

Human Settlement Planning & Development

BHUTAN



November 07, 2023



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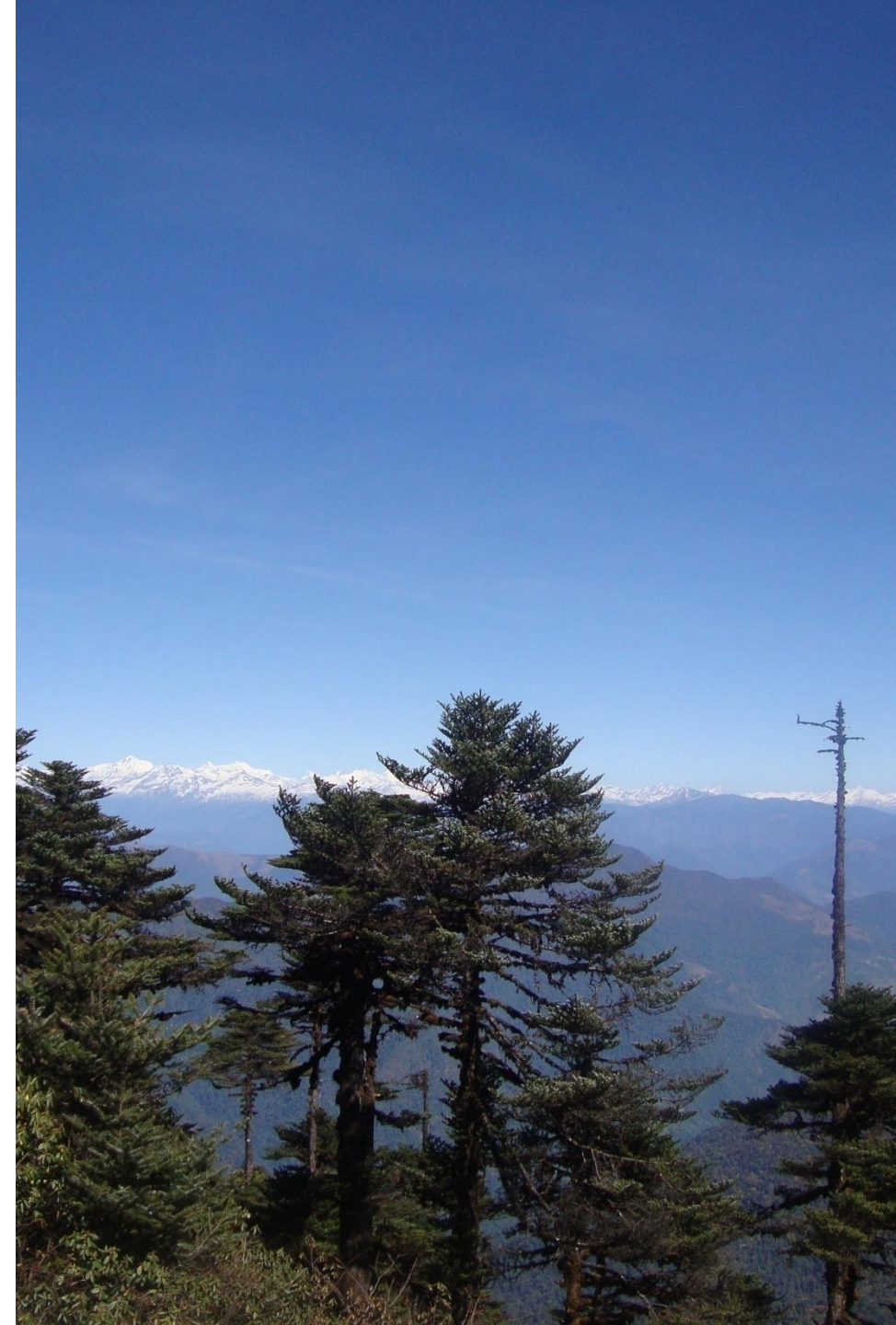


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Planning output

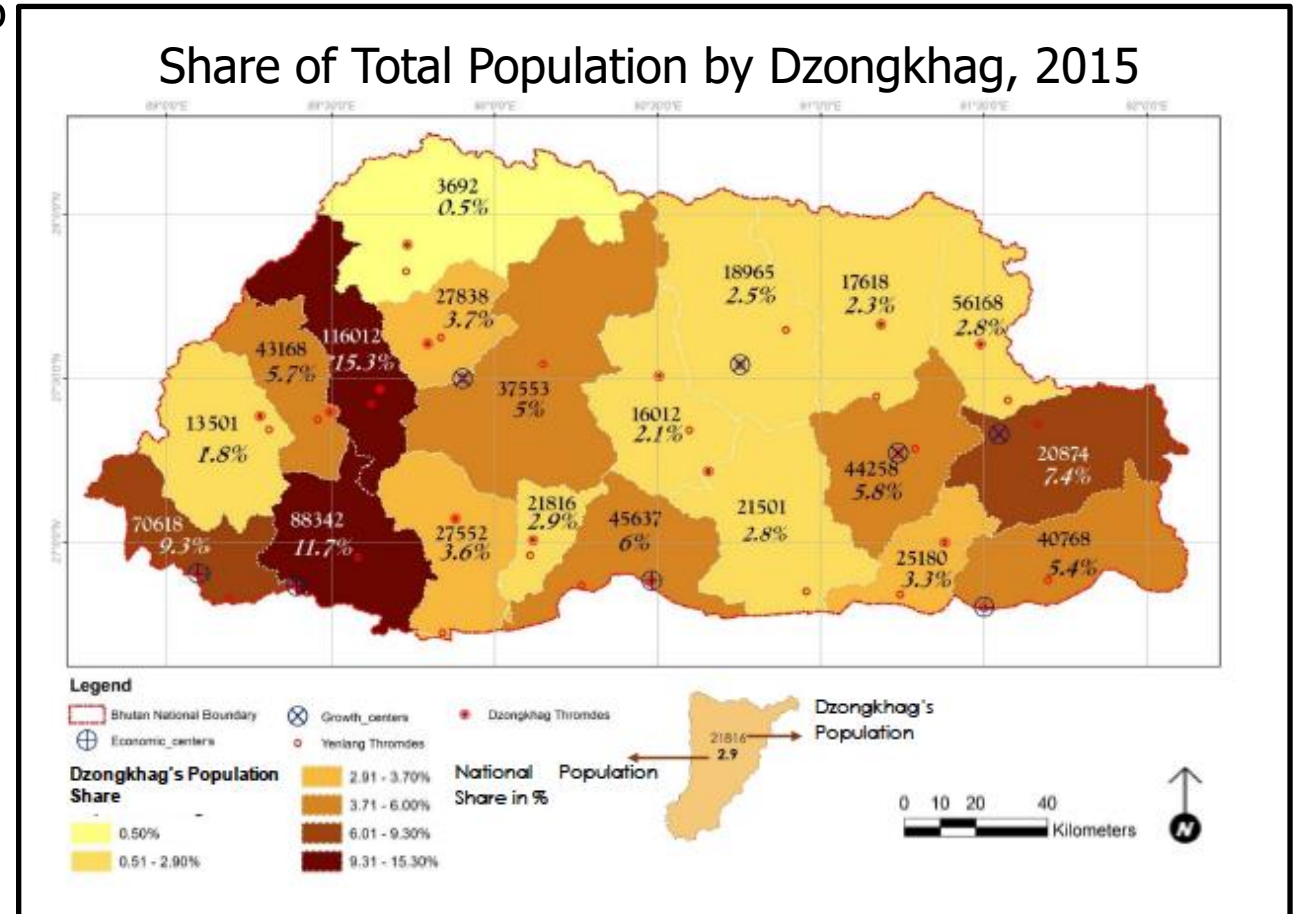
Background

- Bhutan is blessed with a rich natural environment and a beautiful built environment which are largely intact because of the exemplary ethics on conservation and preservation.
- But Bhutan is also a fast developing and rapidly urbanizing nation undergoing unprecedented socio-economic change and progress.
- These changes result in competing demand for land, resources and infrastructure services and need to be managed carefully.
- Main challenges are rural-urban migration, increased pressure on resources, climate change induced risks, housing shortage and increased exposure to disaster risks.
- These challenges are related to and have implications for the development of human settlements and on the cultural landscape of Bhutan.



Cities are becoming hubs for people and the economy

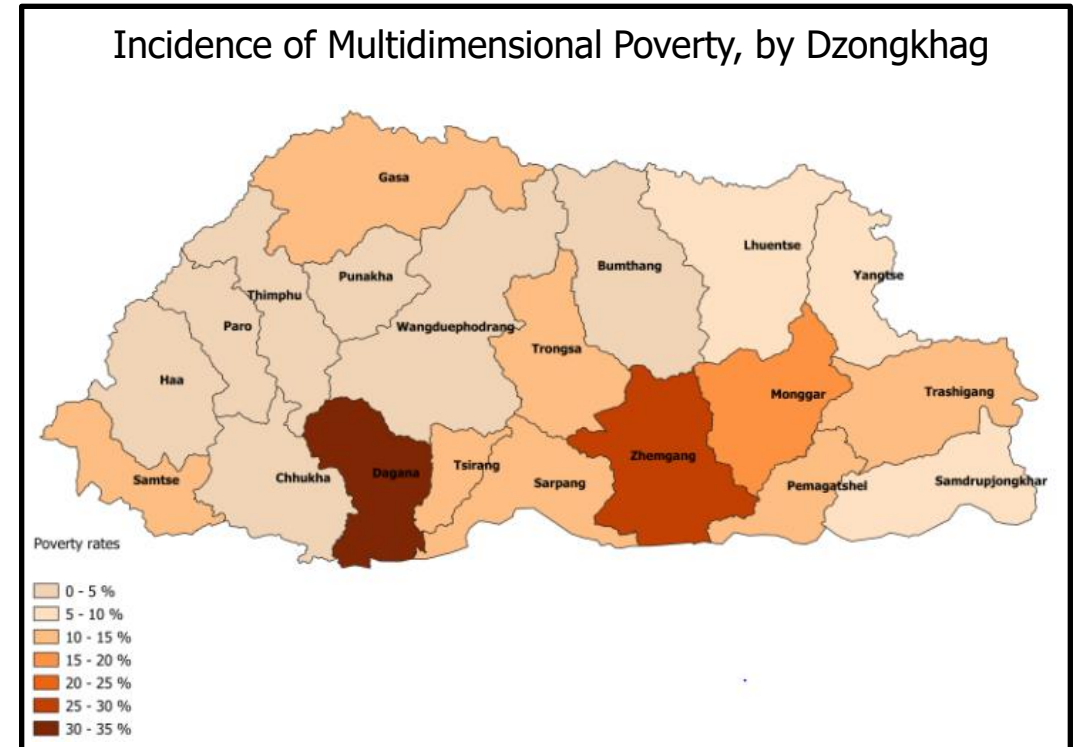
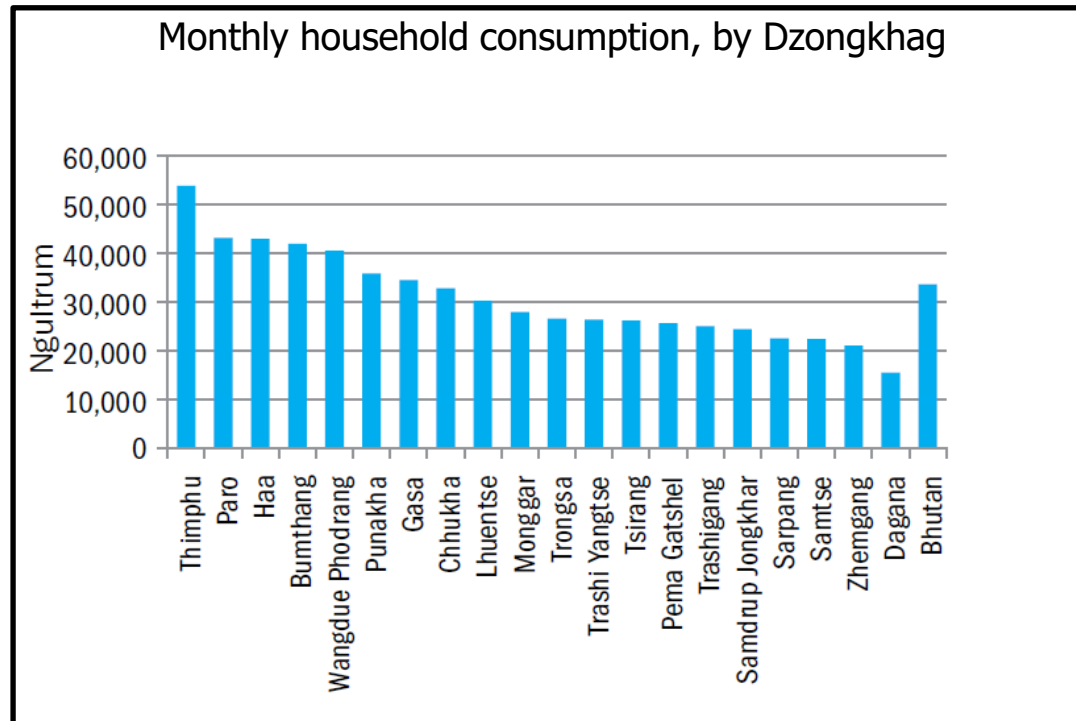
- Urban population is 38.7% today, expected to be 50% by 2025, has growth rate twice national rate
- Main population gains are in Thimphu Dzongkhag, and Phuentsholing and Thimphu Thromdes
- Main population losses are in Zhemgang, Lhuentse, Trashigang Dzongkhags
- Regionally, people migrating from eastern, central western, and central eastern to western Bhutan



Source: Bhutan Urban Policy Note, 2018

Cities are becoming hubs for people and the economy

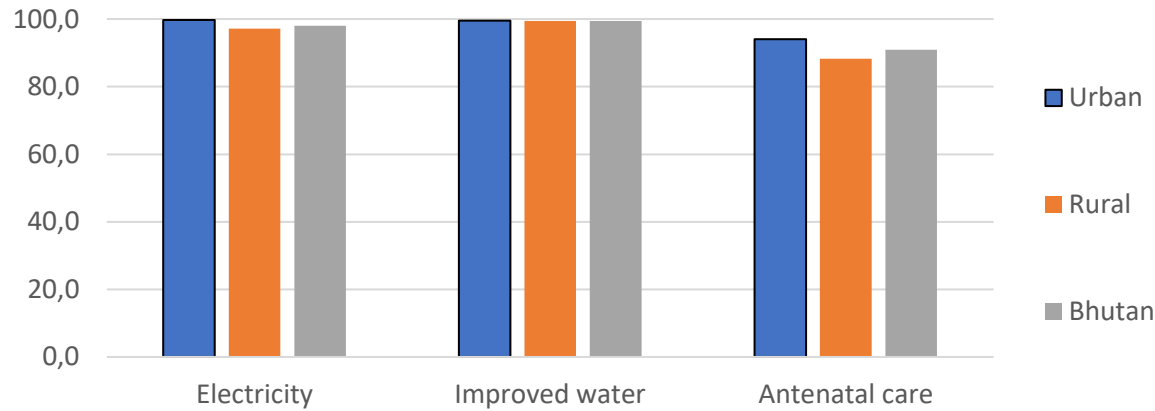
- Secondary and tertiary sectors constitute 87% of GDP, 42% of employment and is rising
- Urban household consumption is nearly double of rural household consumption



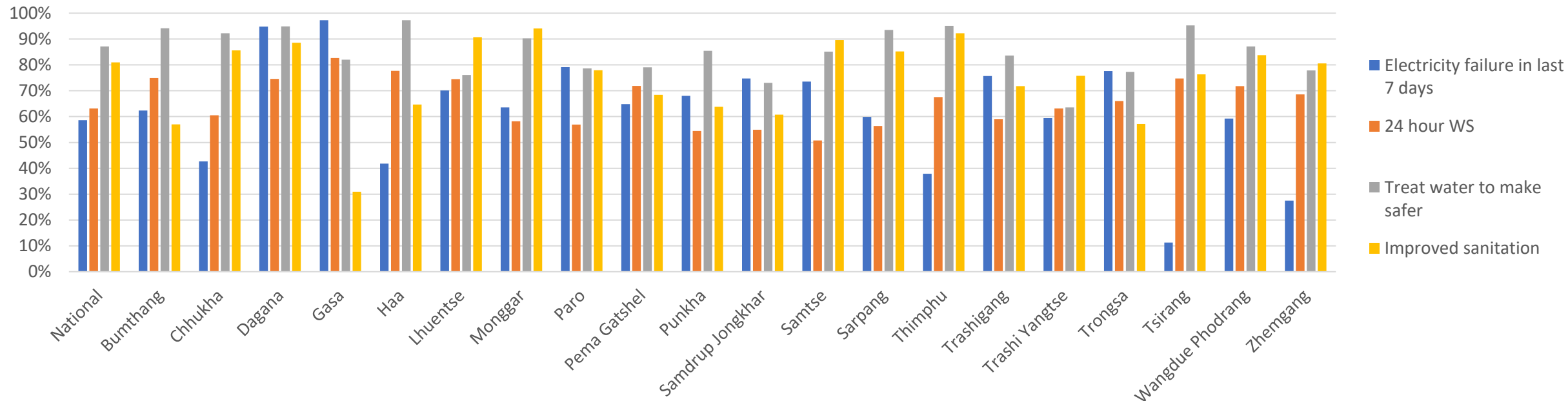
- Poverty is concentrated in south and central rural areas: urban Paro (0.3%) vs. rural Dagana (33%)

Source: Bhutan Urban Policy Note, 2018

Despite overall gains, regional inequalities remain



While Service Coverage is Balanced Across Urban and Rural, Quality Varies Widely Across Regions



Source: Bhutan Urban Policy Note, 2018

URBANIZATION & ITS CHALLENGES

- Urban poverty is increasing from 1.9% (2007) to 4.6% (2012)
- Rising urban unemployment, especially among youth, is concern for national and local governments
- Owner-occupied housing is 78% in rural but <16% in urban, while 10% of Thimphu residents live in informal settlements
- Fastest growing Thromdes facing infrastructure, services, institutional, fiscal, human challenges
- Rapid growth around Thromdes w/o adequate transport corridors create sprawl and congestion
- Rising exposure to disasters from unplanned growth and lack of a systemic approach to urban resilience







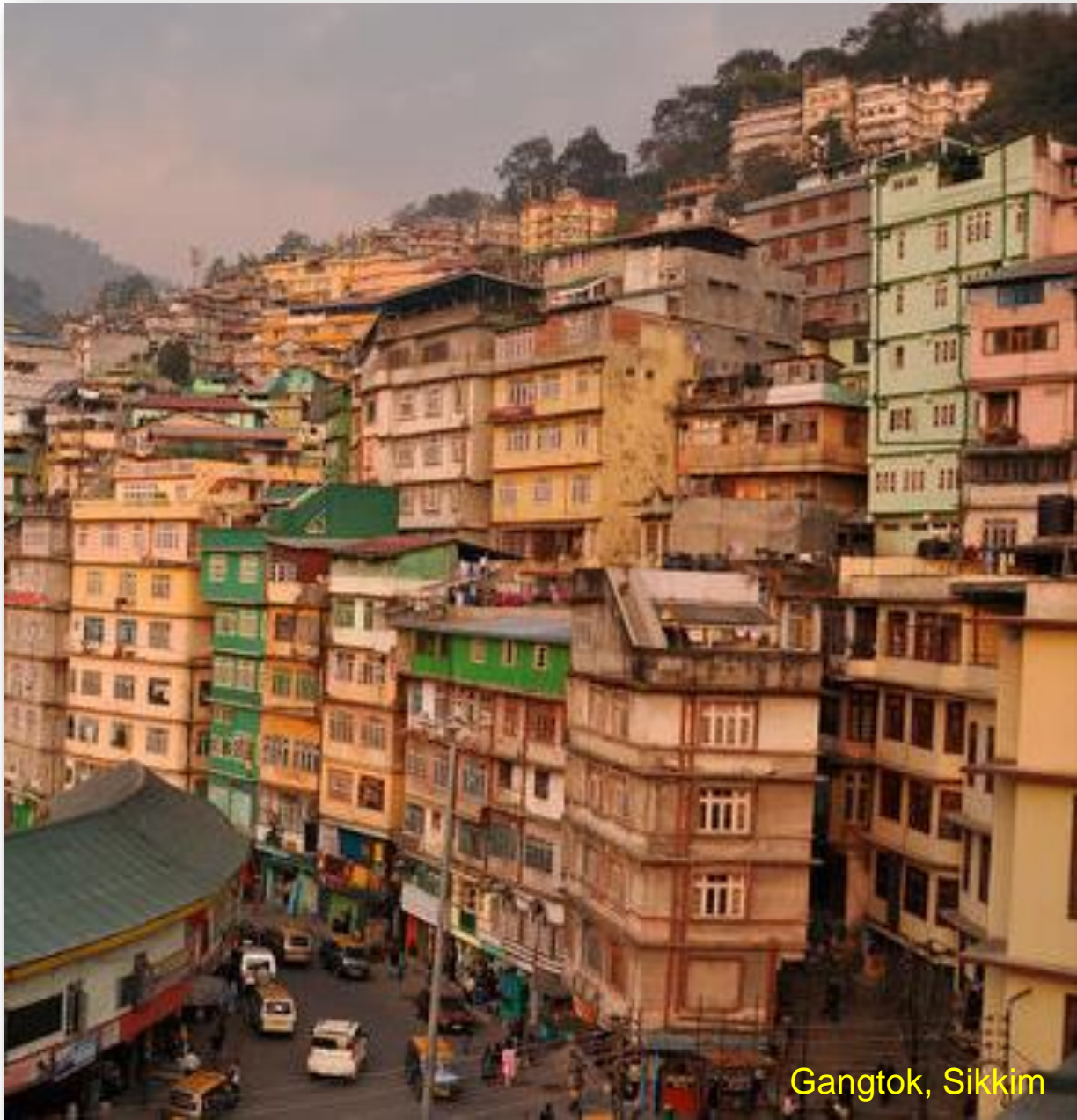




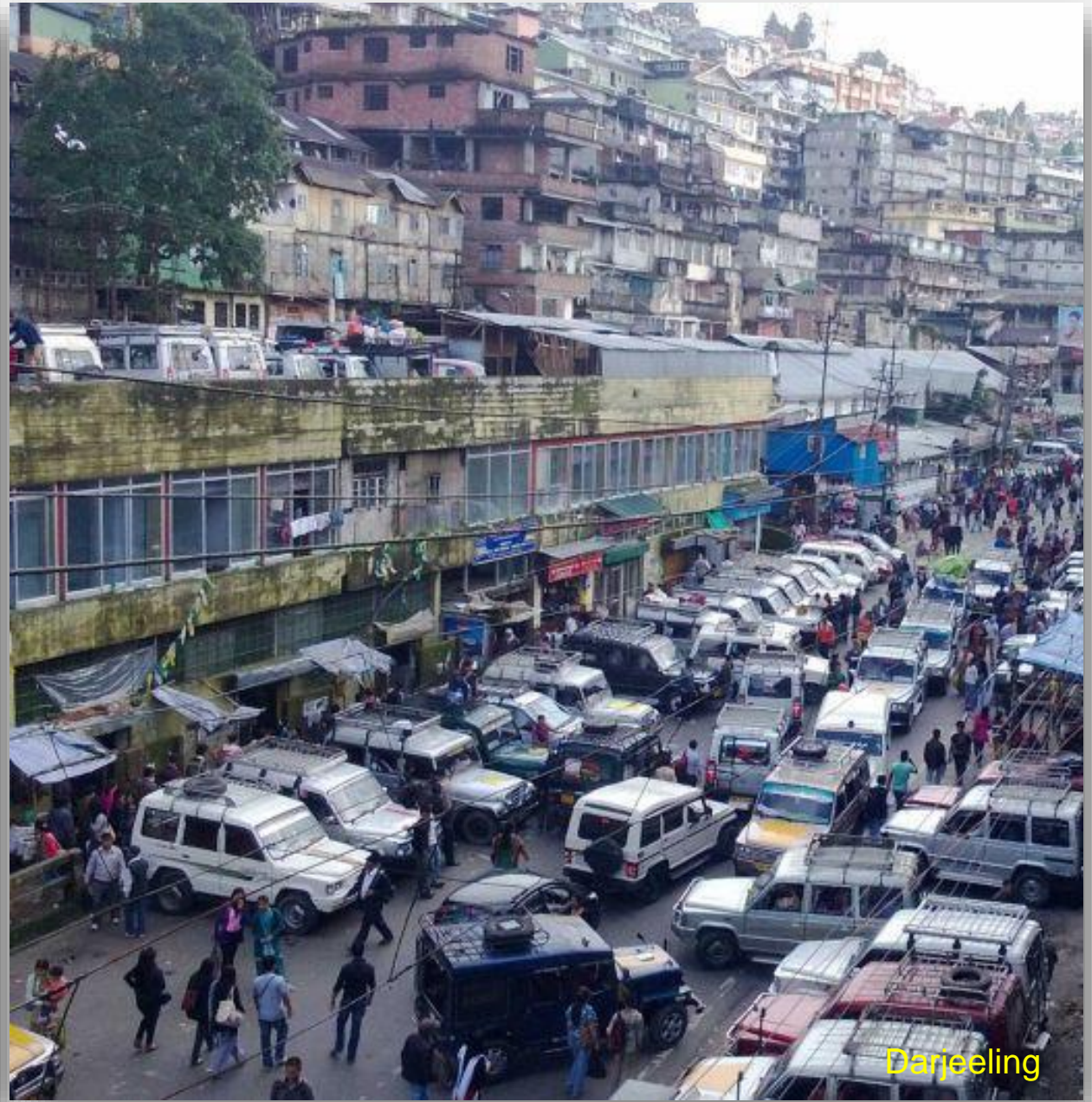
Changjiji - Lungtenphu



Changjiji-Olakha

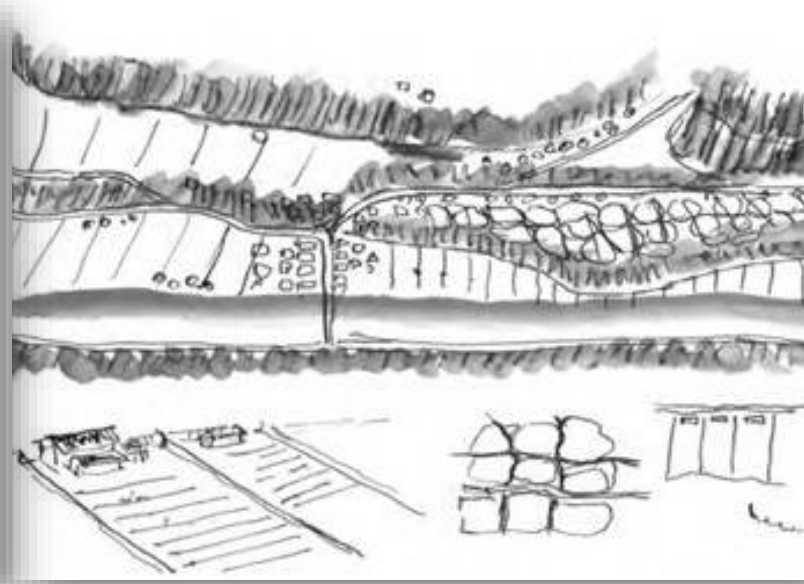
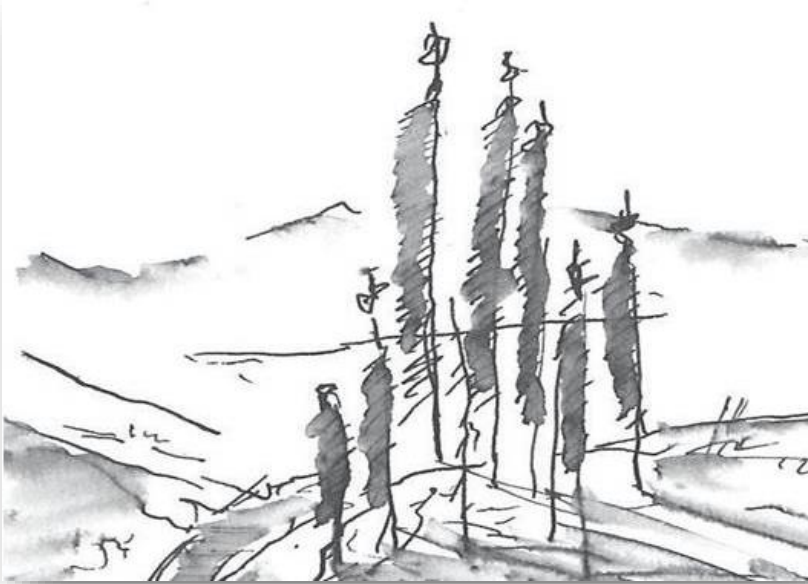


Gangtok, Sikkim



Darjeeling

Cultural landscape = Identity



spiritual landscape



agricultural landscape



social landscape



Planning movements & concepts

Concepts	Core principles
Garden Cities	Self-contained communities surrounded by greenbelts containing proportionate areas of residences, industry and agriculture, initiated in 1898 by Ebenezer Howard in the UK.
City Beautiful	Reform philosophy of North American architecture and urban planning during the 1890s and 1900s with the intent of introducing beautification and monumental grandeur in cities.
Compact Cities	Urban planning and urban design concept which promotes relatively high residential density with mixed land uses.
New Urbanism	Urban design movement which promotes environmentally friendly habits by creating walkable neighborhoods containing a wide range of housing and job types.
Urban Renewal	Program of land redevelopment in areas of moderate to high density urban land use.
Eco-Cities	Places where people can live healthier and economically productive lives while reducing their impact on the environment.
Smart Growth	Building urban, suburban and rural communities with housing and transportation choices near jobs, shops and schools.
Green Urbanism	Urban design model for zero-emission and zero-waste, which arose in the 1990s.
Smart Cities	Urban development vision to integrate multiple information and communication solutions in a secure fashion to manage a city's assets.

Practice in Bhutan

- Urban planning and development in Bhutan has been greatly influenced by the concept of sustainable development pursued in in the country.
- Thimphu Structure Plan proposes a set of nine principles postulating:
 - a balance with nature, a balance with tradition, conviviality, efficiency, human scale, opportunity matrix, regional integration, balanced movement and institutional integrity
- For Bhutan, the Four Pillars of GNH provide guiding principles for its urban planning and development.



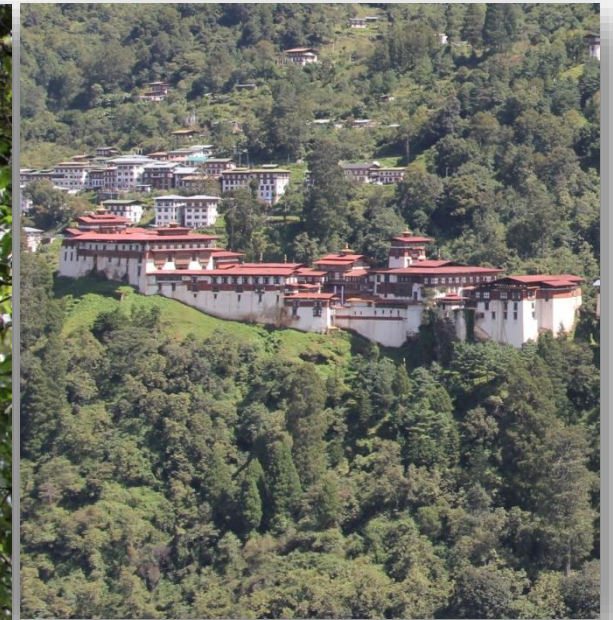
Socio-economic
Development



Preservation of Culture



Conservation of
Environment



Good Governance

Planning principles

- Clear delineation between the settlement and non-settlement areas.
- Preserve the sacred, historic and cultural sites and structures.
- No settlement in the disaster risks areas (GLOF, flood, landslide, steep slopes, etc).
- Preserve the existing agriculture areas, particularly chuzhing for local food supply and cultural landscape scenery.
- Provide opportunities for different economies, employment and livelihood.
- Promote clusters of settlements scattered over the landscape (as opposed to contiguous developments).



Planning objectives

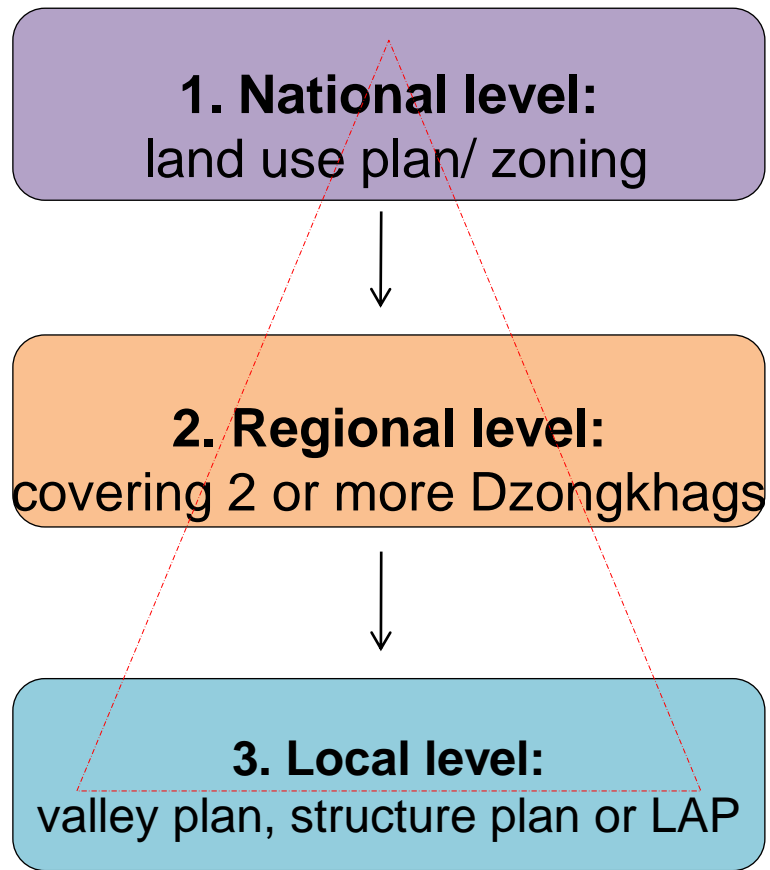
People in a community have certain needs and aspirations regarding their life styles from which arise issues of individual versus broader community desires. Planning is needed to meet the varied needs of the community in a way that makes the best and the fairest use of the available resources.

- Objectives of planning are to:
- Address bad neighbour effect of industrial development, high levels of population density & urbanisation, etc.
- Protect 'public interest' from minority interests.
- Ensure land uses are functionally efficient.
- Protect the natural environment from development.
- Ensure human settlements are safe & liveable.
- Protect future generations' - important stakeholders who cannot represent themselves today.

Legal framework for spatial planning

- Urban planning and development is fairly new development in Bhutan, particularly with regard to legal instruments, institutional arrangements and administrative set-up.
 - In the absence of specific legislation, urban planning takes support of Local Government Act 2009 and the Land Act 2007.
 - Existing regulations related to human settlements include the Bhutan building Rules 2002, Land Pooling Rules 2009 and the Rural Construction Rules 2013.
 - Currently there is no policy document specific to human settlement. Bhutan National Urbanization Strategy 2008 also covers only the urban areas (MoWHS).
-
- The draft National Human Settlements Policy formulated by the Ministry of Works and Human Settlement has been submitted to the Gross National Happiness Commission.
 - Spatial Planning Act that sets the overall framework for urban planning and the National Human Settlements Strategy that identifies the potential human settlement areas and the necessary supporting action are being drafted by the Ministry of Works and Human Settlement.

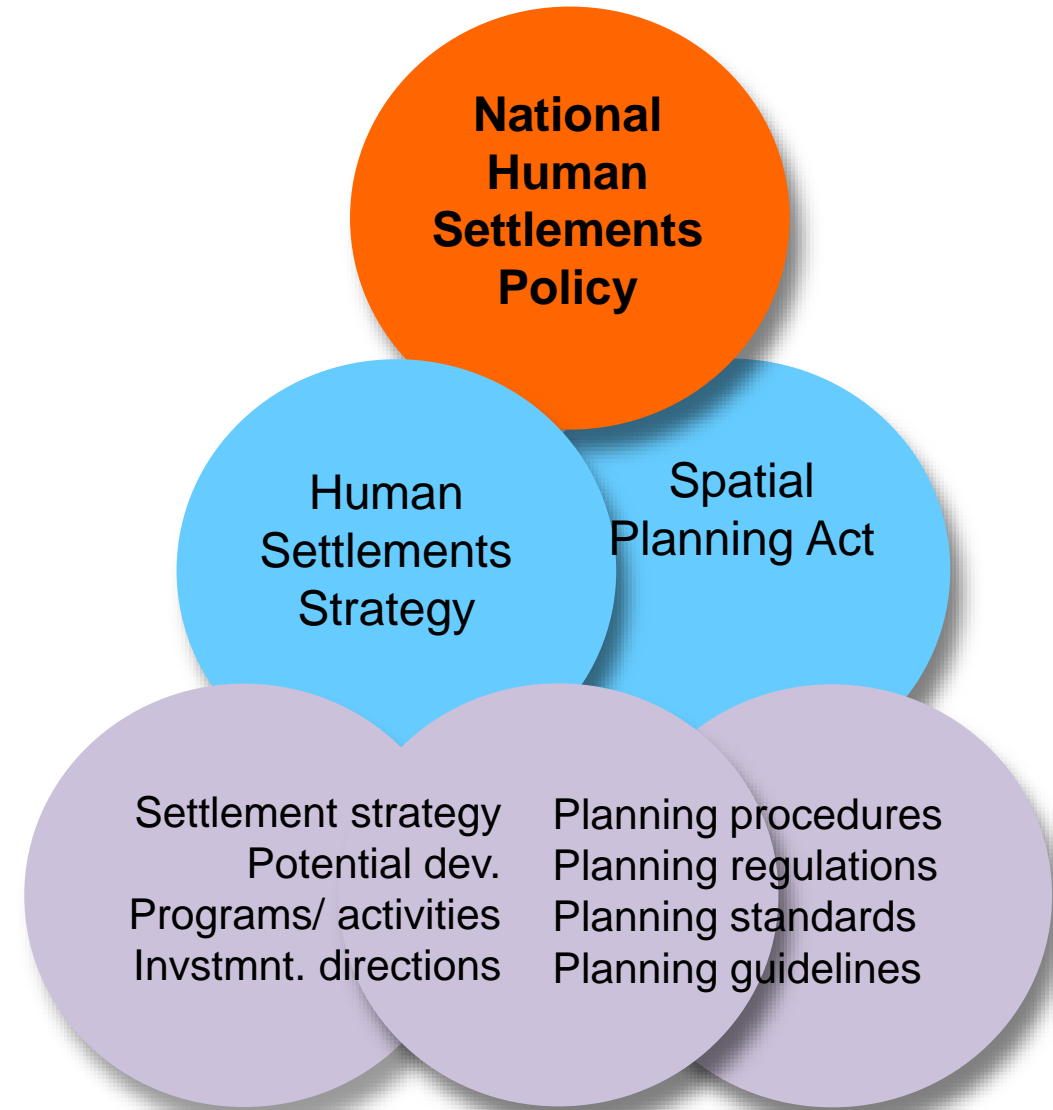
Institutional framework



↓ Order of precedence (planning sequence)

△ Order of priority (plan provisions)

Legal framework

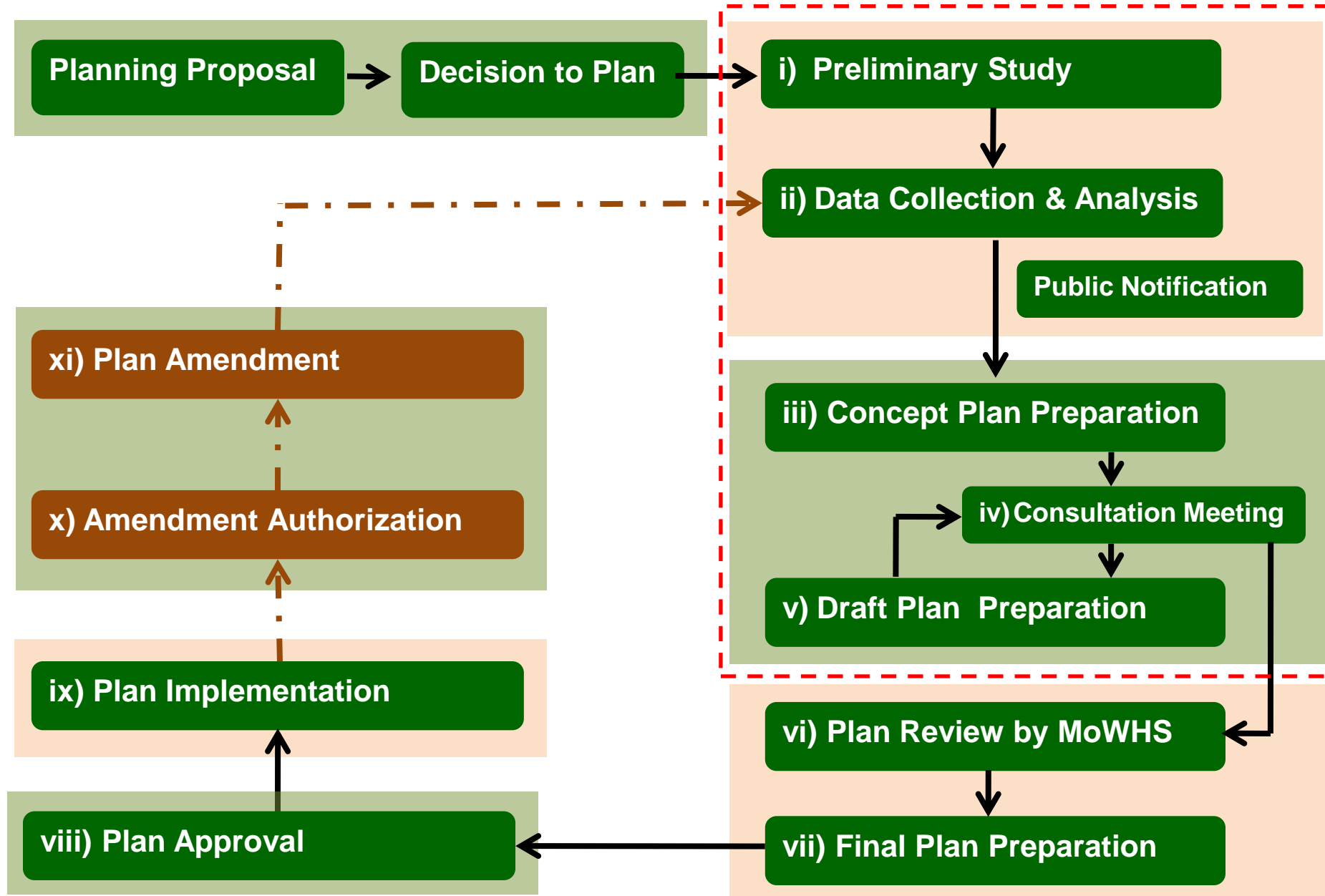
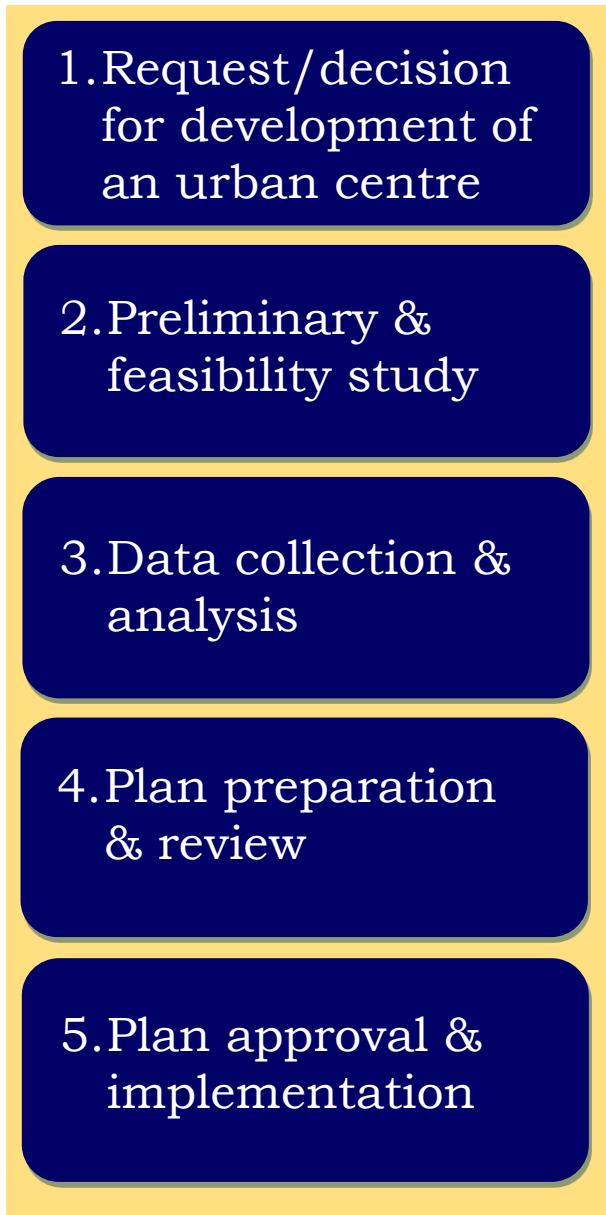


Levels & Types of plans

- Draft National Human Settlement Policy and the draft Spatial Planning Act propose a 3-tier planning system where a lower level plan must give due consideration to a higher level plan.
- National and regional spatial plans are strategic in nature providing overall development guidance while the local level plans, comprising of valley development, structure and/or local area plans, have regulatory effect.

Levels	Type s	Effect	Types	Description
1. National	National spatial plan land use/ zoning plan	Strategic	Valley development plan	Development plans at the valley level to ensure integrated development of an urban centre and its hinterland.
2. Regional	Regional spatial plans covering > 1 Dzongkhag	Strategic	Structure plan	Broad land use plans and regulations with the development potentials, objectives and strategies outlining the main precincts & infrastructure layout
3. Dzongkhag	Local level plans Valley development plan Structure plan Local area plan	Regulatory	Local area plan	Detailed plot level plans, ready for implementation (with implications for individual landowners especially in land pooling schemes)

Planning process





Planning system

Previously most urban development plans were prepared as Master Plans though it was not clearly stated. Since preparation of Thimphu Structure Plan that was adopted 2002, plans are prepared as Structure Plans.

Master plan system	Structure plan system
Rational allocation of land uses	Broad research based analysis of drivers
Concept of zoning paramount	Shift of emphasis away from physical land use
A physical blueprint which can be worked towards	No use of maps, only schematic spatial diagrams
Fixed goals and land uses	Able to respond to changing circumstances
Zones	Precincts
HIG, MIG, LIG	Mixed uses

In terms of nomenclature there is shift from urban development plans to human settlement plans to reflect the additional mandate, to plan for rural areas, given to the Department and the change in planning approach that includes valley development plans, regional hub plans and the national and regional plans proposed.

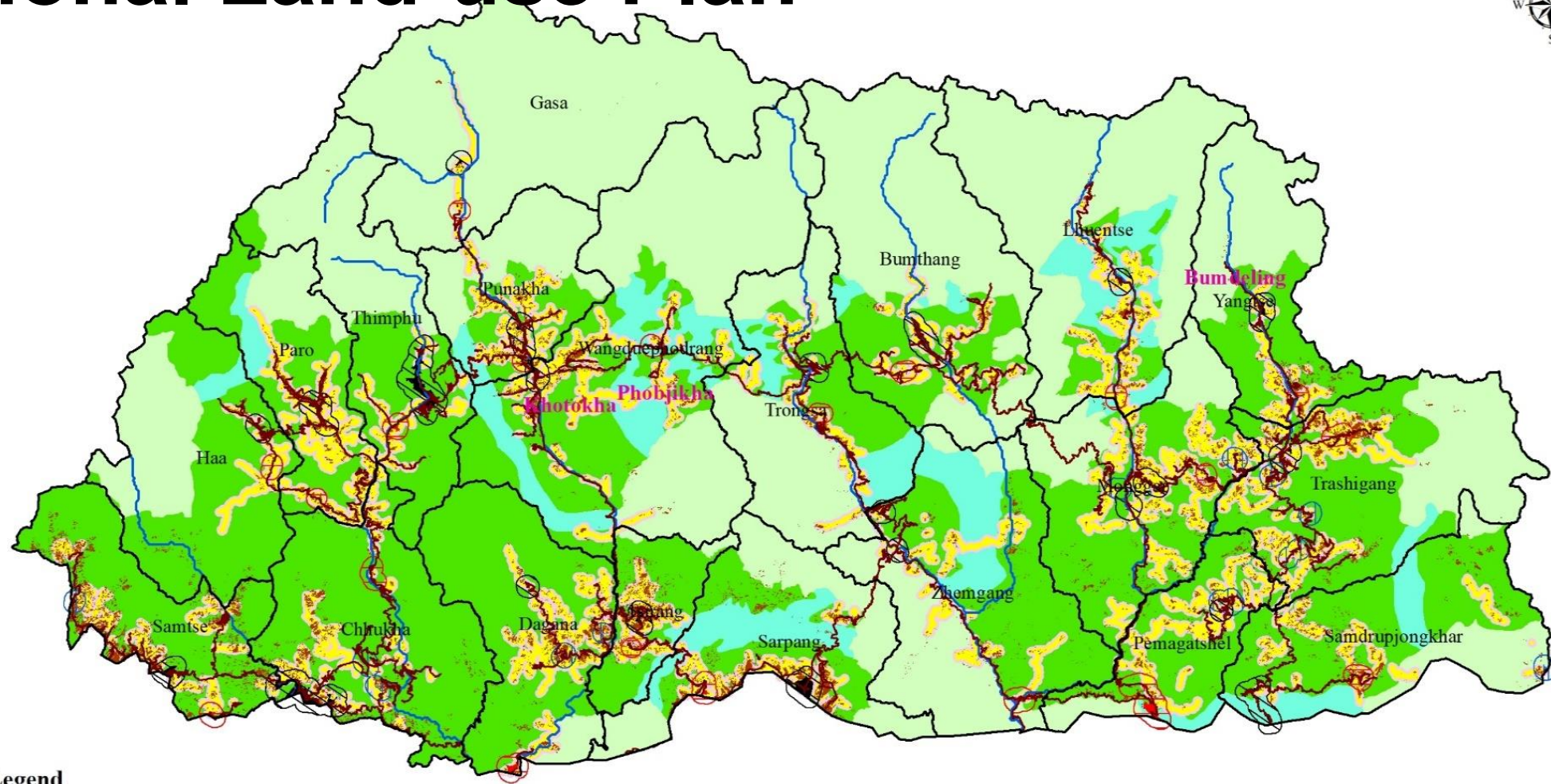
Land mobilization mechanisms

Mechanism	Description	Examples
Land acquisition	<ul style="list-style-type: none"> ❖ Land for urban development is mobilized through acquisition, serviced with infrastructure and allotted to business license holders. 	<p>Khuruthang, Bajothang, Trashiyangtse, Tshongdu (Dagana,)</p>
Land pooling	<ul style="list-style-type: none"> ❖ Every landowner contributes a percentage of their land for provision of common facilities and infrastructure services and retain the remaining portions. ❖ The basic principle is that while the plot areas are reduced, the overall value remains equal or is increased after the land pooling scheme is implemented. 	<p>Rangjung, LAPs in Thimphu, Gelephu, Samdrupjongkhar & Samtse</p>
Combined model	<ul style="list-style-type: none"> ❖ A combination of land acquisition and pooling mechanisms, used mainly where the contribution ratio exceeds the 30% permitted by the Land Pooling Rules 2009. ❖ When a town is relocated, the eligible candidates are allotted one plot each while the remaining plots are redistributed to the original landowners in proportion to their landholdings. 	<p>Duksum, Denchi</p>

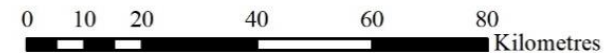
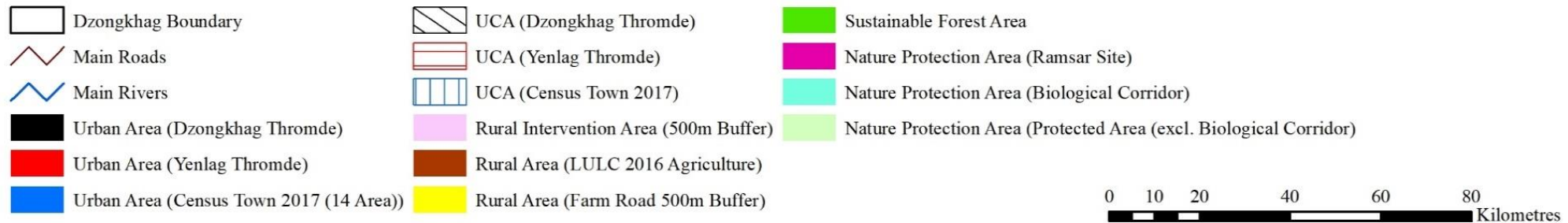
Planning outputs

Outputs	Descriptions
Plans	<ul style="list-style-type: none">❖ A framework for the coordinated provision and arrangement of future land use, subdivision and development including provision of public amenities, infrastructure services and investment and staging programs.❖ A document that sets out an area's policies and proposals for the development and use of land and buildings in writing and in maps and diagrams.
Development control regulations	<ul style="list-style-type: none">❖ A set of regulations framed as integral part and complementary document to every development plan, it contains mandatory requirements on land use, construction procedure and regulations like plot coverage, building height, etc.
Urban design guidelines	<ul style="list-style-type: none">❖ A set of broad guidelines to help achieve the visions and goals of a development plan and consists of explanatory notes on the objectives and the planning and design principles to be adopted together with images and diagrams.

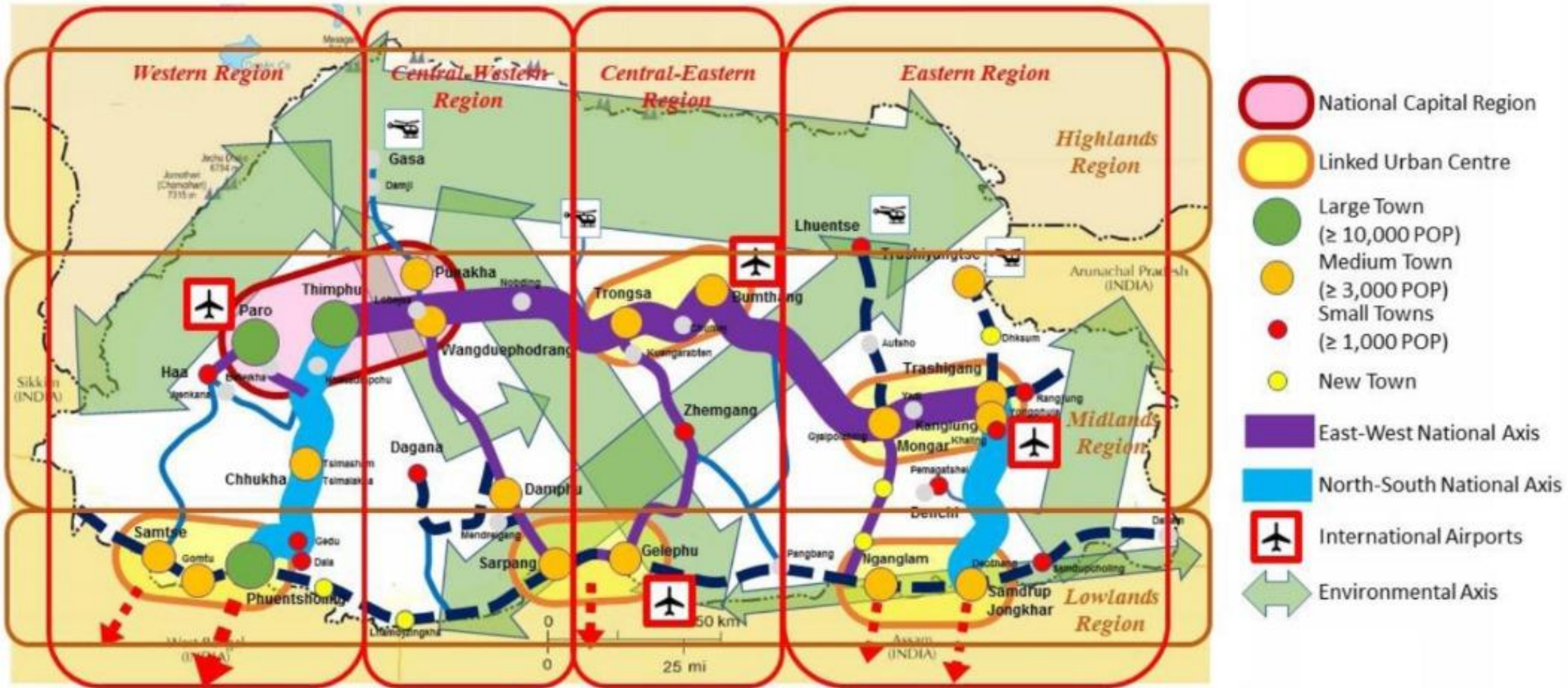
National Land-use Plan

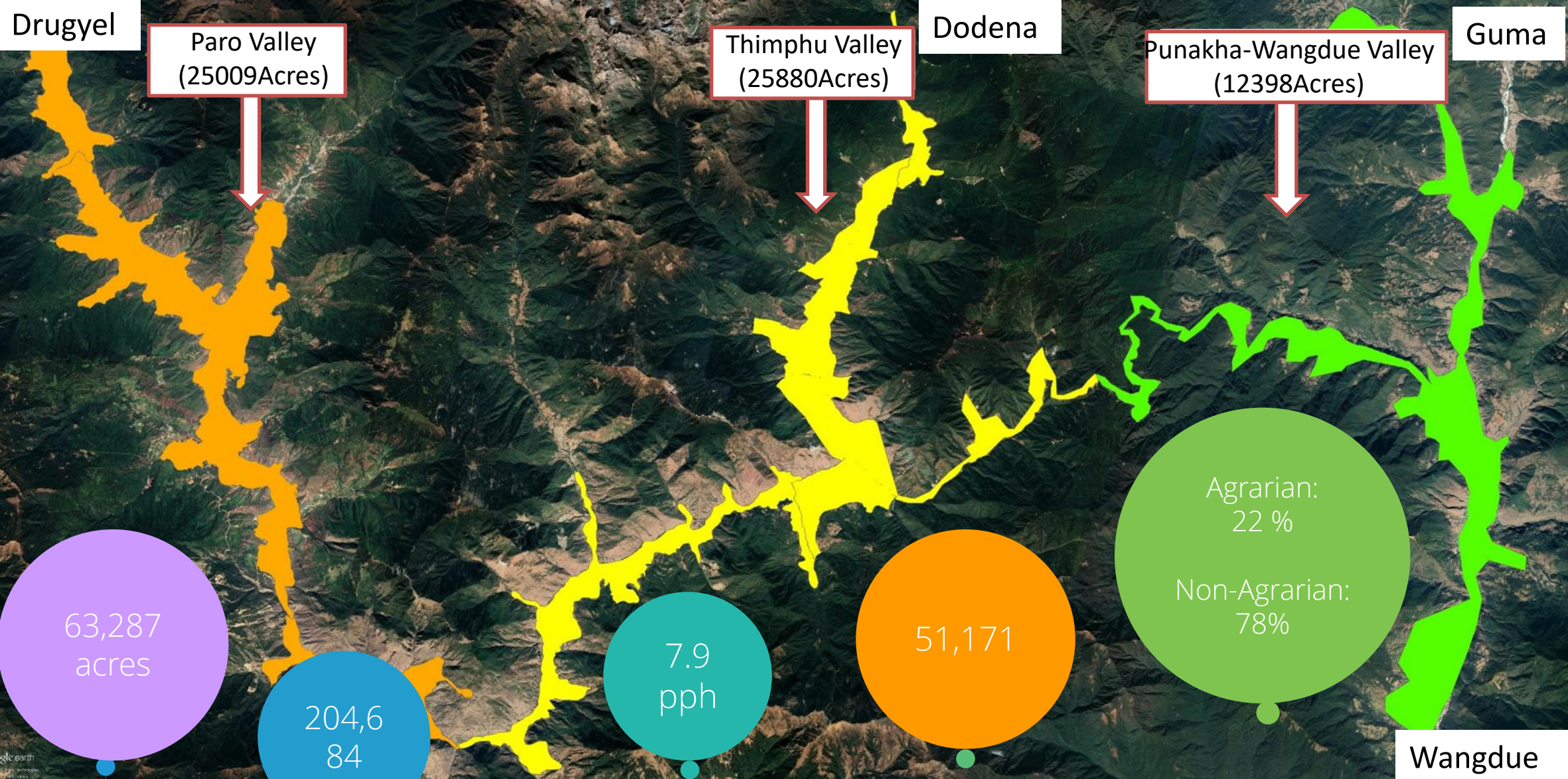


Legend



National Spatial Structure





National Capital Region (NCR)

Area

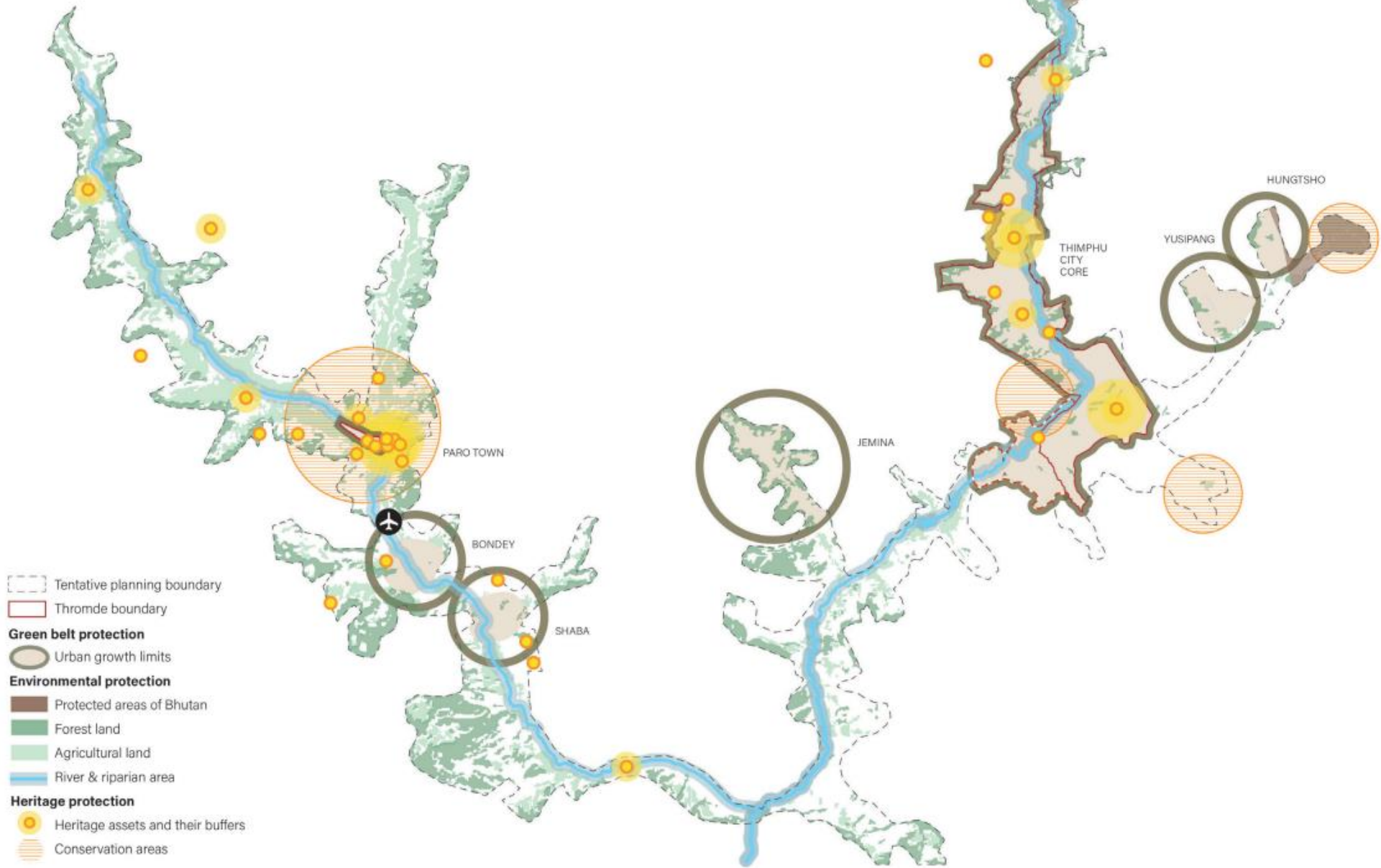
Population

Density

Household

Occupation

Paro Thimphu Regional Plan

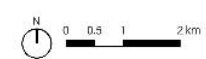
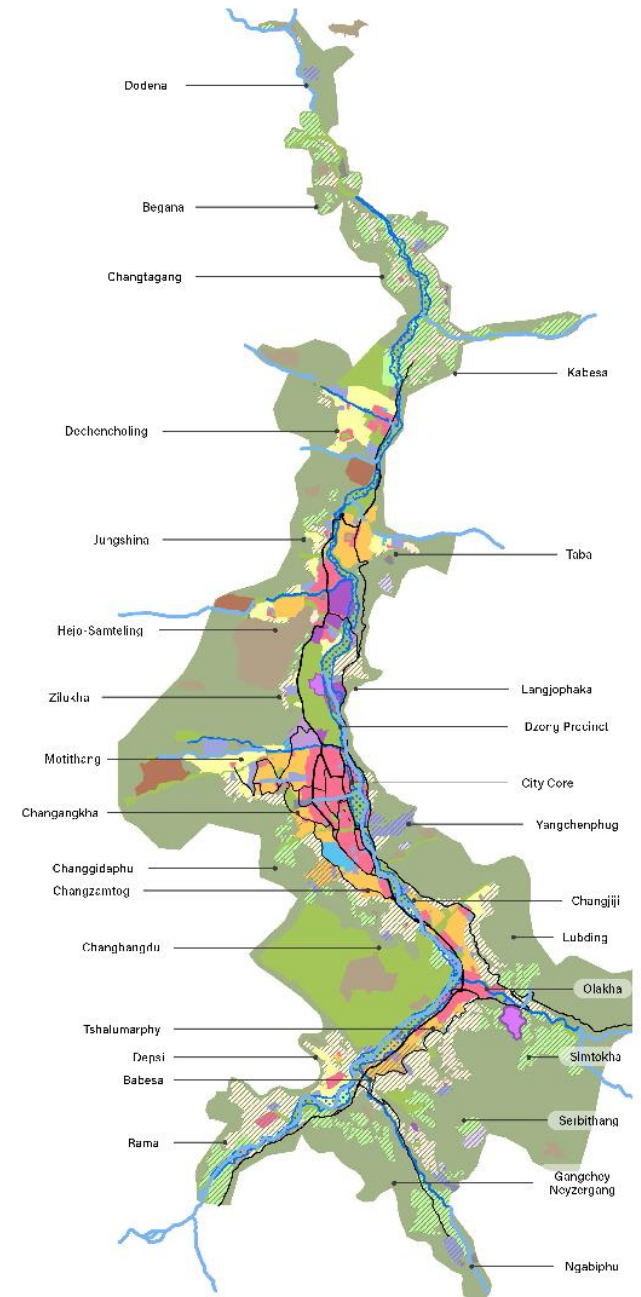


Thimphu Structure Plan

“Good Growth in Right Places”

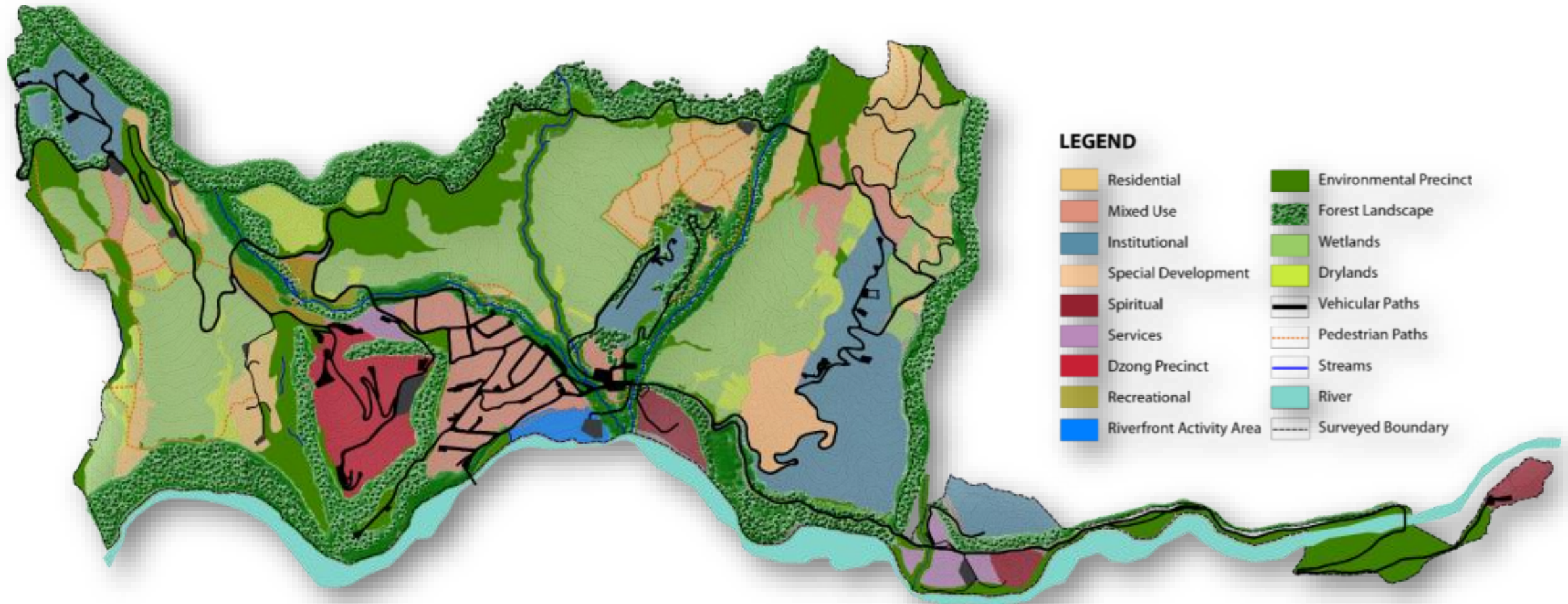


- KEY**
- Natural Environment**
 - Major Rivers and Swamps
 - Roads**
 - Primary
 - Secondary
 - Terraced
 - Geohazard**
 - Flood Hazard
 - Hatched Zone
 - Land Use**
 - Forest
 - Agriculture
 - Open Space
 - Drainage
 - Palace
 - Religious and Heritage
 - Community Facility
 - Healthcare
 - Education
 - Government
 - Workplace
 - Hospitality
 - Mixed Use
 - Residential Urban
 - Residential Suburban
 - Residential Rural
 - Industrial
 - Utilities



Example: Structure Plan - *Trashiyangtse*

- Shows the broad land uses along with the main infrastructure layout.
- 180 acres of chuzhing protected as feeding ground for the black necked cranes (total area = 705 acres).
- Development generally subdued to preserve the cultural landscape and to promote as a traditional town.



Example: Bayling – LAP 1, Trashiyangtse

Central community green area
for outdoor activities

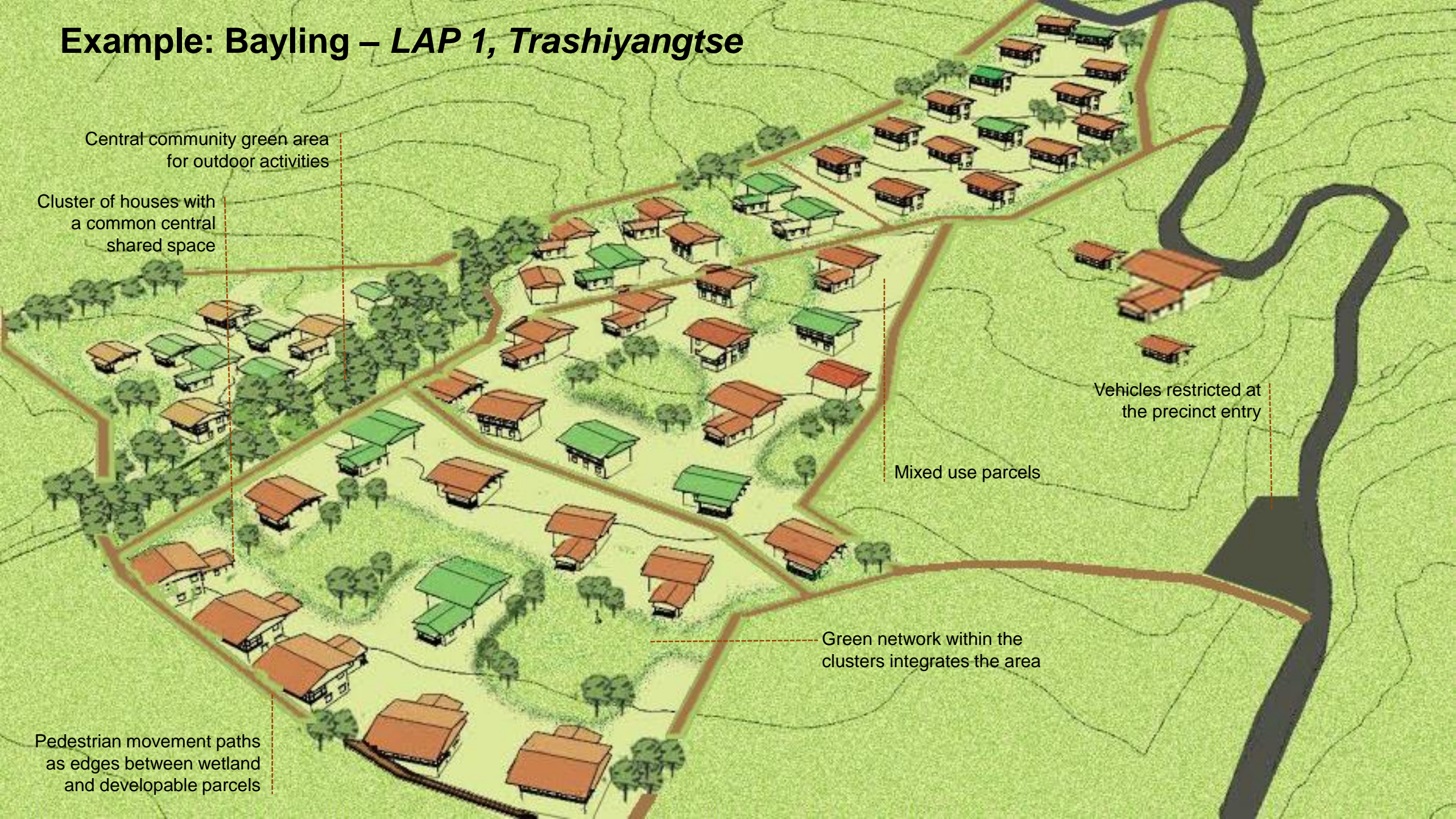
Cluster of houses with
a common central
shared space

Vehicles restricted at
the precinct entry

Mixed use parcels

Green network within the
clusters integrates the area

Pedestrian movement paths
as edges between wetland
and developable parcels



Example: Computer generated models of settlements in LAP 1, *Trashiyangtse*



Emerging trends & approaches

- Urban services and amenities are being provided in all human settlements – Thromdes (city), urban centres and rural settlements based on the stage of development, need and priorities.
- Urban boundaries are fixed generally based on certain features to promote consistency of decision and convenience of management.
- Not all areas within Thromde (city) boundary are open to development. There will be protected zones where no or only limited developments are permitted.
- Issues of urban taxes and withdrawal of rural subsidies from urban areas are addressed through the ‘incentives for management of protected zones’.
- Public discourse and awareness need on many of the issues related to planning and development of human settlements.



In pursuit of continued Peace, Prosperity and Happiness.....





Kadrinchey la!

