



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-03

Analysis Report on scope and extent of planning packages such as Structure Plan, Urban Area Plan, Rural Area Plan and Action Area Plan

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Existing Condition

Ward No. 09 spans a total area of 659.01 acres and has experienced steady demographic growth over the past decades. The population increased from 5,629 in 2011 to 6,929 in 2022 (Source: BBS,2022), with projections estimating further growth to 8,370 in 2032 and 10,303 in 2043. This consistent upward trend highlights the rising demand for housing, infrastructure, and essential services in the ward.

Travel behavior shows that most trips are made for shopping, personal work, and visiting relatives, reflecting the community's social and economic orientation. In terms of education, the ward presents a mixed profile: while 20.83% of residents remain uneducated, the majority have attained different levels of formal education, ranging from primary and secondary to higher secondary, with a notable share completing graduate and postgraduate studies (Source: Socio-Economic Survey, 2025). This indicates a growing presence of educated individuals, though access to advanced education still requires improvement.

The road network spans 45.44 km, comprising bituminous (20.27%), earthen (49.91%), HBB (12.73%), RCC (17.01%), and tile (0.11%) surfaces (Source: Socio-Economic Survey, 2025). With nearly half of the roads still earthen, there is a clear need for upgrades to improve connectivity and accessibility.

In terms of living standards, the ward records a Physical Quality of Life Index (PQLI) of 54, placing it in the moderate range (50–74), which reflects average conditions in health, housing, and basic services. The Quality-of-Life Index (QLI) and Cultural Capital Index (CCI) both stand at 62, also in the moderate range. At the same time, the Integrated Quality of Life Index (IQLI) is 59 (Source: Socio-Economic Survey, 2025). These collectively suggest moderately satisfactory living standards, with scope for significant improvement.

Overall, Ward No. 09 is characterized by steady population growth, improving yet uneven educational attainment, an underdeveloped road network, and moderate living conditions. While progress is visible, the findings underscore the importance of strategic planning and development interventions to enhance infrastructure, education, and overall quality of life.

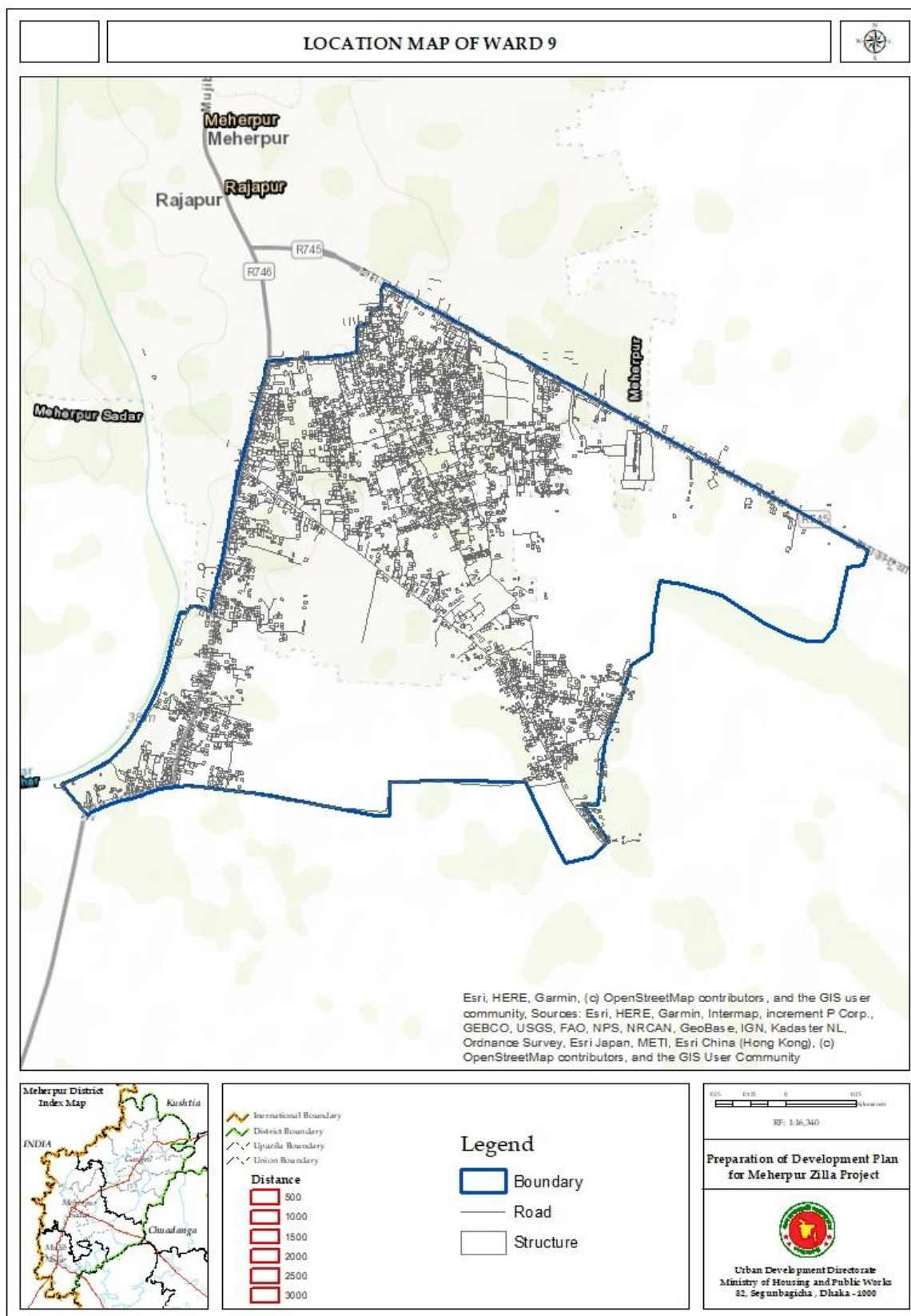


Figure 1: Location Map of Ward 9

Feature	Existing Condition
Drainage System	Covered drains: 8.52 km, Uncovered drains: 2.69 km (Source: Physical Feature Survey 2025)
Building Type	Pucca: 1545 (42.87%), Semi-Pucca: 1455 (40.38%), Tin Shade: 561 (15.56%), Katcha: 31 (0.86%), Steel 12 (.33%). (Source: Physical Feature Survey 2025)
Building Floor Distribution	1 floor: 3064, 2 floors: 394, 3 floors: 116, 4 floors: 19, 5 floors: 8, 6 floors: 1, 7 floors: 2. Source: Physical Feature Survey 2025) Soil Type: Type D, stiff soil, a low LPI range (0.126–2.295)
Elevation	Ranfe6.47-21.51m: Residential/Agriculture.
Land Use Status	Residential: 209 acres, Administrative:11.18 acres, Commercial: .0032 acres, Agricultural: 431.82 acres, Community Services: 9.56 acres, Mixed-use: 13.82 acres, Education and Research: 2.45 acres, Road Network: .031 acres, Waterbody: 17.05 acres, Open Space: 0 acres. (Source: Physical Feature Survey 2025)
Utility Service	Community taps: 01, Formal dustbins: 14, Informal disposal: 69, Public toilets: 2, STS: 1. (Source: Physical Feature Survey 2025)
Occupation Analysis	Service Holder: 19%, Business: 33%, Driver: 24%, Farmer: 5%, Worker: 9%, Education: 5%, Medical Service: 5%, Religious: 0%. (Source: Socio-Economic Survey 2025).
Transportation Analysis	By Foot 7.02%, Rickshaw 10.10%, Van 0%, Cycle 6.50%, Motorcycle 7.14%, Car 0%, Bus 4.80%, Microbus 0%, Easy Bike 21.10% (Source: Socio-Economic Survey 2025)

Emotion Distribution Analysis

Zone Name	Distance Range (m)	Key Characteristics
Functional Emotion Zone	500–1000	Surrounds core; active commercial & institutional areas; transitional with mixed land use.
City Soul Zone	1000–1500	Emotional core; near schools, markets, community hubs; high density & social activity. Emotion: Love, Happiness
Emotional Fade Zone	1500–2000	suburban/isolated; low density; urban–rural fringe Emotion: Love, Happiness

Revival Zone	(2000)–3000	Emerging/underdeveloped; agricultural/orchard land; no current emotional activity; future potential for growth. Emotion: Love, Happiness
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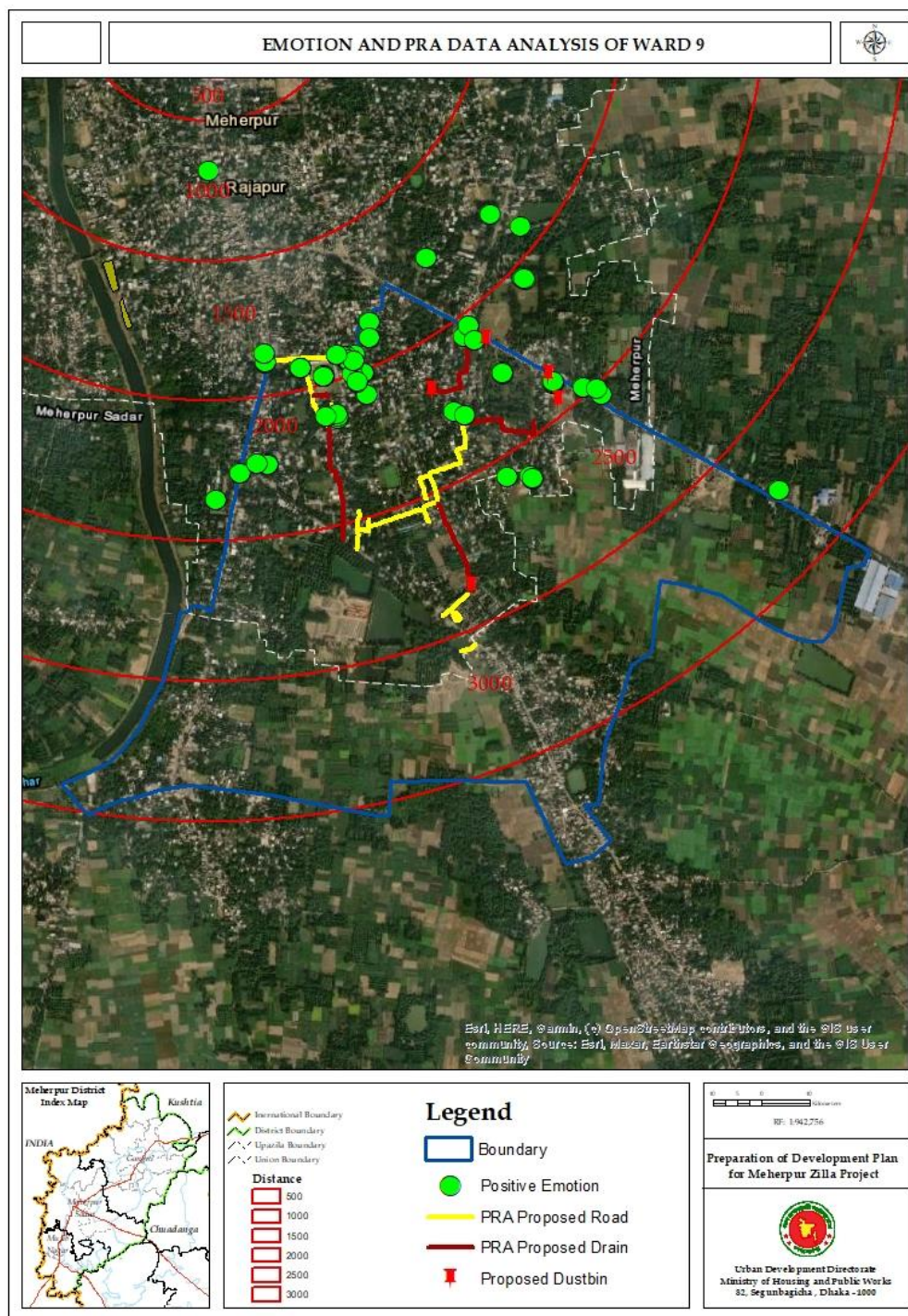


Figure 2: Emotional Distribution and PRA Output Analysis of Ward 9

Urban Void Identification:

An emotional analysis of Ward 9 identified zones characterized by positive and negative emotions through the measurement of average distances to locations that evoke feelings such as happiness and love. Areas outside these zones, referred to as Emotional Gap Areas, exhibit minimal emotional engagement, indicating underutilized spaces devoid of social or recreational activities. These gaps are designated for Urban Void Development, transforming them into vibrant community spaces such as parks, play areas, or social hubs to promote emotional connections and improve the ward's livability.

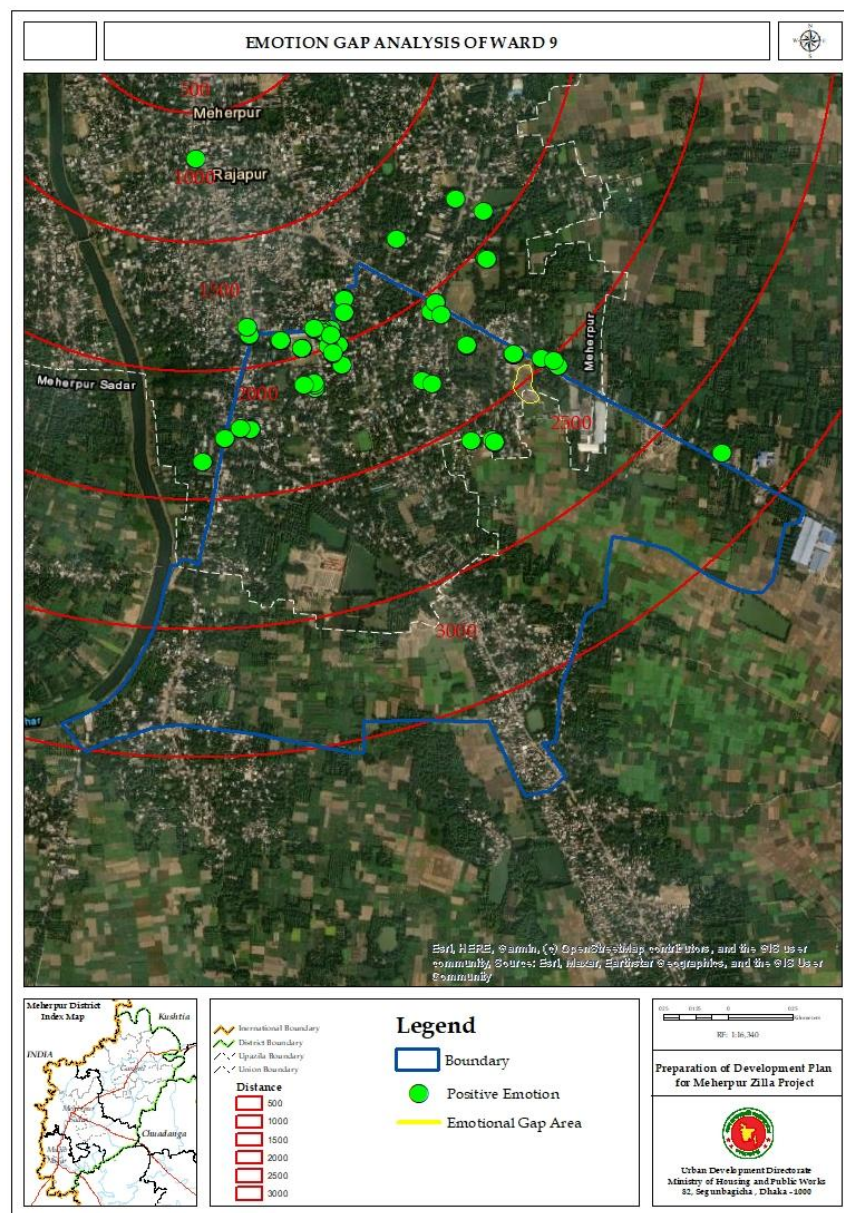
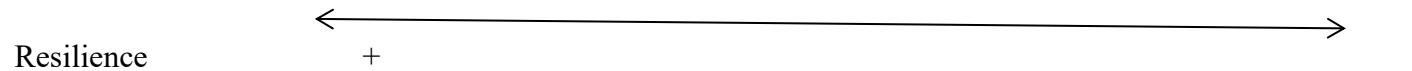


Figure 3: Emotional Gap Analysis of Ward 9

Issue Identification

Source	Issues Found
PRA	<p>Utility</p> <ul style="list-style-type: none"> • No dustbins • No electric poles • Solar-powered lamp posts needed <p>Community</p> <ul style="list-style-type: none"> • No playground <p>Transportation and Communication</p> <ul style="list-style-type: none"> • Road issues • Road repair needed from Madrasa Mor to Jailkhana • Road repair needed from Stadium Mor to Shishubagan Para
Emotional Analysis	<ul style="list-style-type: none"> • Areas lacking emotional connection
Socio-Economic Data	<ul style="list-style-type: none"> • No outlet for rainwater, so roads get flooded during rain; main roads have drainage, but inner areas do not. • No paved roads, and roads are low as rainwater causes flooding.
Newspaper	<ul style="list-style-type: none"> • Three drug dealers arrested with 20 grams of heroin in Meherpur.

Adaptive Cycle Phase Analysis:



Adaptive Cycle Phase	Release (Ω)	Reorganization (α)	Growth (r)	Conservation (K)
Social System	One population overwhelms all others, which disappear, or a revolt occurs, breaking the homogeneity of the space.	Heterogeneous populations mixing at the individual level, and absence of barriers. Mainstreaming (residents and explorers) and marginal (drug traders and sex workers) are present.	Selected populations begin to grow, and the mainstream populations may start to overtake marginal populations. Space encourages inclusion.	One population may begin to dominate; the Population in the area becomes homogeneous. Segregation occurs when barriers, both physical and implied, rise.
Economic System	Slight permutation in the customer or market yields a collapse	Small, opportunistic, and temporary business emerges.	Entrepreneurs create highly flexible businesses. Imported or local response to local needs.	Large-scale economic entities emerge, emphasizing “one size fits all” Efficiency is paramount; customization disappears, and the system becomes inflexible.
Environmental System:	An out-of-bounds event overwhelms the engineered and separated system.	Spontaneous and visible natural processes on the site.	Designed, visible Reinforcing the connection to other systems.	Engineered, hidden Separates the bio-system from others Inflexible.
	Unmanaged Sprawl: The primary issue is the unplanned and rapid conversion of land from its current use, such as	Lack of Infrastructure: As areas begin to reorganize, public infrastructure (roads, water, sewage) may struggle	Congestion & Overburdened Infrastructure: As the population and economic activity increase, the existing	Stagnation: The strong emphasis on stability can lead to stagnation, preventing necessary upgrades to infrastructure and amenities.

Results	<p>agriculture, to urban development. This results in the loss of valuable farmland and natural habitats.</p> <p>Vulnerability: Areas in this phase are highly vulnerable to uncontrolled change, which can overwhelm existing infrastructure and services.</p>	<p>to keep pace with development.</p> <p>Ad-hoc Growth: Without a clear plan, the reorganization can lead to scattered and uncoordinated development, making it difficult to provide efficient public services in the future.</p>	<p>infrastructure can become overstretched, leading to traffic congestion, strain on the water supply, and inadequate sanitation.</p> <p>Environmental Degradation: Rapid development can lead to the loss of urban green spaces and a decline in air and water quality.</p>	<p>Rigidity: A rigid system of conservation can prevent the area from adapting to new social or economic needs, potentially hindering long-term sustainability.</p> <p>Resistance to Change: The population in this phase may resist new development or changes, which can slow down progress and prevent the area from evolving.</p>
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- (Source: Anderson, 2011)
- Source: Marcus, L., & Colding, J. (2023). Placing Urban Renewal in the Context of the Resilience Adaptive Cycle. Land. <https://doi.org/10.3390/land13010008>.
- Source: Peng, H., Lou, H., Liu, Y., He, Q., Zhang, M., & Yang, Y. (2025). Spatial and Temporal Evolution Assessment of Landscape Ecological Resilience Based on Adaptive Cycling in Changsha Zhuzhou–Xiangtan Urban Agglomeration, China. Land. <https://doi.org/10.3390/land14040709>.
- Source: Wang, Z., Lin, L., Zhang, B., Xu, H., Xue, J., Fu, Y., Zeng, Y., & Li, F. (2023). Sustainable urban development based on an adaptive cycle model: A coupled social and ecological land use development model. Ecological Indicators. <https://doi.org/10.1016/j.ecolind.2023.110666>.
- Source: Marcus, L., & Colding, J. (2023). Placing Urban Renewal in the Context of the Resilience Adaptive Cycle. Land. <https://doi.org/10.3390/land13010008>.

Urban Resilience Analysis for Ward 09:

The area has a total population of 6,929, with the majority of residents living in pucca houses (42.87%), followed by semi-pucca houses (40.38%), tin sheds (15.56%), katcha houses (0.86%), and a small portion in steel structures (0.33%). Most buildings are single-storied (3,064), while a smaller number have two floors (394), three floors (116), and only a handful extend up to four, five, six, or seven stories. The community is predominantly Muslim (6,749), with minority groups including Hindus (143), Christians (45), and a single Buddhist resident. Occupation is largely business-oriented, engaging about 60% of the population in various forms, such as general business, electrical work, jewelry, workshops, brickfields, seasonal businesses, and grocery shops. In terms of transport, the most common mode is easy bikes (21.10%), followed by rickshaws (10.10%), motorcycles (7.14%), walking (7.02%), cycles (6.50%), and buses (4.80%), with negligible or no use of cars, vans, or minibuses. The environmental quality is relatively favorable, with suitable water, good air quality, tolerable noise, and moderate air pollution. Land use covers 209 acres for residential purposes, 11.18 acres for administrative functions, 431.82 acres for agriculture, 9.56 acres for community services, 13.82 acres for mixed-use, 2.45 acres for education and research, 17.05 acres for waterbodies, 0.031 acres for road networks, and 0.0032 acres for commercial use, though no open spaces are recorded. A recent local news report highlights the arrest of three drug dealers with 20 grams of heroin in Meherpur, pointing to occasional social challenges despite the generally stable community structure.

Adaptive Cycle Phase	The problem arises in ward 09	Planning Intervention	Implementation Authority
Reorganization (a)	<ul style="list-style-type: none"> • No dustbins. (Source: PRA) • No electric poles. (Source: PRA) • Solar-powered lamp posts needed. (Source: PRA) • No playground. (Source: PRA) • Road issues. (Source: PRA) • Road repair needed from Madrasa Mor to Jailkhana. (Source: PRA) • Road repair needed from Stadium Mor to Shishubagan Para (Source: PRA) • Areas lacking emotional connection (Source: Emotional Analysis) • No outlet for rainwater, so roads get flooded during 	<p>1. Agricultural Land Protection</p> <p>431.82 acres will be preserved for agricultural use. Ensures food security, ecological balance, and preservation of green character. Source: FAO (2019), <i>Urban Agriculture Guidelines</i>; McCartney et al. (2010), <i>Sustaining Ecosystem Services of Wetlands</i>.</p> <p>2. Residential Area (Vertical Development with Green Practices) increases from 209.00 to 223 acres. Growth is managed through vertical development (multi-story apartments), rooftop gardening, and a compact layout to prevent the conversion of farmland.</p> <p>Source: Holling & Gunderson (2002), <i>Panarchy: Understanding Transformations</i></p>	<ul style="list-style-type: none"> ✓ Meherpur Pourashava (General Section + Engineering Staff) with technical support from LGED ✓ Meherpur Pourashava (Engineering/Conservancy Section), supported by LGED + DPHE ✓ Meherpur Pourashava (General Administration), supported by District Administration + NGOs ✓ Meherpur Pourashava Conservancy Section ✓ Meherpur Pourashava (General Administration), land-use guidance with District Administration ✓ Meherpur Pourashava (General Section) in partnership with Local NGOs/Cultural Affairs Office ✓ Meherpur Pourashava (Electrical/General Section),

	<p>rain; main roads have drainage, but inner areas do not. (Source: Socioeconomic Survey)</p> <ul style="list-style-type: none"> • No paved roads, and roads are low as rainwater causes flooding. • Three drug dealers arrested with 20 grams of heroin in Meherpur. (Source: Newspaper) <p>Ad-hoc Growth</p> <ul style="list-style-type: none"> ✓ Upgrade temporary structures (katcha, tin, semi-pucca) to pucca ones. Focus on vertical development and incorporate green building practices. ✓ Upgrading 49.91% earthen roads to RCC/pucca. Land use expansion is significant, but within existing 	<p>in Human and Natural Systems (Adaptive Reorganization Stage).</p> <p>3. Mixed-Use Increase from 13.82 acres to 29 acres. Expansion of mixed commercial-residential areas to support the informal economy, compact growth, and neighborhood vibrancy. Source: Resilience Planning & Informal Economy Integration (Grant, 2002; Jacobs, 1961).</p> <p>4. Education Institutions: Increase 2.45 acres to 6.50 acres to be allocated for schools, colleges, and civic centers. Supports Ward 9's rising literacy and demand for advanced education—source: Community Anchor Spaces in Resilient Cities (UNESCO, 2017; UN-Habitat, 2020).</p> <p>5. Open Space & Recreation: Increase from 0.00 to 6.00 acres. Pocket parks, playgrounds, and community gardens developed from urban voids and vacant</p>	<p>supported by Palli Bidyut Samity / REB</p>
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		<p>public lands. Source: Bangladesh National Building Code & BIP Standards (Bangladesh Institute of Planners); Kabir & Parolin (2012, BanglaJOL), <i>Open Space and Urban Livability</i>.</p> <p>6. Roads & Infrastructure: Increase from 0.031 to 19 acres. Alignment—source: Litman (2021), <i>Evaluating Transportation Land Use Impacts</i>.</p> <p>7. Waterbody Preservation: 17 acres strictly preserved for drainage, ecological balance, and climate resilience. No reduction, aligned with sustainability guidelines. Source: IWMI & FAO guidelines on wetland conservation.</p>	
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