

NWFP Environmental Protection Agency

Environmental Assessment Checklists and Guidelines

Canal Cleaning

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1. Introduction

Canals are built to supply water from far located rivers or streams. This promotes agricultural activities in areas deficient in water resources. In canals, water flow is interrupted as a result of sediment build-up and grass invasion. This requires regular cleaning of the canals. This activity poses some threats to the environment.

1.1 Scope of the Guidelines

These guidelines are applicable to all canal cleanings in the province of NWFP.

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 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**]

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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

Aesthetic Pollution visual pollution

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).

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.

Natural Drainage Pattern natural system of drains

Pollution the presence in the environment or the introduction into it, of substances that have harmful or unpleasant effects

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

Sediment sand, silt or clay taken out from a canal during dredging

2. Project Profile

2.1 Project Description

Canals are usually cleaned in the month of December. Flow is stopped at source in order to make the canal dry. Canal cleaning involves dredging out the sediments and chopping down the grass.

2.2 Environmental Aspects

Dredging

Potential impact of dredging activity includes:

- ▶ Noise
- ▶ Dispersion of removed sediments by run-off, wind, and carryout with vehicle tyres

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- ▶ Disruption of traffic
- ▶ Privacy issues if work is carried out close to community, for example, interruption to the movement of women

Transportation of Waste Material

Potential impact of transportation of the waste material includes:

- ▶ Interruption to local traffic
- ▶ Spills from the trucks
- ▶ Dust from the haul trucks

Disposal of Waste Material

The sediments removed from the canal is dumped near the canal bank. If the sediment is in sufficient quantity, after some time (ranging from few days to few weeks) the sediment is loaded on trucks and removed to designated disposal site. Potential impact of the disposal of the waste material includes:

- ▶ Transmission of infectious diseases because of the possible presence of organic waste in the canal sediment
- ▶ Degradation of the aesthetic value of the canal banks
- ▶ Alteration of natural drainage pattern of the disposal site
- ▶ Odor from the temporary and permanent disposal sites
- ▶ Blocking of roads and access due to temporary or permanent disposal of the sediment
- ▶ Unauthorized disposal of sediment on private land

2.3 Mitigation Options

- ▶ Dredged material should be directly loaded to haul trucks or

tractors for transport to disposal site

- ▶ If the dredged material is temporarily stored at the canal bank, it should be picked up as soon as possible, before it becomes dry
- ▶ Preferable, the dredged material should not be placed on the road or other paths where it can be carried out by vehicle tyres
- ▶ If the dredged material is placed on a paved surface or road, the surface should be washed after the material is picked. While washing the surface, it should be ensured that the run-off goes back to the canal
- ▶ Work in areas close to the community should be carefully planned. The community should be informed in advance and the duration of the work should be minimized.
- ▶ Workers must confine themselves to the work area
- ▶ Haul trucks should not be overloaded
- ▶ Haul trucks should be water-tight
- ▶ Transportation of the dredged material should be planned in a way to minimize disruption of traffic
- ▶ Wherever, there is a risk of organic contamination of the sediment, the sediment should not be handled with bare hands. Gloves should be worn, if needed.
- ▶ Any medical waste, such as syringes, in the sediment should be separated from the sediments and disposed off at a proper disposal facility

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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 (start and end dates) _____

Proposed Activity

15. Length of canal which work will be cleaned _____
16. Brief Project Description _____

Please attach a map of the proposed project area

17. Number and type of major equipment and vehicle that will be used _____

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18. Number and type of staff that will work on the project _____

19. Is cleaning work during the night planned? _____

20. Where the silt will be disposed? _____

21. Who owns the land?

Private Government

22. If it is a private land, has consent of the owner acquired in writing?

Private Government

Section II: Screening

Is the proposed project road in an ecologically sensitive area?

Yes No

If the answer to the above questions is 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. Is there any site of cultural importance (graveyard, shrine, mosque, archeological site) within 50 m of the canal?

Yes

No

If yes, please describe? _____

2. How many sensitive receptors (schools, colleges, hospitals, and clinics) are within 50 m of the canal? _____

Please describe? _____

3. How many main communities and residential area are within 50 m of the canal? _____

Please describe? _____

4. What is the present land use of the final disposal site of the removed sediment? _____

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5. What is typical climate of the project area during the proposed period of work?

Month	Temperature Range	Rainfall Range	Wind Speed Range	Wind Direction

6. For every 250 m section of the canal describe the present land use on both sides of the road as follows:

Section and Side	Setting (Urban, Suburban, Rural)	Residential (Thick, Moderate, Sparse)	Commercial (Office, Shops, Fuel Stations)	Open Land (Parks, Farmlands, unutilized plots, barren land)	Sensitive Receptors and Sites of Cultural Importance
0-250 m Right					
0-250 m Left					
250-500 m Right					
250-500 m Left					
500-750 m Right					
500-750 m Left					

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Section IV: Impact Assessment

<i>Potential Negative Environmental Impacts</i>	<i>Tick, if relevant</i>	<i>Mitigation Measures</i>	<i>Tick, if proposed</i>	<i>Monitoring</i>
Noise	<input type="checkbox"/>	Vehicles will be properly tuned and provided with functioning mufflers	<input type="checkbox"/>	
Sediments or waste material dispersion	<input type="checkbox"/>	Preferable, the dredged material should not be placed on the road or other paths where it can be carried out by vehicle tyres	<input type="checkbox"/>	
		Dredged material should be directly loaded to haul trucks or tractors for transport to disposal site	<input type="checkbox"/>	
		If the dredged material is temporarily stored at the canal bank, it should be picked up as soon as possible, before it becomes dry	<input type="checkbox"/>	
		If the dredged material is placed on a paved surface or road, the surface should be washed after the material is picked. While washing the surface, it should be ensured that the run-off goes back to the canal	<input type="checkbox"/>	
Transportation Issues	<input type="checkbox"/>	Haul trucks should not be overloaded	<input type="checkbox"/>	
		Haul trucks should be covered	<input type="checkbox"/>	
		Haul trucks should be water-tight	<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</i>
Disruption to community	<input type="checkbox"/>	Work in areas close to the community should be carefully planned to minimize disruption	<input type="checkbox"/>	
		The community should be informed in advance and the duration of the work should be minimized	<input type="checkbox"/>	
		Workers should be confine themselves to the work area	<input type="checkbox"/>	
Interruption to local traffic	<input type="checkbox"/>	Transportation of the dredged material should be planned in a way to minimize disruption of traffic	<input type="checkbox"/>	
Transmission of infectious diseases	<input type="checkbox"/>	Wherever, there is a risk of organic contamination of the sediment, the sediment should not be handled with bare hands. Gloves should be worn, if needed.	<input type="checkbox"/>	
		Medical waste such as syringes, if present in the sediment, should be separated from the sediments and disposed off at a proper disposal facility	<input type="checkbox"/>	
Disposal of silt	<input type="checkbox"/>	Used as for leveling of grounds, filling in uneven lands	<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
