staff.

iv. Energy Consumption

Operation of the school requires electricity for lighting, fans, computers, laboratories, and office equipment. Inefficient use of energy may increase operational costs and place additional demand on energy resources.

v. 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. Generator operation may also generate noise, causing temporary disturbance to the surrounding area.

vi. Traffic and Road Safety

Movement of school buses, motorcycles, bicycles, and private vehicles during student arrival and departure may increase traffic congestion and create safety risks for students, pedestrians, and other road users if appropriate traffic management measures are not implemented.

vii. Occupational Health and Safety

Teachers, administrative staff, and maintenance personnel may be exposed to occupational hazards such as electrical faults, slips and falls, cleaning chemicals, and maintenance activities. Failure to implement appropriate safety measures may result in accidents and injuries.

viii. Community Health and Safety

Poor maintenance of school buildings, inadequate waste management, unsafe drinking water, or deficient sanitation facilities may affect the health and safety of students, staff, visitors, and nearby communities. Emergency preparedness is also important to ensure a safe learning environment.

ix. Resource Consumption

Routine operation of the school involves continuous use of water, electricity, paper, and cleaning materials. Inefficient use of these resources may increase operational costs and place unnecessary pressure on natural resources.

x. Positive Environmental and Socio-economic Impacts

Operation of rural schools contributes significantly to improved literacy, human resource development, social well-being, and economic growth. Schools also provide opportunities to promote environmental awareness, hygiene, water conservation, waste segregation, and sustainable practices among students and the surrounding community.

4. Environmental Mitigation Measures

4.1 Solid Waste Generation

The project proponent shall:

- Provide adequate waste bins at appropriate locations within the school premises.
- Segregate waste into biodegradable and recyclable categories wherever practicable.

- Ensure regular collection and disposal of solid waste through the local authority or an approved waste management service.
- Prohibit open dumping and open burning of waste.
- Promote waste minimization and recycling through environmental awareness programmes.

4.2 Wastewater Generation

The project proponent shall:

- Connect the school to the municipal sewerage system where available.
- Provide properly designed septic tanks and soak pits where sewerage facilities are unavailable.
- Prevent discharge of untreated wastewater into open drains or water bodies.
- Regularly inspect and maintain wastewater disposal systems.
- Ensure proper drainage to avoid stagnant wastewater.

4.3 Water Supply and Sanitation

The project proponent shall:

- Ensure a continuous supply of safe drinking water.
- Periodically test drinking water quality in accordance with provincial standards.
- Provide separate, clean, and functional sanitation facilities for boys, girls, and staff.
- Maintain handwashing facilities with adequate water and soap.
- Regularly inspect and repair water supply and sanitation systems.

4.4 Energy Consumption

The project proponent shall:

- Install energy-efficient lighting and electrical equipment.
- Maximize the use of natural lighting and ventilation in classrooms.
- Switch off lights, fans, and equipment when not in use.
- Conduct regular maintenance of electrical systems to improve efficiency.
- Promote energy conservation practices among students and staff.

4.5 Air Emissions from Standby Generators

The project proponent shall:

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

4.6 Traffic and Road Safety

The project proponent shall:

- Provide designated drop-off and pick-up areas where feasible.
- Install traffic signs, speed limits, and pedestrian crossings near the school.
- Deploy crossing attendants during school opening and closing hours where necessary.
- Provide adequate bicycle and motorcycle parking areas.
- Promote road safety awareness among students, parents, and drivers.

4.7 Occupational Health and Safety

The project proponent shall:

- Maintain school buildings and electrical installations in a safe condition.
- Provide first-aid facilities and emergency contact information.
- Train staff in fire safety and emergency response procedures.
- Store cleaning chemicals and maintenance materials safely.
- Conduct periodic inspection of school infrastructure to identify and rectify hazards.

4.8 Community Health and Safety

The project proponent shall:

- Maintain boundary walls and secure school entrances.
- Keep school premises clean and hygienic.
- Ensure regular cleaning of toilets, classrooms, and drinking water facilities.
- Develop and implement emergency response procedures for fire, earthquakes, and other emergencies.
- Establish a mechanism for reporting and addressing safety concerns.

4.9 Resource Consumption

The project proponent shall:

- Promote efficient use of water and electricity.
- Repair leaking taps, pipes, and electrical faults promptly.
- Encourage double-sided printing and responsible use of paper.
- Incorporate water-saving fixtures where feasible.
- Raise environmental awareness among students and staff regarding resource conservation.

4.10 Positive Environmental and Socio-economic Impacts

The project proponent shall:

- Promote environmental education and sustainability programmes.
- Encourage tree plantation and maintenance of green spaces within the school.
- Implement waste segregation and recycling initiatives.
- Promote water conservation and hygiene practices among students.
- Engage students and the local community in environmental awareness activities.
- Maintain the school infrastructure to ensure a safe and healthy learning environment.

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 – Rural Schools

	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	☐	School 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.		
		School is not planned close to streams and rivers	☐	
		School facility is not planned in the riparian zones	☐	
		School is not planned in or within 1 km of critical wildlife habitat	☐	
		School is not planned on steep slopes	☐	
		School is not planned on a site that will require extensive cutting of trees	☐	
		School is not planned within 100 m of any high voltage power line	☐	
		School 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	☐	
		Waste will be collected in designated bins disposed of in a lined landfill	☐	
		During construction, all excess construction garbage will be continuously collected and disposed of at a designated area surrounded by containing walls.	☐	

Continues

Environmental Assessment Checklists and Guidelines – Rural Schools

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	☐	
Noise and Dust	☐	Exposed soil in the premises will be landscaped and vegetated to improve the atmosphere and reduce emission of dust	☐	
		Planned siting of class rooms to lessen the noise from highway and roads	☐	
		Native species of trees will be planted around the schools.	☐	

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
