



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-13

Preparation of Rural area plan map containing sectors and extent

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1.1 Introduction:

Kathuli Union is a rural settlement characterized by a steadily growing population and a socio-economic base rooted in agriculture, education, and local market activities. According to recent demographic data, the Union has a total population of 24,449, comprising 11,865 males and 12,583 females (BBS,2022) The population is projected to increase to 35,281 by the year 2047, highlighting the necessity for forward-looking rural development strategies.

The primary purposes of travel within the Union are associated with education, access to markets, and agricultural activities. Education levels reflect notable participation, with 57.83% of males and 54.20% of females engaged in educational pursuits, signifying a gradual improvement in human resource development and gender inclusion in education.

The road network of Kathuli Union plays a critical role in supporting mobility and economic exchange. The Union has a total of 71.39 km of roads, which includes 48.86 km of pucca roads, 15.62 km of katcha roads, and 6.90 km of herringbone brick (HBB) roads (Source: Physical Feature Survey, Gangni Upazila masterplan by UDD). While pucca roads form the backbone of connectivity, the significant share of katcha and HBB roads indicates the need for infrastructural upgrades to ensure year-round accessibility and efficient transport services.

The administrative area occupies only 4.72 acres, highlighting the limited institutional and governance infrastructure within the Union. The circulation network, covering 56.09 acres, forms the essential framework for internal and external connectivity. Commercial activities are concentrated on 5.50 acres, reflecting small-scale local trade and market functions, while 12.66 acres are designated as mixed-use areas, combining residential, commercial, and service functions in compact spaces.

1.2 Existing Situation:

Feature	Existing Condition
Population & Projection	Total population 24449, Male 11865 and female 12583, Projected 35281 in 2047. <i>(Source: BBS 2022)</i>
Occupational Analysis	The majority are engaged in business (30%) , followed closely by labor (28%) and farming (26%) . A smaller portion works as drivers (6%) and in service-related jobs (4%) . The least represented groups are peons (2%) , members (2%) , and those dependent on remittance (2%) . <i>(Source: Socio-Economic Survey)</i>
Transportation Analysis	The highest proportion of people commute by foot 25.95% , indicating that non-motorized and short-distance transport dominate. A smaller share uses motorcycles (11.89%) and cycles (9.73%) , while only 0.54% travel by bus <i>(Source: Socio-Economic Survey)</i>
Building Type	Among 4,090 buildings, 2,541 (62.13%) are semi-pucca , 890 (21.76%) katcha , 657 (16.07%) pucca , and only 2 (0.05%) under construction . <i>(Source: Physical Feature Survey, Gangni Upazila masterplan by UDD)</i>
Building Floor Distribution	Floor use: One floor number 4059, and 2 floor is 31 <i>(Source: Physical Feature Survey, Gangni Upazila Masterplan By UDD)</i>
Elevation Profile (DEM)	Elevation 14.57km-8.02m <i>(Source: Physical Feature Survey, Gangni Upazila Masterplan by UDD)</i>
Land Use Status	Agriculture land-7190.88 acre, Administrative-4.72, Circulation Network-56.09, Commercial-5.50, Mixed use 12.66 Acre. <i>(Source: Physical Feature Survey, Gangni Upazila Masterplan By UDD)</i>

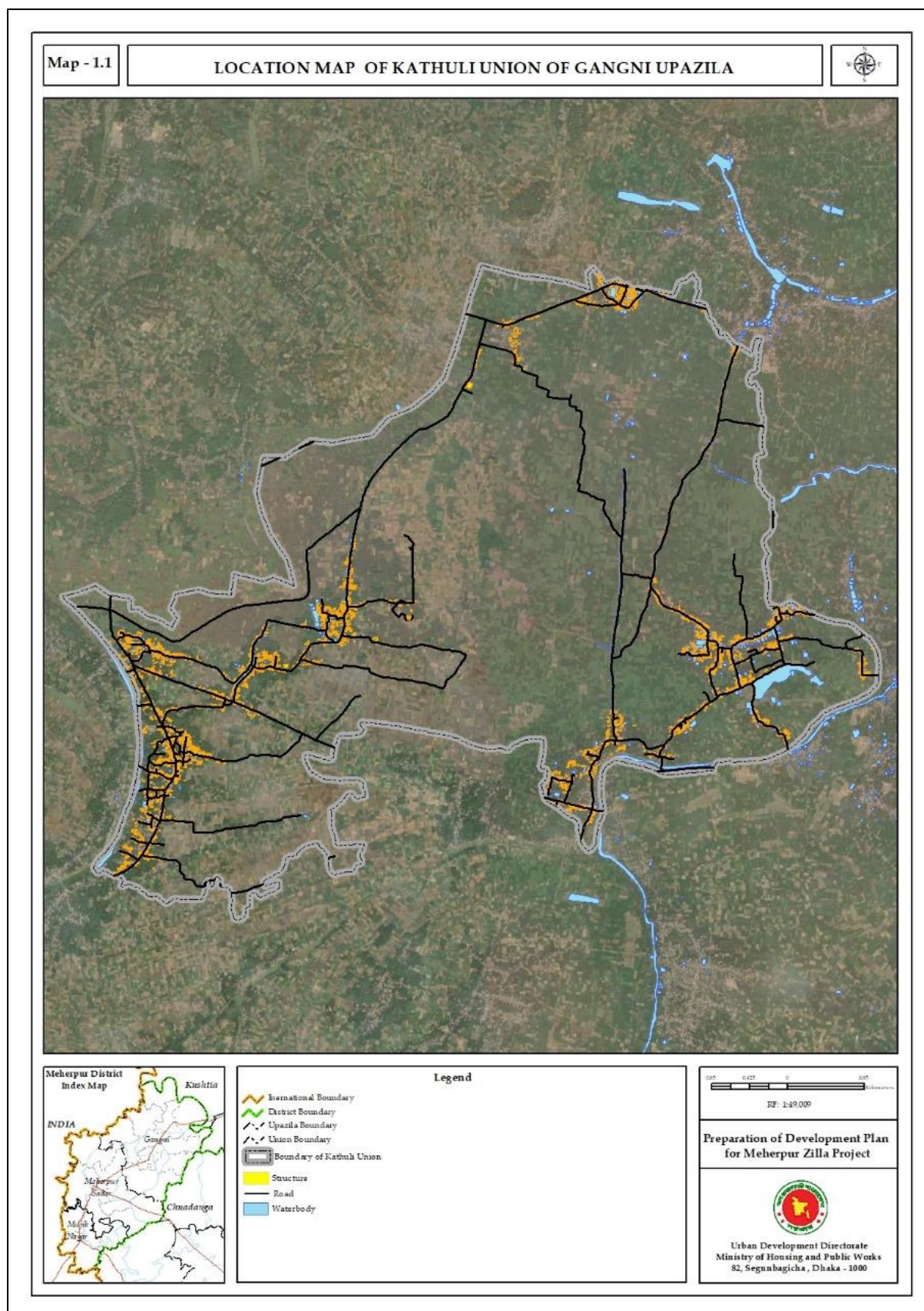
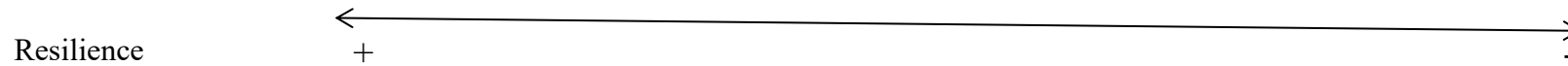


Figure 1: Location Map of Kathuli Union

1.3 Urban Resilience Analysis:



Variable	Reorganization (α)	Growth (r)	Conservation (K)	Release (Ω)
Resilience	+			-
Social System	<ul style="list-style-type: none"> Mixed Group of Profession 	<ul style="list-style-type: none"> Farming dominance, credit dependency 	<ul style="list-style-type: none"> Institutional rigidity, elite control in land/water 	<ul style="list-style-type: none"> Outmigration, local conflict, erosion of trust
Economic System	<ul style="list-style-type: none"> Mixed crops Informal jobs, wage labor restart 	<ul style="list-style-type: none"> Cash crop expansion (jute, tobacco, vegetables) 	<ul style="list-style-type: none"> Market lock-in to tobacco/jute Heavy fertilizer/credit dependency Monocropping 	<ul style="list-style-type: none"> Price collapse, debt trap, sudden migration Pest attack, sudden input cost rise
Environmental System	<ul style="list-style-type: none"> Natural soil fertility regeneration (fallow land) 	<ul style="list-style-type: none"> Irrigation expansion, HYV crop adoption 	<ul style="list-style-type: none"> Groundwater overuse Soil degradation Biodiversity decline 	<ul style="list-style-type: none"> Crop failure from drought/pest
Settlement Pattern	<ul style="list-style-type: none"> Based on housing types (Percentage of pucca, semi-pucca, and katcha) 	<ul style="list-style-type: none"> Cluster housing, infrastructure growth 	<ul style="list-style-type: none"> Land scarcity, congestion, shrinking commons 	<ul style="list-style-type: none"> Migration, peri-urban expansion, land disputes
Results	Lack of Housing and Service <ul style="list-style-type: none"> Houses, roads, and embankments are often damaged. Basic services (water, sanitation, health) are not appropriately rebuilt. 	Land Use and Settlement <ul style="list-style-type: none"> Too much land for cash crops, reducing food crop land. Irrigation and electricity expand, but not always in a planned way. Settlements grow along roads 	Resource and Inequality <ul style="list-style-type: none"> Farmers are locked into one type of crop (monocropping). Overuse of groundwater and soil leads to land degradation. 	Migration and Environmental Issues <ul style="list-style-type: none"> Crop failures force families to leave farmland. Many move to towns, creating unplanned settlements on city edges. Conflicts rise over land ownership and water rights.

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Kathuli Union is positioned in the Growth (r) phase of the adaptive cycle. The population is steadily rising, with livelihoods diversifying beyond farming into business, labor, and service activities, reflecting a gradual shift from agrarian dependence. Semi-pucca housing dominates, supported by pucca and katcha structures, while vertical growth remains very limited. Transport continues to rely on walking, cycles, and motorcycles, with negligible bus use, highlighting both affordability constraints and infrastructure gaps. Agriculture still occupies the majority of land, though small portions are used for commercial and mixed functions, indicating early diversification. Limited administrative space points to weak institutional capacity, suggesting that while the union is advancing in growth, it remains at an early stage with significant needs in infrastructure, governance, and social services.

Adaptive Cycle Phase	Problem arises in Kathuli Union	Planning Intervention	Implementation Authority
Growth (r)	<ul style="list-style-type: none"> • Need recreational space at Kutubpur primary school area (<i>PRA</i>) • Proposal for a Park at Noapara Club area (<i>PRA</i>) • Road reappearing in village area of Kathuli union (<i>PRA</i>) • Water logging problems (<i>PRA, Socio-Economic Data</i>) • Poor communication system / road repairing needed / poor road condition (<i>PRA, Socio-Economic Data, Newspaper</i>) • No sewerage system (<i>Socio-Economic Data</i>) • No park or playground (<i>Socio-Economic Data</i>) • No mandir (religious facility) (<i>Socio-Economic Data</i>) • No fire service station nearby (<i>Socio-Economic Data</i>) • Drug-related issues (drug dealer arrested) (<i>Newspaper</i>) • Road safety concerns (accidents reported) (<i>Newspaper</i>) 	<ul style="list-style-type: none"> • Safe drinking water: Install/maintain tube-wells, promote rainwater harvesting. • Health: Strengthen community clinics, arrange mobile health camps. • Water logging: Improve local drainage canals and roadside drains. • Roads/communication: Repair pucca/HBB roads, construct small culverts. • Sanitation: Promote low-cost sanitary latrines through Union Parishad/NGOs. • Recreation: Use Kutubpur primary school beside area or Noapara club area as recreational place or park. • Drug issues: Awareness campaigns and community vigilance groups. • Road safety: Speed breakers in busy spots, awareness programs, traffic enforcement. 	In the rural context of Bangladesh, implementing authorities include Union Parishad, Upazila Parishad, LGED with support from NGOs and community organizations. Together they address infrastructure, agriculture, health, education, employment, and law-and-order issues.