Women's Adaptation Plan for Monhapur road: Co-created by Women's Groups Through Participatory Adaptation Labs

Green Roads Webinar Series

4 June 2026

Presenter: Tahmina Akter (SocioConsult)

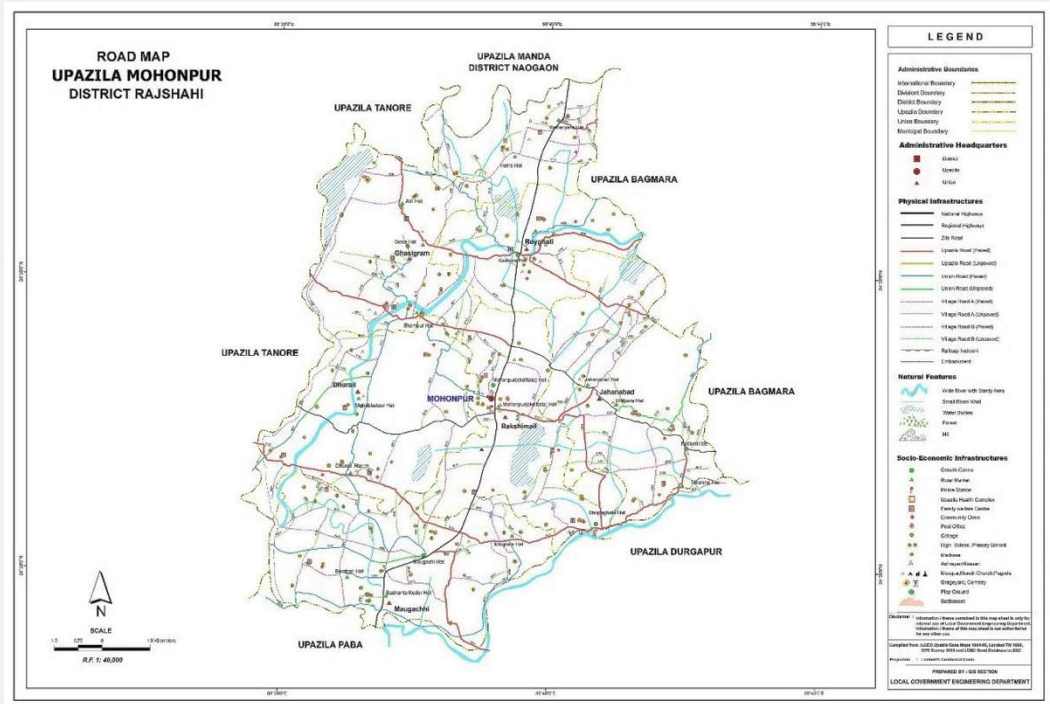
GOPA MetaMeta Socioconsult Ltd. for sustainable development ওয়েভ ফাউন্ডেশন WAVE FOUNDATION GLOBAL CENTER ON ADAPTATION Canada GREEN ROADS FOR WATER

This plan reflects women's knowledge, priorities, and solutions for improving climate resilience and ensuring safer, more accessible roads for their communities.

Background on project and the specific road

This poster presents the **Women's Adaptation Plan for Mohanpur Road, a 6.71 km Union Road serving 2,386 families across four mouzas in two unions**. The road connects densely populated areas, two major local markets, and several educational institutions, but **faces significant climate and infrastructure challenges**. Its narrow width, sharp bends, and proximity to betel leaf fields contribute to frequent waterlogging and make vehicle movement difficult. Adjacent ponds without protective parapet walls cause soil erosion, while the increasing use of the road by heavily loaded trucks leads to rapid deterioration and safety concerns.

Addressing these issues is essential to improve mobility, access to markets and schools, and the overall resilience of the community - especially for women, who play a vital role in daily transport, care, and economic activities.



Road Map of Upazila Mohanpur

GOPA MetaMeta Socioconsult Ltd. for sustainable development ওয়েভ ফাউন্ডেশন WAVE FOUNDATION GLOBAL CENTER ON ADAPTATION Canada GREEN ROADS FOR WATER

Examples of road-water issues in Mohanpur road

Participatory Process

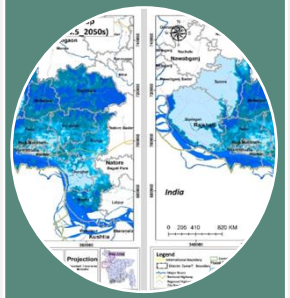
Below are the eight key steps followed to develop People's Adaptation Plans for Green Roads for Water in Rajshahi:

Step 1:

Stakeholder Mapping

Step 2:

Formation of Women Groups, Steering, and Advisory Committee



Step 3:

Climate Risk Assessment

Step 4:

Recruitment and Training of Community Mobilizers and Enumerators

Step 5:

Settlement mapping

Step 6:

Settlement profiling

Step 7:

Household numbering and enumeration

Step 8:

Climate risk profiling

8-Step Protocol for Developing Women's Adaptation Plans for Green Roads for Water

GOPA MetaMeta Socioconsult Ltd. for sustainable development ওয়েভ ফাউন্ডেশন WAVE FOUNDATION GLOBAL CENTER ON ADAPTATION Canada GREEN ROADS FOR WATER

Climate Vulnerability and Risk profile

Mohanpur upazila is vulnerable to seasonal climate extremes. Floods, erosion, erratic rainfall, and droughts all disrupt daily life, agricultural production, and women's access to markets and services. Women's groups have assessed these risks as high or medium severity, with most expected to worsen in the future, impacting their economic opportunities and family health.

After documenting these risks, the women's group presented their findings to the advisory committee and at the final upazila-level wrap-up meeting, ensuring local stakeholder engagement in the adaptation planning process.

Climate Threat	Season of Occurrence	Severity (Women's Scoring)	Future Trend	Main Impact on Women and Community
Flooding	Monsoon (July–Sept)	High	Increasing	Restricted mobility, betel leaf/vegetable crop loss, income decrease
Erosion	May–Sept	Medium	Increasing	Road damage, unsafe conditions
Erratic rainfall	Monsoon (July–Sept)	Medium	Increasing	Water logging near roads, agricultural disruption
Drought	Summer (Apr–June)	Medium	Increasing	Extreme heat, water scarcity, low crop yield
Cold wave	Winter (Dec–Jan)	Low	Decreasing	Health hazards for women, children, elderly

Requirements for successful implementation of all measures: (1) Confirm the official road layout and boundaries; (2) Secure additional land where needed for the proposed measures

No.	Problems Identified along Mohanpur Road	Type of Proposed Interventions	Proposed Interventions	Responsible Party	Benefit for Women / Community	Potential Role of Women	Costs of proposed interventions
1	**Pavement damages, subsidence, cracking and potholes**	Structural	**Pavement repair & strengthening**	LGED (design & works), Contractor	Reliable year round access, safer mobility, reduced travel time, easier access to markets, health & schools	Report damage, monitor quality, support post-monsoon inspections	• Light: Tk 2,50,000–4,00,000/km • Medium: Tk 5,00,000–8,00,000/km • Heavy: Tk 9,00,000–14,00,000/km • Full standard rehabilitation: Total = Tk 15,752,632.5 per km
2	**Missing/damaged shoulders**	Structural	**Shoulder reconstruction + turfing**	LGED, UP (maintenance)	Safer walking space for women, children, elderly	Maintain turfing, prevent encroachment, routine inspections	• Earthen: Tk 90,000–1,60,000/km (both sides) • Improved: Tk 1,60,000–2,60,000/km • Paved: Tk 4,40,000–7,00,000/km
3	**Slope erosion**	Structural	**Regrading + bio-engineering**	LGED, Contractor	Reduced collapse risk near homes & ponds	Grass planting, slope protection monitoring	• Regrading+grass: Tk 70,000–1,20,000/km • Bio-engineering: Tk 1,20,000–2,00,000/km • Jute/coir: Tk 2,00,000–3,00,000/km
4	**Sharp / narrow / dangerous curves**	Structural	**Local widening, signage, lighting**	LGED, UP	Reduced accidents, safer night travel (especially also for women)	Identify dangerous curves, monitor lighting	• Granular: Tk 1,20,000–2,20,000/km • Paved: Tk 2,80,000–5,00,000/km • Signage: Tk 12,000–18,000/sign • Lighting: Tk 25,000–40,000/point
5	**Inadequate drainage & waterlogging**	Structural	**Side drains (earthen/paved)**	LGED (construction), UP (O&M)	Reduced waterlogging in fields, markets, and near homes, and reduced disease risk	Drain maintenance, water flow monitoring	• Earthen: Tk 90,000–2,40,000/km • Brick: Tk 4,40,000–10,00,000/km< • RCC: Tk 11,00,000–24,00,000/km
6	**Poor side-road connections**	Structural	**Paved junctions**	LGED	Easier movement of people & livestock	Identify priority junctions	• Low-cost junction: Tk 25,000–45,000 • Standard cost junction: Tk 55,000–95,000 • High-cost junction: Tk 1,10,000–1,90,000 Formula: Cost per km = Number of junctions per km × Cost per junction
7	**Roadside ponds / ditches**	Structural	**Palisading + backfilling**	LGED, Contractor	Prevent accidents, protect road & water bodies	Identify risk spots, monitor damage	• Tk 1,128,600 per km (for 44% exposure treated, including palisading work, backfilling and compaction, protection, and monitoring)
8	**Large roadside trees**	Structural	**Pruning + replanting**	Forest Dept., LGED, UP	Reduced accident risk, maintained shade	Support plantation & caretaking	• Tk 50,000/km (50 trees/km @ Tk 1,000/tree)
9	**Heavy vehicle misuse**	Structural	**Height bars & signage**	LGED, Police	Reduced road damage & accidents	Awareness & reporting	• Height bar: Tk 73,600 • Sign: Tk 12,375 • Entry point (bar + 4 signs): Tk 1,30,000
10	**Market area congestion**	Hard	**Drains, waste zones, shelters**	LGED, Market Committee, UP	Cleaner markets, safer access for women traders	Waste management, hygiene oversight	• **RCC market drains**: Tk 3,60,000–5,60,000/km • **Brick drains**: Tk 1,80,000–2,80,000/km • **Waste zones**: Tk 3,00,000–7,00,000/km • **Total**: Tk 3,90,000–6,30,000/km
11	**Road misuse (cattle, materials)**	Non- Structural	**Awareness + enforcement**	UP, Police	Cleaner, safer road environment	Lead awareness, peer enforcement	• Awareness, signage, meetings: Tk 20,000–40,000/year
12	**Routine Maintenance (O&M)**	Non- Structural	**Routine O&M system**	UP (lead), LGED (support)	Long-term road usability	Paid routine maintenance work	• Maintaining shoulders: Tk 35,000–70,000/km/year • Maintaining drains: Tk 70,000–1,40,000/km/year • Maintaining slopes: Tk 45,000–90,000/km/year
13	**Weak local oversight**	Non- Structural	**Monitoring committee**	UP (lead), LGED	Accountability & transparency	Formal committee membership	• Meetings, reporting, allowances: Tk 10,000–20,000/year
14	**Limited women's technical capacity**	Non- Structural	**Training & paid O&M roles**	UP, NGOs	Income, skills, leadership	Core implementers	Training: Tk 20,000–50,000/year

Questions, answers, and discussion

GOPA MetaMeta Socioconsult Ltd. for sustainable development ওয়েভ ফাউন্ডেশন WAVE FOUNDATION GLOBAL CENTER ON ADAPTATION Canada GREEN ROADS FOR WATER

Reflections

B K M Ashraful Islam

Senior Transport Specialist

World Bank | Bangladesh

Dewan Abdus Sabur

Senior Executive Engineer

Local Government Engineering Department (LGED) | Bangladesh

LGED

GOPA MetaMeta Socioconsult Ltd. for sustainable development ওয়েভ ফাউন্ডেশন WAVE FOUNDATION GLOBAL CENTER ON ADAPTATION Canada GREEN ROADS FOR WATER