

NWFP Environmental Protection Agency

Environmental Assessment Checklists and Guidelines

Rural Schools and Basic Health Units

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1. Introduction

Schools and health facilities are relatively small-scale development activities that are frequently undertaken in rural areas to provide educational and health facilities to the communities. Despite the small size, these developments have the potential of adversely affecting the physical, biological and social environment. These guidelines provide simple measures to identify potential adverse impact of construction and operation of these facilities and to take measures to make the facilities environmentally sound.

1.1 Scope of the Guidelines

These guidelines are applicable to all schools and basic health units constructed in the NWFP in private or public sectors.

1.2 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.

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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 NWFP Environmental Protection Agency for evaluation. NWFP EPA 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.

1.3 Glossary

Act means the Pakistan 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 Pakistan Environmental Protection Agency Review of Initial Environmental Examination and Environment Impact Assessment Regulations, 2000

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

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2. Project Profile

2.1 Project Description

Construction of small-scale development activities, such as school and basic health units, involves one or more of a set of diverse activities:

- ▶ Demolition
- ▶ Site-clearing
- ▶ Grading, leveling, and compacting soil
- ▶ Excavating
- ▶ Laying pipe
- ▶ Installing equipment, or
- ▶ Erecting structures.

The details of the construction carried out in support of any particular development activity will depend on the specific details of the structure and site. Construction activities in general, however, share a set of common features. These guidelines identify the common environmental issues associated with the construction and operation of school and health facilities and provide potential mitigation measures.

2.2 Environmental Aspects

The common environmental issues associated with the small-scale development activities such as the school and health facilities are the following:

- ▶ In many rural areas schools are often located on main roads and highways. The gates of the school

open directly on the roads. Students leaving the school at closing time, gather in large number at the edge of the road and are exposed to accident hazard.

- ▶ Schools close to main roads and highways are also exposed to traffic dust and noise.
- ▶ Schools and health units are sometimes located close to high power electric transmission lines exposing the children to electrical hazards
- ▶ In selecting the site for a school and health facility consideration needs to be given to terrain, soil condition and habitat. Often waterlogged land is available at low rates and is used for the construction of school. If construction techniques appropriate for this type of soil conditions are not used, the building structure corrodes and decays rapidly.
- ▶ Waste management is a common problem. The health facilities are rarely provided with proper hazardous waste disposal system.
- ▶ The children and the sick are part of the vulnerable groups of the population. They have relatively less resistance to diseases. Stagnant water and waste dump close to the school or the health facility exposes the student and sick to health hazards

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2.3 Mitigation Options

The best environmental management measure for schools is to select the location and the design of these facilities such that the students are provided with an atmosphere that is environmentally safe, healthy and conducive to learning. Similar approach may be taken in the design and location of health facilities, as well.

Site Selection

- ▶ Schools and health facilities should not be located on the edge of main roads and highways. A distance of at least 50 m be provide between the wall of the facility and the edge of the carriageway.
- ▶ Un-drained soils, waterlogged areas and saline soils should be avoided as much as possible. If these areas are unavoidable, appropriate construction techniques should be used to ensure that the building structure is protected from moisture and salts.
- ▶ School and health facilities should not be located close to streams and rivers; in the riparian zones; in or within 1 km of critical wildlife habitats; on steep slopes; and on sites where extensive cutting of trees may be required.
- ▶ School and health facilities should not be located within 100 m of any high voltage power line.
- ▶ School and health facilities should not be located 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 should be constructed for disposal of wastewater. The tanks should not be located on steep slope or within 50 m of any water body, source of freshwater or cliff.
- ▶ Medical waste should be collected in bins and disposed off appropriately. If any medical waste handling incinerator is available in the vicinity, the waste should be transported to the facility in air-tight container for incineration. Otherwise, a landfill should be prepared at the site for the disposal of hazardous medical waste. The landfill should be concrete lined and covered.
- ▶ During construction, all excess construction garbage should be continuously collected and disposed of at a designated area surrounded by containing walls.
- ▶ The construction waste should be recycled or reused as much as possible. Any leftover, material should be buried. However, no hazardous waste (oil filters, batteries, waste oil, etc.) should be buried.

Noise and Dust

- ▶ Exposed soil in the school should be landscaped and vegetated to improve the atmosphere and reduce emission of dust
- ▶ Attempt should be made to locate the classrooms in schools and medical wards in health units away from highway and roads. Other functional areas which are less sensitive, such as offices and

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laboratory, may be located towards the road or highway.

- ▶ Native species of trees should be planted around the periphery of the school.

Recommendations for Eco-Friendly Schools

Eco-friendly school can be constructed and operated in the true sense if the students, teachers and community are fully involved in maintaining a healthy environment in and around the school and the community, in general. Some suggestion follows:

- ▶ The students should be educated on the importance of conserving natural resources such as energy, water, vegetation, and wildlife habitat
- ▶ Encourage and train students to practice water conservation
- ▶ Consider rainwater harvesting to meet irrigation needs of the school
- ▶ Organize environmental exhibition in the school to remind the community of actions they can take to reduce environmental impact
- ▶ With the assistance of the local authority, community and school staff organize local community 'clean-ups' or equivalent functions

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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: _____

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

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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? _____

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 _____

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| | 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)

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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 |
|---------------------------|--|---|---------------------------|
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Section IV: Impact Assessment and Mitigation Measures

| <i>Potential Negative Environmental Impacts</i> | <i>Tick, if relevant</i> | <i>Mitigation Measures</i> | <i>Tick, if proposed</i> | <i>Monitoring Plan</i> |
|---|--------------------------|--|--------------------------|------------------------|
| Site Selection | <input type="checkbox"/> | School/health facility will be located at a distance of ___ m from the edge of a main roads or highways. | <input type="checkbox"/> | |
| | | Un-drained soils, waterlogged areas and saline soils have been avoided. | <input type="checkbox"/> | |
| | | Appropriate construction techniques have been planned to ensure that the building structure is protected from moisture and salts. | <input type="checkbox"/> | |
| | | School/health facility is not planned close to streams and rivers | <input type="checkbox"/> | |
| | | School/health facility is not planned in the riparian zones | <input type="checkbox"/> | |
| | | School/health facility is not planned in or within 1 km of critical wildlife habitat | <input type="checkbox"/> | |
| | | School/health facility is not planned on steep slopes | <input type="checkbox"/> | |
| | | School/health facility is not planned on a site that will require extensive cutting of trees | <input type="checkbox"/> | |
| | | School/health facility is not planned within 100 m of any high voltage power line | <input type="checkbox"/> | |
| | | School/health facility is not planned within 100 m of large waste dump or low lying area in water can potentially stagnate after rains | <input type="checkbox"/> | |

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| <i>Potential Negative Environmental Impacts</i> | <i>Tick, if relevant</i> | <i>Mitigation Measures</i> | <i>Tick, if proposed</i> | <i>Monitoring Plan</i> |
|---|--------------------------|---|--------------------------|------------------------|
| Waste Disposal | <input type="checkbox"/> | Appropriately sized septic tank and soaking pit will be constructed for disposal of wastewater. | <input type="checkbox"/> | |
| | | Medical waste will be collected in bins and disposed off at the medical waste handling incinerator at _____ | <input type="checkbox"/> | |
| | | Medical waste will be collected in bins and disposed of in a lined landfill at the site | <input type="checkbox"/> | |
| | | During construction, all excess construction garbage will be continuously collected and disposed of at a designated area surrounded by containing walls | <input type="checkbox"/> | |
| | | The construction waste will be recycled or reused as much as possible. Any leftover, material should be buried | <input type="checkbox"/> | |
| | | No hazardous waste (oil filters, batteries, waste oil, etc.) will be buried | <input type="checkbox"/> | |
| Noise and Dust | <input type="checkbox"/> | Exposed soil in the school will be landscaped and vegetated to improve the atmosphere and reduce emission of dust | <input type="checkbox"/> | |
| | | Classrooms in schools/Medical wards in health units will be located away from highway and roads. | <input type="checkbox"/> | |
| | | Native species of trees will be planted around the periphery of the school. | <input type="checkbox"/> | |

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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
