



Government of the people's Republic of Bangladesh  
Ministry of Housing and Public Works  
Urban Development Directorate  
82 Segunbagicha, Dhaka-1000

PREPARATION OF DEVELOPMENT PLAN FOR MEHERPUR ZILLA

## REPORT ON ASSIGNMENT-5

# Preparation of Rural Area Plan Map Containing Sectors and Extents

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## **Summary of Assignment-5**

### **A. Summary of Assignment-5**

Bamundi Union, under Gangni Upazila of Meherpur District, is a developing semi-urban area with a population of 29,492 in 2022, projected to reach 36,756 by 2047. Agriculture is the main occupation (54%), while business and services provide additional income. The road network covers 63.91 km, though a large portion remains unpaved, and transportation relies mostly on non-motorized means. Housing is dominated by semi-pucca structures (63%), and agricultural land covers over 80% of the area.

Major problems include poor communication systems, lack of proper drainage, waterlogging, and unplanned roadside settlements causing congestion and accidents. The Union is currently in the Growth phase, showing economic and infrastructural expansion but facing environmental and land use challenges.

The action plan emphasizes sustainable growth through crop diversification, improved irrigation and drainage management, and land use zoning to control unplanned development. The goal is to build a resilient, productive, and livable community through coordinated efforts of local authorities and development agencies.

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# Preparation of Rural Area Plan Map

## Containing Sectors and Extents

### Introduction:

Bamundi Union, under Gangni Upazila of Meherpur District, is a growing settlement characterized by its mixed rural–urban features. The union is served by a total of 63.91 km of roads, of which 34.48 km are pucca, 14.06 km herringbone brick (HBB), and 15.36 km katcha (*Source: Physical Feature Survey, Gangni Upazila masterplan by UDD*), reflecting a road network that is partly developed but still requires significant upgrading. The area is home to a predominantly Muslim population (29,388), alongside minorities of Hindus (98) and Christians (6). The literacy rate stands at 65.02% (Male: 64.90%, Female: 65.13%) (*BBS 2022*), indicating moderate progress in educational attainment with minimal gender disparity.

According to the Population and Housing Census 2022 (BBS), Bamundi Union has a population of 29,492 (Male: 14,238; Female: 15,254), with projections indicating growth to 36,756 by 2047 at an average annual growth rate of 0.88%. Agriculture remains the backbone of the local economy, engaging over 54% of the workforce, while business (25%), services (9%), and other occupations provide supplementary income opportunities. Transportation network reliant primarily (81%) on non-motorized modes, which is linked to safety and connectivity issues (*Socio-Economic Survey*.)

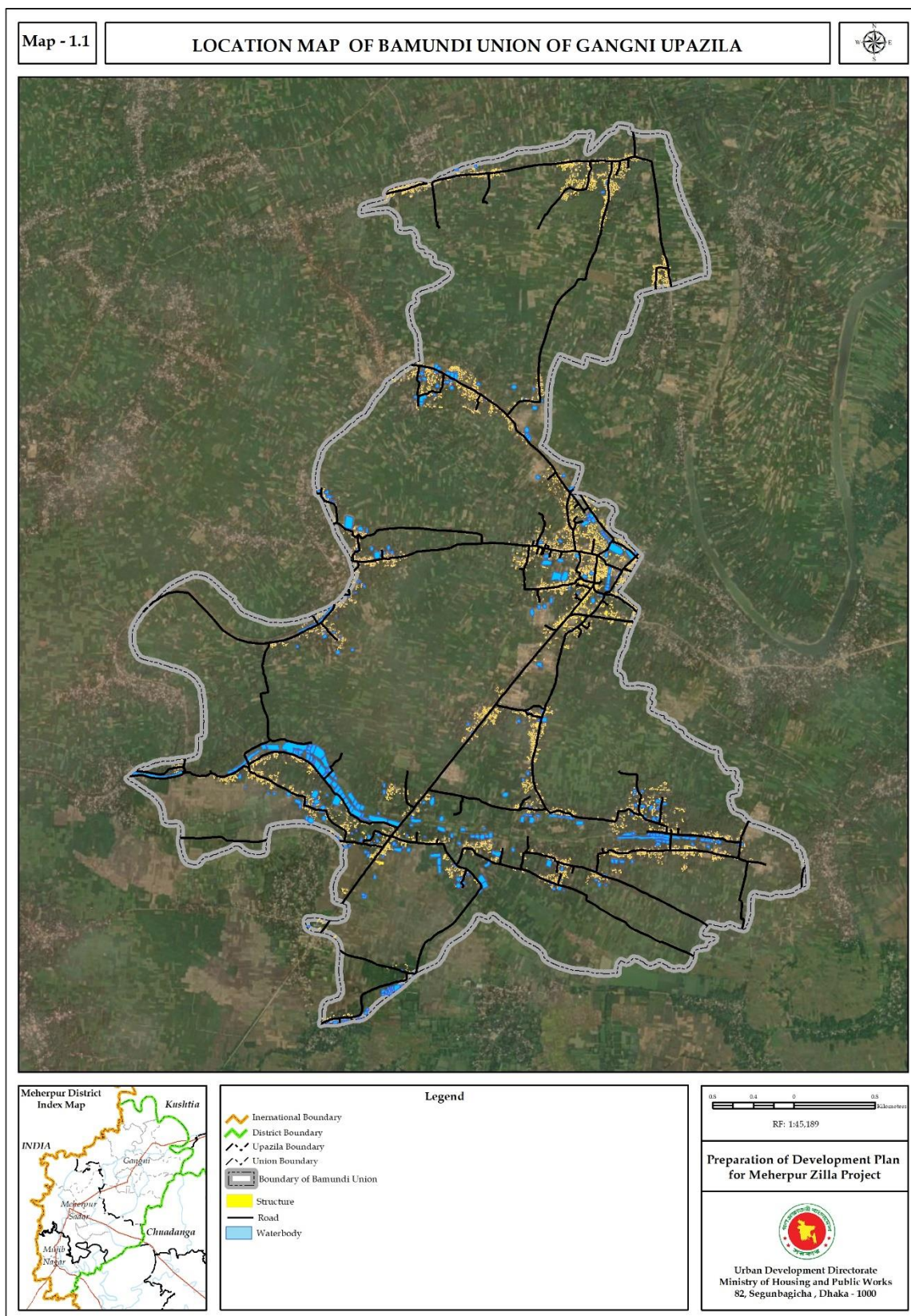
In terms of housing, the settlement is primarily composed of semi-pucca structures (63.35%), followed by pucca (18.54%), katcha (17.81%), and a small share of under-construction buildings (0.30%). Land use is dominated by agriculture (5,833.94 acres), while residential areas cover 1,129.98 acres, alongside smaller allocations for waterbodies, circulation networks, commerce, education, and mixed-use activities (*Source: Physical Feature Survey, Gangni Upazila masterplan by UDD*).

This plan translates these identified problems into a set of strategic and actionable interventions. It prioritizes key thematic areas including Drainage and Water Management, Waste Management, Road and Transportation upgrades, Sustainable Building and Housing, Agricultural Land Use preservation, and the expansion of Social Services and Community Facilities. Each intervention is assigned a clear implementation authority, ensuring accountability and feasibility.

The ultimate goal of this Action Plan is to provide a structured framework for transforming Bamundi Union into a more resilient, prosperous, and livable community, effectively addressing its current deficits while strategically planning for its future growth and sustainability.

## Existing Situation:

Feature	Existing Condition
Population & Projection	2022: 29,492 people (Male: 14,238; Female: 15,254). Projected 2047: 36,756 (average annual growth rate - 0.88%). <i>(Source: BBS 2022)</i>
Occupational Analysis	Service holder: 09%, Business: 25%, Driver: 05%, Farmer: 54%, Worker: 07%. Formal Employment 09% and Informal Employment 91% <i>(Source: Socio-Economic Survey)</i>
Transportation Analysis	By foot: 70%, Van: 07%, Motorcycle: 16%, Cycle: 05%, Car: 02% (Non-Motorized 81% and Motorized 19%). <i>(Source: Socio-Economic Survey)</i>
Building Type	Katcha: 1083 (17.81%), Pucca: 1127 (18.54%), Semi-Pucca: 3850 (63.35%), Under Construction: 18 (0.30%). <i>(Source: Physical Feature Survey, Gangni Upazila masterplan by UDD)</i>
Building Floor Distribution	1 floor: 5990; 2 floors: 76; 3 floors: 09; 4 floors: 03; <i>(Source: Physical Feature Survey, Gangni Upazila Masterplan By UDD)</i>
Elevation Profile (DEM)	Elevation 10.03–16.59m: Residential/Structural. <i>(Source: Physical Feature Survey, Gangni Upazila Masterplan by UDD)</i>
Land Use Status	Agriculture land: 5833.936 acre (80.59%), Residential: 1129.98 acre (15.61%), Waterbody: 136.07 acre (1.88%), Circulation Network: 56.90 acre (0.79%), Commercial: 44.26-acre (0.61%), Mixed Use: 28.39-acre (0.39%), Education: 7.92 acre (0.11%), Administrative: 0.98-acre (0.01%), Transportation and Communication: 0.43 acre (0.006%), Industrial: 0.29-acre (0.004%), Service Activity: 0.143 acre (0.002%) <i>(Source: Physical Feature Survey, Gangni Upazila Masterplan By UDD)</i>

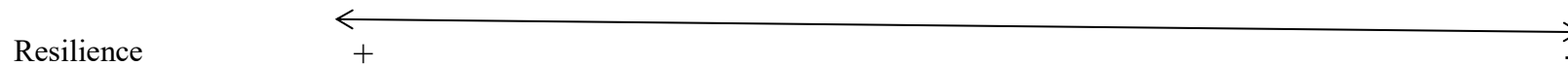


**Figure 1: Location Map of Bamundi Union**

**Problem Identification:**

Source	Key Issues Identified
PRA	<ul style="list-style-type: none"> <li>• Poor Communication System</li> <li>• Lack of Health Services</li> <li>• Water Logging</li> <li>• Lack of Drainage</li> </ul>
Socio-Economic Data	<ul style="list-style-type: none"> <li>• Educational, communication, health development at Nishipur</li> <li>• Health and education development at Debipur</li> <li>• Infrastructure development in Bamundi bazar area.</li> <li>• Infrastructure, road development at Mohabbatpur</li> </ul>
Newspaper	<ul style="list-style-type: none"> <li>• At least 20 injured as picnic bus overturns in Meherpur. <a href="https://www.dailyjanakantha.com/bangladesh/news/677137">https://www.dailyjanakantha.com/bangladesh/news/677137</a></li> <li>• Robbery by felling trees on the road in Bamondi, Meherpur <a href="https://www.dailyjanakantha.com/bangladesh/news/665071">https://www.dailyjanakantha.com/bangladesh/news/665071</a></li> <li>• Road accidents occurring due to the police box; locals demand it be moved to the opposite side. <a href="https://www.gangninenews24.com/%E0%A6%AA%E0%A7%81%E0%A6%B2%E0%98%E0%A6%9F%E0%A6%9B%E0%A7%87/">https://www.gangninenews24.com/%E0%A6%AA%E0%A7%81%E0%A6%B2%E0%98%E0%A6%9F%E0%A6%9B%E0%A7%87/</a></li> <li>• Farmer killed in road accident in Gangni <a href="https://www.meherpurpratidin.com/□□□□□□-□□□-□□□□□□□□-□□/">https://www.meherpurpratidin.com/□□□□□□-□□□-□□□□□□□□-□□/</a></li> <li>• 1 killed after being hit by a bus in Gangni, Meherpur <a href="https://www.meherpurpratidin.com/□□□□□□□□□□-□□□□□□□□-□□□□□/">https://www.meherpurpratidin.com/□□□□□□□□□□-□□□□□□□□-□□□□□/</a></li> <li>• Bus and drum truck collide head-on in Gangni, 10 injured. <a href="https://www.meherpurpratidin.com/□□□□□□-□□□-□-□□□□□-□□□□□/">https://www.meherpurpratidin.com/□□□□□□-□□□-□-□□□□□-□□□□□/</a></li> </ul>

### Adaptive Cycle Phase Analysis:



Variable	Reorganization ( $\alpha$ )	Growth (r)	Conservation (K)	Release ( $\Omega$ )
<b>Resilience</b>	+ —			
<b>Social System</b>	<ul style="list-style-type: none"> <li>Mixed Group of Profession</li> </ul>	<ul style="list-style-type: none"> <li>Farming dominance, credit dependency</li> </ul>	<ul style="list-style-type: none"> <li>Institutional rigidity, elite control in land/water</li> </ul>	<ul style="list-style-type: none"> <li>Outmigration, local conflict, erosion of trust</li> </ul>
<b>Economic System</b>	<ul style="list-style-type: none"> <li>Mixed crops</li> <li>Informal jobs, wage labor restart</li> </ul>	<ul style="list-style-type: none"> <li>Cash crop expansion (jute, tobacco, vegetables)</li> </ul>	<ul style="list-style-type: none"> <li>Market lock-in to tobacco/jute</li> <li>Heavy fertilizer/credit dependency</li> <li>Monocropping</li> </ul>	<ul style="list-style-type: none"> <li>Price collapse, debt trap, sudden migration</li> <li>Pest attack, sudden input cost rise</li> </ul>
<b>Environmental System</b>	<ul style="list-style-type: none"> <li>Natural soil fertility regeneration (fallow land)</li> </ul>	<ul style="list-style-type: none"> <li>Irrigation expansion, HYV crop adoption</li> </ul>	<ul style="list-style-type: none"> <li>Groundwater overuse</li> <li>Soil degradation</li> <li>Biodiversity decline</li> </ul>	<ul style="list-style-type: none"> <li>Crop failure from drought/pest</li> </ul>
<b>Settlement Pattern</b>	<ul style="list-style-type: none"> <li>Based on housing types (Percentage of pucca, semi-pucca, and katcha)</li> </ul>	<ul style="list-style-type: none"> <li>Cluster housing, infrastructure growth</li> </ul>	<ul style="list-style-type: none"> <li>Land scarcity, congestion, shrinking commons</li> </ul>	<ul style="list-style-type: none"> <li>Migration, peri-urban expansion, land disputes</li> </ul>
<b>Results</b>	<b>Lack of Housing and Service</b>	<b>Land Use and Settlement</b>	<b>Resource and Inequality</b>	<b>Migration and Environmental Issues</b>

	<ul style="list-style-type: none"> <li>• Houses, roads, and embankments are often damaged.</li> <li>• Basic services (water, sanitation, health) are not appropriately rebuilt.</li> </ul>	<ul style="list-style-type: none"> <li>• Too much land for cash crops, reducing food crop land.</li> <li>• Irrigation and electricity expand, but not always in a planned way.</li> <li>• Settlements grow along roads</li> </ul>	<ul style="list-style-type: none"> <li>• Farmers are locked into one type of crop (monocropping).</li> <li>• Overuse of groundwater and soil leads to land degradation.</li> </ul>	<ul style="list-style-type: none"> <li>• Crop failures force families to leave farmland.</li> <li>• Many move to towns, creating unplanned settlements on city edges.</li> <li>• Conflicts rise over land ownership and water rights.</li> </ul>
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**Resilience:**

Bamundi Union is positioned in the Growth (r) phase of the Adaptive Cycle, as reflected in its social, economic, environmental, and settlement dynamics. In the social system, farming remains dominant with 54% of the workforce engaged in agriculture and 91% in informal employment, indicating livelihood dependency on traditional practices but with some diversification into business and services. The economic system shows clear expansion of cash crops such as jute, tobacco, and vegetables, supported by HYV crop adoption and multiple irrigation sources, which enhance productivity but increase risks of credit dependency, and exposure to market fluctuations. From an environmental perspective, irrigation yet its unplanned growth has led to groundwater overuse, waterlogging, and poor drainage management, aligning with growth phase vulnerabilities. The settlement pattern demonstrates cluster-based housing alongside increasing roadside development, which reduces agricultural land, causes congestion, and contributes to frequent road accidents reported in newspapers. The results of these dynamics are evident: excessive land allocated to cash crops reduces food crop land, irrigation expand without proper planning, and unplanned roadside settlements create infrastructural and safety challenges. Together, these factors confirm that Bamundi Union is currently in the Growth phase, where resource and settlement expansion bring short-term benefits but also generate long-term risks without sustainable planning.

## Resilience Analysis

Phase	Problem arises in Bamundi Union	Planning Intervention	Implementation Authority
<b>Growth (r)</b>	<p><b>Land Use and Settlement</b></p> <p><b>1. Too much land for cash crops, reducing food crop land:</b></p> <ul style="list-style-type: none"> <li>• In Bamundi Union, 54% of the population are farmers, and agriculture land dominates (5,833 acres, 80.59% of total land use). <i>(Source: Socio-Economic Survey &amp; Physical Feature Survey)</i></li> <li>• There is growing preference for cash crops such as jute, tobacco, and vegetables, which increases short-term income but reduces food crop cultivation, creating potential food security risks. <i>(Source: Socio-Economic Survey)</i></li> <li>• This shift also fosters credit dependency consistent with the adaptive cycle's growth phase vulnerabilities. <i>(Source: Socio-Economic Survey)</i></li> </ul>	<ol style="list-style-type: none"> <li>1. Promote crop diversification, introduce incentives for food crop cultivation, and provide farmer training on sustainable practices.</li> <li>2. Develop coordinated irrigation schemes, promote surface water irrigation, regulate groundwater extraction.</li> <li>3. Prepare zoning regulations, control unplanned roadside settlement, promote cluster housing, and safeguard land for future road development.</li> </ol>	<p>Department of Agricultural Extension (DAE), LGED, NGOs</p> <p>Department of Agricultural Extension (DAE), Bangladesh Agricultural Development Corporation (BADC), Union Parishad UP)</p>

	<p><b>2. Irrigation and electricity expand, but not always in a planned way.</b></p> <ul style="list-style-type: none"> <li>• Bamundi Union benefits from multiple irrigation sources, which support HYV crop adoption and agricultural growth. (<i>Source: Socio-Economic Survey</i>)</li> <li>• PRA identified lack of drainage and waterlogging, which shows that resource expansion has not been supported by proper planning or infrastructure management. (<i>Source: PRA &amp; Socio-Economic Survey</i>)</li> </ul> <p><b>3. Settlements grow along roads</b></p>		
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	<ul style="list-style-type: none"><li>• Settlement in Bamundi Union is increasingly forming along major roads, a sign of linear or ribbon-type growth.</li><li>• This reduces agricultural land, creates traffic congestion, and increases accident risks, which is supported by multiple newspaper reports of frequent road accidents and obstructions (bus collisions, roadside robberies, police box accidents).</li><li>• PRA highlighted poor communication systems and lack of infrastructure, which are worsened by unplanned roadside expansion.</li><li>• This pattern reflects the growth phase—rapid settlement expansion without proper planning or zoning.</li></ul>		
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