GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

Local Government Engineering Department (LGED)

Local Government Division

Ministry of Local Government, Rural Development and Cooperatives

# ENVIRONMENTAL AND SOCIAL ASSESSMENT (ESA) REPORT FOR

**Package No: RUTDP/NIL/ 2024-25/W-01**
**at**
**Nilphamari Pourashava, Nilphamari**

**Resilient Urban and Territorial Development Project (RUTDP)**

**Sub-Project Preparation Team, RUTDP, LGED**

**Summary of ESA Report – Nilphamari Pourashava, Nilphamari**
**Package No: RUTDP/NIL2024-25/W-01**

## 1. Subproject Overview

**Nilphamari Pourashava**, established in 1972, is a Class-A municipality covering **29.75 sq km** with a population of about **45,386**. It has nine wards and a road network of 70.75 km bituminous carpeting (BC), 25 km cement concrete (CC), and 30 km of drains, of which 28 km are RCC drains. With rising population and rapid urbanization, infrastructure upgradation is essential to improve traffic movement, drainage, and municipal services.

### Subproject Components

The proposed subproject includes:

- **Rehabilitation of BC roads** and **RCC drains with footpaths and streetlights** within Wards 1–4.
- Key road sections:
  - Govt. College Principal House → Suitchgate (2 km)
  - Gasbari Elahi Mosjid → Debirdanga (1.1 km)
  - Dailpotti Mor → Rail Line (0.43 km)
  - Karim Sarker's House → Maniker More (0.9 km)
  - Munshipara Mosjid Mor → Shamsul Councilor House (0.37 km)

Total road improvement: **~4.8 km**, including new **RCC drainage** linked to **Bamondanga Canal**, which outfalls to the **Khatamari River**.

### Objectives

The ESA study aimed to:

- Establish baseline environmental and social conditions.
- Identify potential impacts during construction and operation.
- Develop mitigation and enhancement measures under an Environmental and Social Management Plan (ESMP).

### Current Situation and Need

Existing roads are **damaged**, narrow, and lack drainage and lighting.

- Waterlogging during monsoon due to **poor outfall connections** to the **Bamondanga Canal**, **and Khatamari River** disrupts traffic and damages roads.
- Absence of **street lighting** limits safety and nighttime mobility.

The interventions will significantly enhance **traffic flow, drainage efficiency, business growth, and public safety**.


## 2. Baseline Environmental and Social Profile

### Physical Environment

- **Geology & Soil:** Formed by recent alluvial deposits of the Tista Floodplain; soil mainly non-saline grey and brown floodplain soil. Earthquake Zone-2 (moderate risk).
- **Topography:** Flat, low-lying area; elevation ~6 ft above surroundings through sand filling.
- **Climate:** Tropical; mean annual temperature 26 °C; average rainfall 1,934 mm. Monsoon lasts May–September with humidity > 80%.
- **Hydrology:** Dominated by the Tista River system. Surface drainage through **Bamondanga Canal → Khatamari River → Tista River**. Groundwater depth 0–5.3 m; some arsenic/iron contamination.
- **Flooding/Drainage:** Generally flood-free but experiences localized waterlogging due to inadequate drains.
- **Air & Noise:** Air quality acceptable; pollution from traffic and small diesel generators. Noise within tolerable limits.
- **Solid Waste:** 305 dustbins, 9 vans, 4 garbage trucks. Waste transported to **Itakhola Sanitary Landfill**. Improper disposal by residents remains an issue.

### Biotic Environment

- Common tree species: **Mahogany, Rain-tree, Koroi, Simul, Mango, Neem, Jarul, Krishnachura.**
- No endangered flora or fauna reported.
- Typical birds include **Shalik, Doel, Bok, Chil, Crow, Tuntuni.**
- No ecologically critical areas within the project zone.

### Socio-Economic & Cultural Environment

- **Population:** ~20,600 direct beneficiaries across Wards 1–4.
- **Literacy:** 64.1%, higher than national average.
- **Livelihoods:** Small business, services, transport, and trade.
- **Tribal Communities:** None; no Indigenous Peoples under WB ESS7.
- **Land Ownership:** Roads are municipally owned; no private land acquisition required. Some voluntary removal of minor structures.
- **Cultural Heritage:** Local landmarks include war memorials, Nilsagar Dighi, and historic shrines, none affected by the project.

## 3. Environmental and Social Risks and Impacts

### Overall Risk Category

- **ECR 2023:** *Orange Category*
- **World Bank ESF:** *Moderate Risk*

Impacts are site-specific, reversible, and can be effectively managed through mitigation measures.

**Potential Negative Impacts**

1. **Air and Dust Pollution:** During excavation, transport, and asphalt mixing.
2. **Noise and Vibration:** From mixers, rollers, and vehicles.
3. **Water Quality:** Possible runoff from construction materials.
4. **Solid Waste:** Improper disposal of debris and worker waste.
5. **Occupational Health & Safety:** Risks of heat stress, dust, machinery hazards.
6. **Traffic Disruption:** Temporary congestion during construction.
7. **Community Impacts:** Risk of accidents and limited access to properties.
8. **Labor Influx:** Temporary workers may strain local amenities.
9. **Vegetation Disturbance:** Minor tree/vegetation removal.

**Positive Impacts**

- Improved **road connectivity** and **drainage capacity**, reducing waterlogging.
- Enhanced **traffic safety** and **street lighting**.
- Increased **local employment** and **business activity** during construction.
- Better **urban resilience** and **livelihood improvement** for ~21,600 people.

**4. Mitigation and Enhancement Measures**

**Construction-Phase Mitigation**

- Spray water regularly to suppress dust.
- Cover sand/aggregate stockpiles and trucks during transport.
- Maintain and service vehicles to minimize emissions.
- Restrict noisy operations to daytime; provide mufflers/silencers.
- Prevent waste dumping into canals; dispose at **Itakhola Landfill**.
- Provide **PPE** (helmets, gloves, masks, boots) and first-aid kits at worksites.
- Arrange **temporary traffic management** and signage to ensure safety.
- Maintain liaison with local residents and shop owners.

**Ecological Measures**

- **30 tree saplings** (fruit, medicinal, and ornamental species) to be planted along the improved roads with bamboo fencing and watering during maintenance period.

**Social Safeguards**

- No involuntary resettlement; voluntary agreements signed with affected structure owners.
- In case of objections, **DSM consultants** will act per **Resettlement Policy Framework (RPF)**.
- Local workers prioritized to minimize external labor influx.

**Occupational Health & Safety**

- Adequate sanitation, waste bins, ventilation in worker sheds.
- Prohibition of child/forced labor.
- Accident insurance and compensation policy to be enforced.

**5. Environmental and Social Management Plan (ESMP)**

The ESMP defines mitigation, monitoring, and institutional responsibilities:

**Institutional Setup**

- **PMU (LGED)** – overall supervision and reporting to the World Bank.
- **PIU (Pourashava)** – on-site implementation and daily monitoring.
- **DSM Consultants** – provide technical assistance and periodic ES audits.

**Environmental Monitoring**

- **Visual Monitoring:** Dust, noise, traffic disturbance, waste disposal.
- **Analytical Monitoring:** Air, water, and noise at sensitive receptors during construction.
- **Reporting:** Monthly ES compliance report by the contractor and quarterly by DSM/PMU.

**Capacity Building**

- Training on environmental, health, and safety management for municipal and contractor staff.
- Awareness sessions for workers and community members.

**Emergency Response and Disaster Management**

- Prepare and implement emergency procedures for fire, flood, or accidents.
- Designate safety officers and provide emergency contact lists at site.

**Grievance Redress Mechanism (GRM)**

- Three-tier structure:
    1. Site-level (Contractor/PIU)
    2. Pourashava GRC (Executive Engineer as Chair)
    3. PMU-level escalation (PD RUTDP)
- Complaint logbook and response within 7 days.

**Budget**

- ESMP implementation cost included in **BOQ – Environmental & Social Enhancement Works**, covering monitoring, PPE, tree plantation, and waste management.

**6. Public Consultation and Participation**

Community consultations were held with Pourashava officials, local residents, and shopkeepers along the project corridor.

**Key Issues Raised:**

- Drainage congestion during monsoon.
- Road damage and dust nuisance.
- Need for employment opportunities for locals.
- Road safety and proper lighting.

**Community Feedback:**

- Strong support for subproject implementation.
- Requests for timely completion and regular monitoring of quality and safety.

**7. Conclusions and Recommendations**

The ESA concludes that the **Nilphamari Pourashava road and drainage subproject** will deliver significant socio-economic benefits, notably improved mobility, reduced waterlogging, and enhanced quality of urban life.

**Key recommendations:**

1. Strict adherence to ESMP and **Environmental & Social Codes of Practice (ESCoPs)**.
2. Ensure effective **waste management** and **dust control** throughout construction.
3. Continue **stakeholder engagement** and maintain transparency through information disclosure.
4. Prioritize **local workforce recruitment** to enhance community ownership.
5. Maintain **periodic environmental monitoring** and adaptive management based on field findings.

**8. Overall Assessment**

The subproject project is environmentally and socially **feasible and sustainable**, with all anticipated impacts **moderate, site-specific, and manageable** through the prescribed mitigation and monitoring framework. Upon completion, it will greatly contribute to **resilient urban development** and **improved living standards** in Nilphamari Pourashava.