



The Project for Formulation  
of Comprehensive Development Plan  
for Bhutan 2030

Volume V  
GIS Atlas

Final Report  
June 2019



Japan International  
Cooperation Agency (JICA)

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Research Institute for Urban &  
Environmental Development, Japan

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EI

JR

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**Ministry of Works and Human Settlement  
(MoWHS)**



**Japan International Cooperation Agency (JICA)**

**The Project for  
Formulation of Comprehensive Development Plan  
for  
Bhutan 2030**

**FINAL REPORT**

**Volume 5: GIS Atlas**

**June 2019**

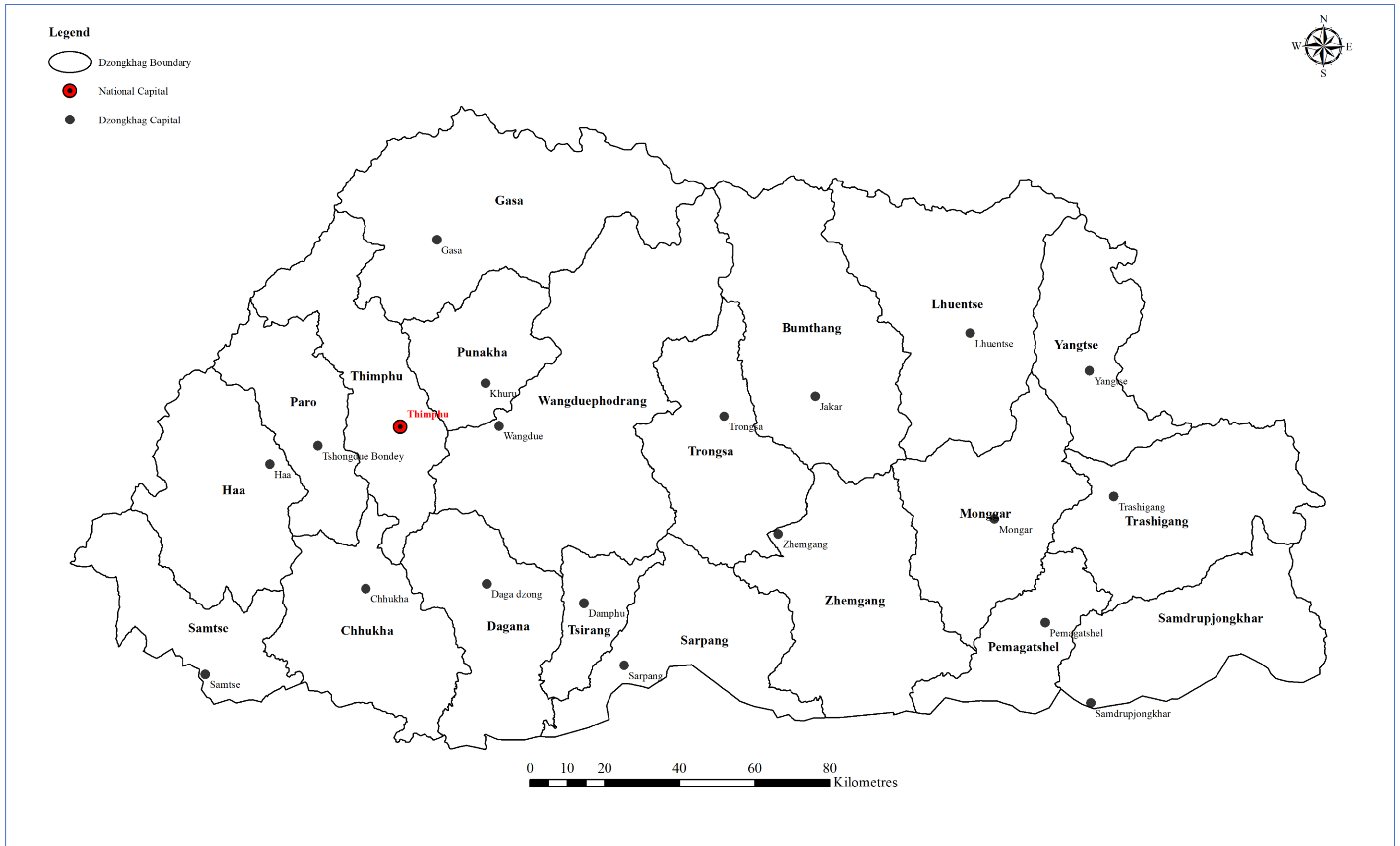
**RECS International Inc.  
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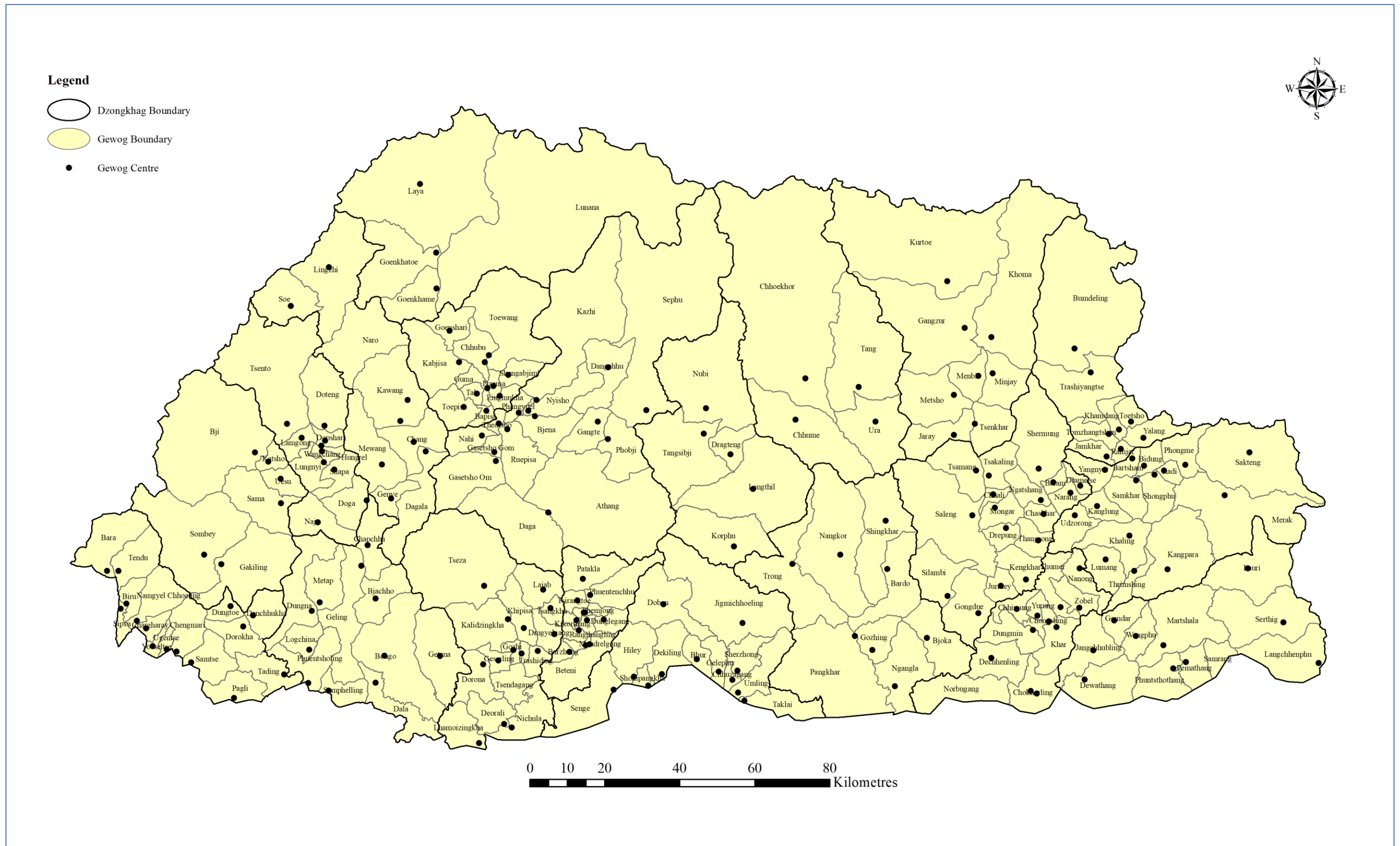




Source: NLC

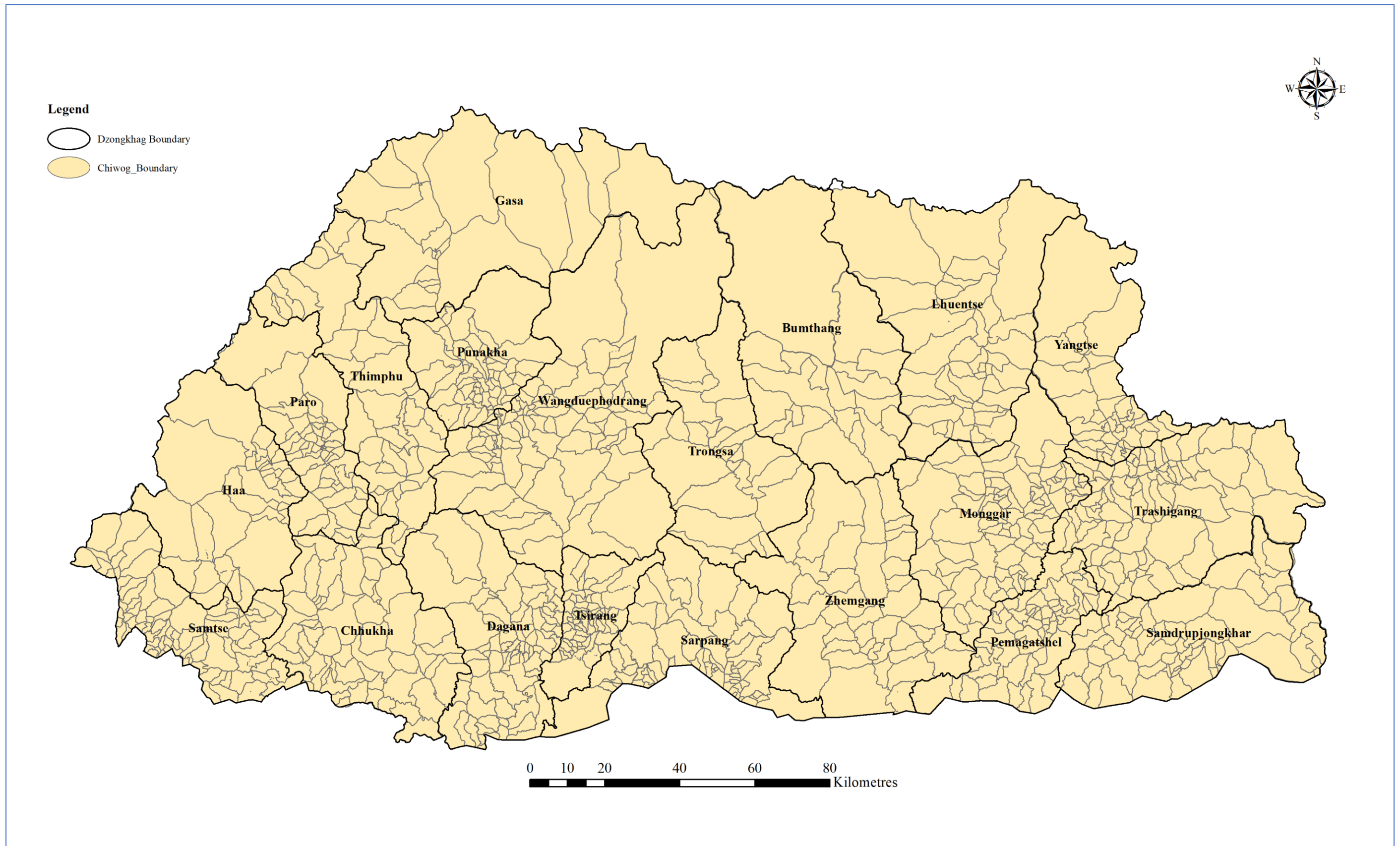
1-1 Dzongkhag Boundary with Capitals





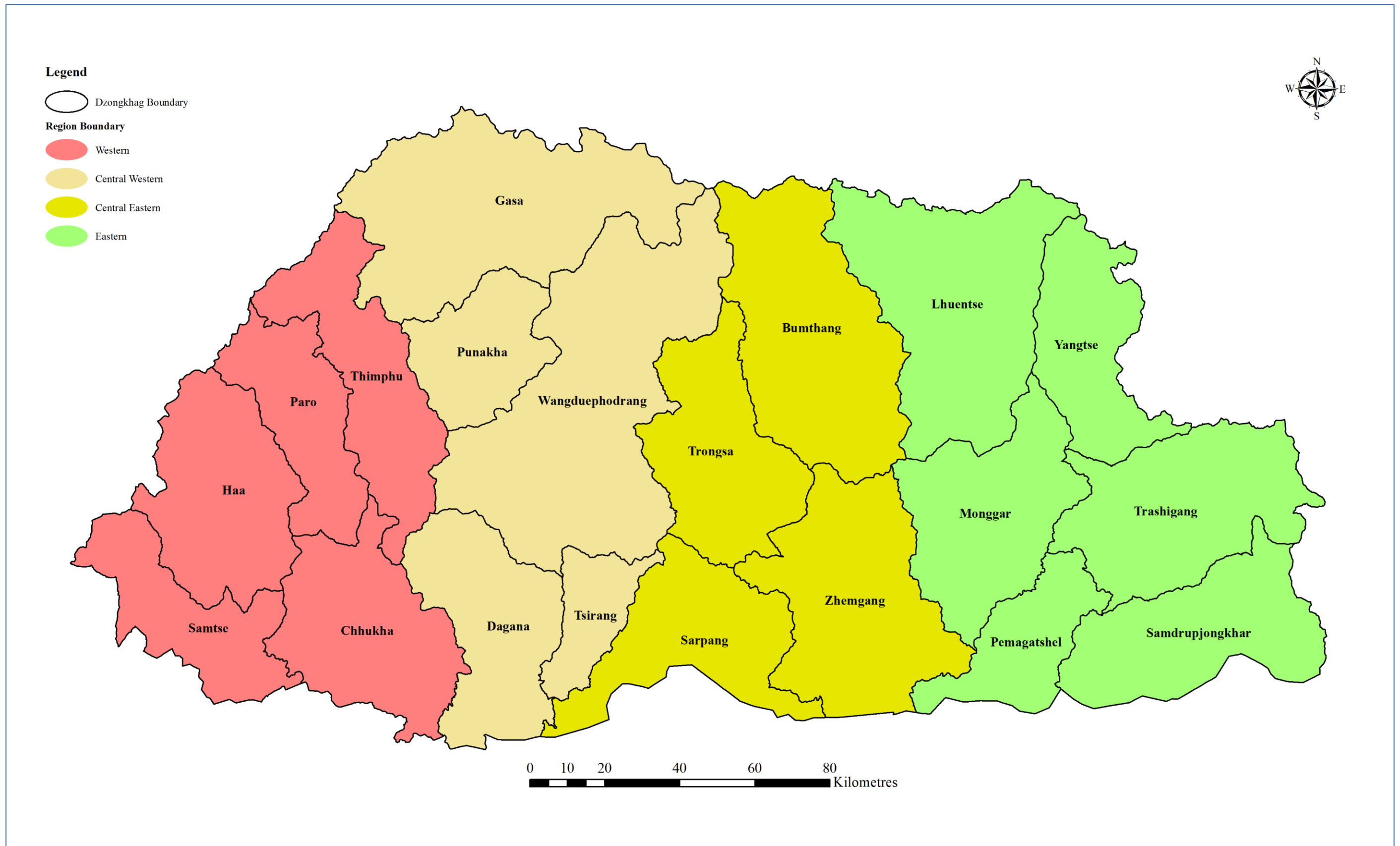
Source: NLC

1-2 Gewog Boundary with Gewog Centres



Source: NLC

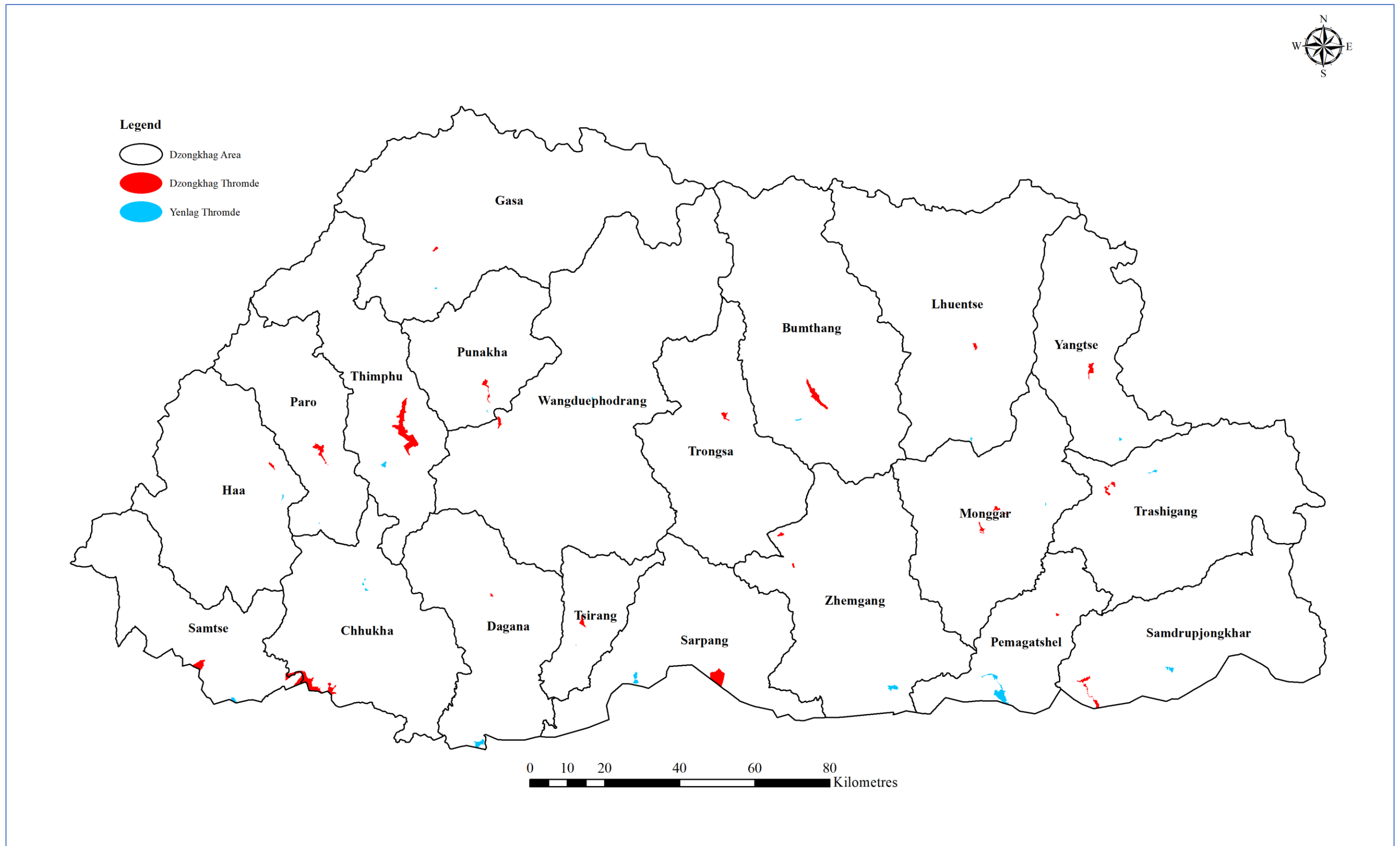
### 1-3 Chiwog Boundary



Source: JICA Project Team

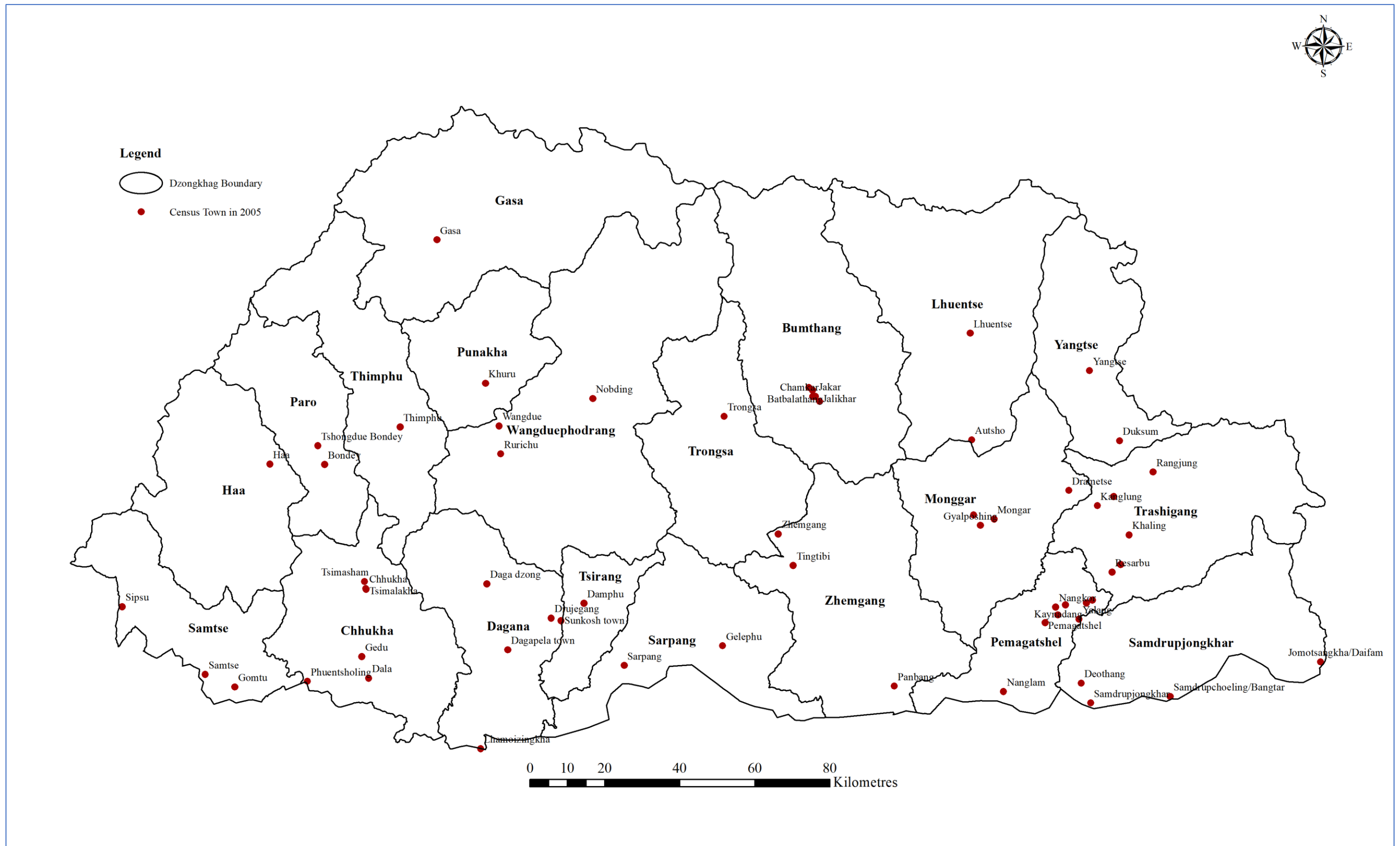
1-4 Regional Boundary





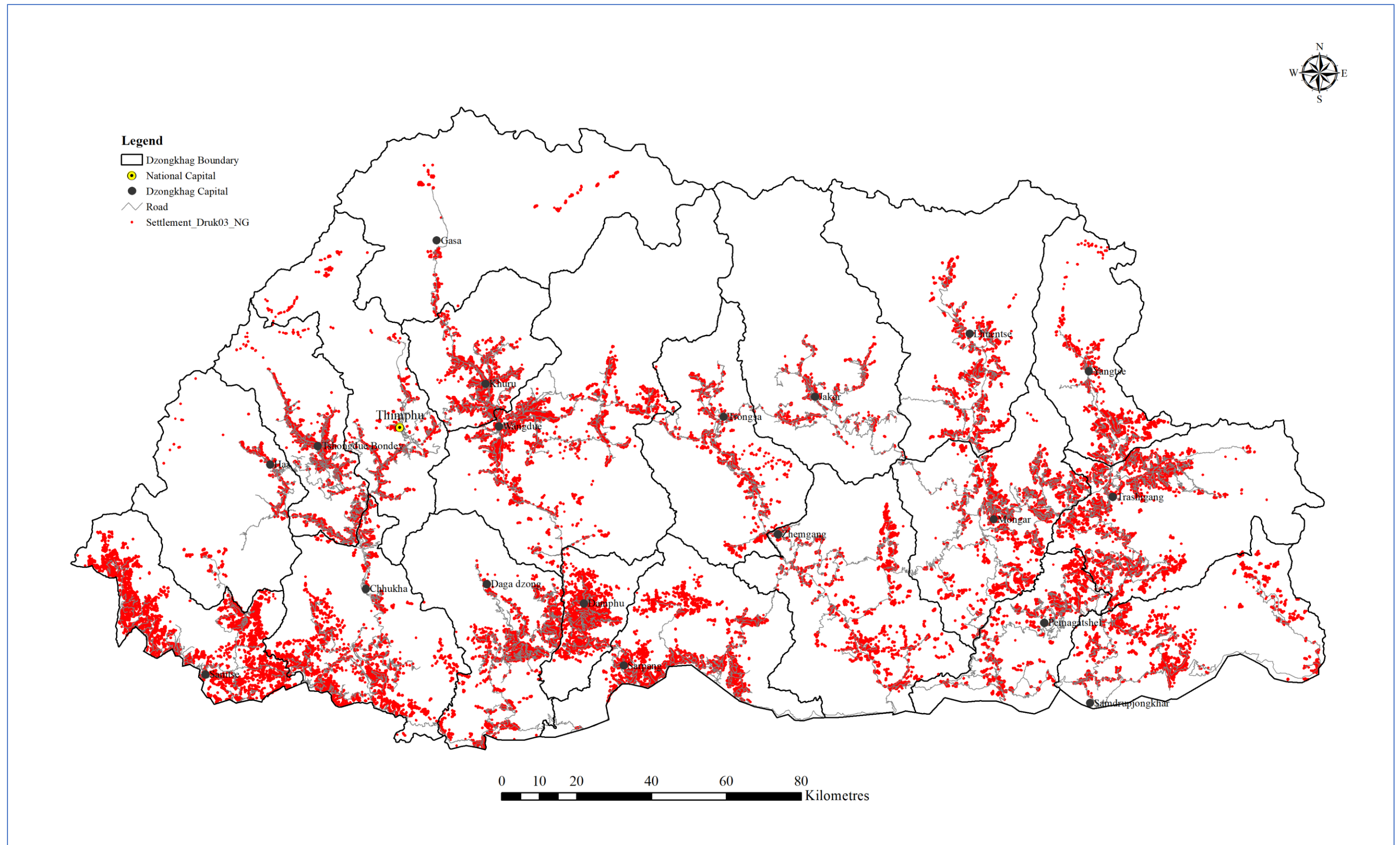
Source: DHS

### 2-1 Thromde Area



Source: NSB

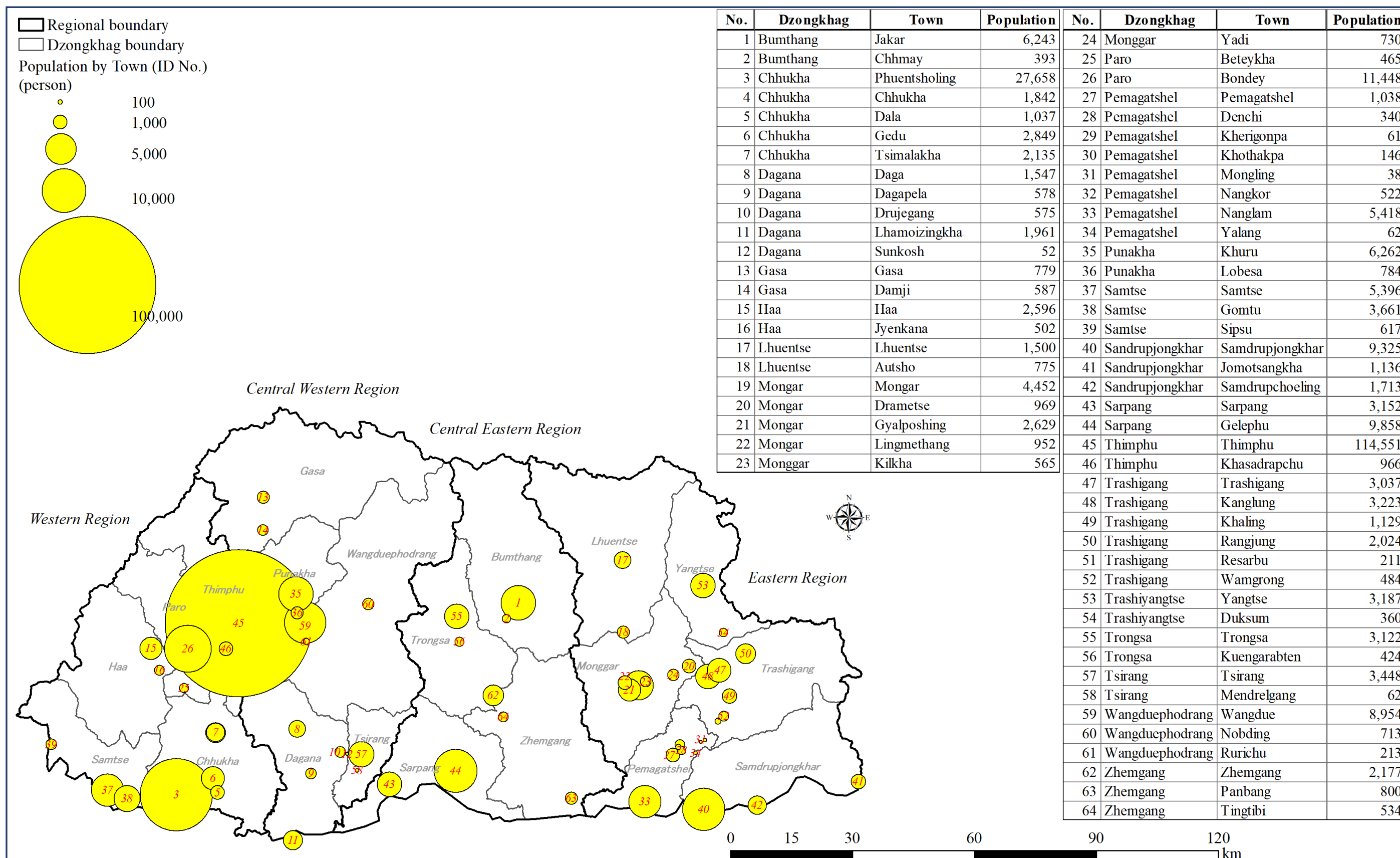
**2-2 Cencus Town in 2005 (61 Points)**



Source: NSB

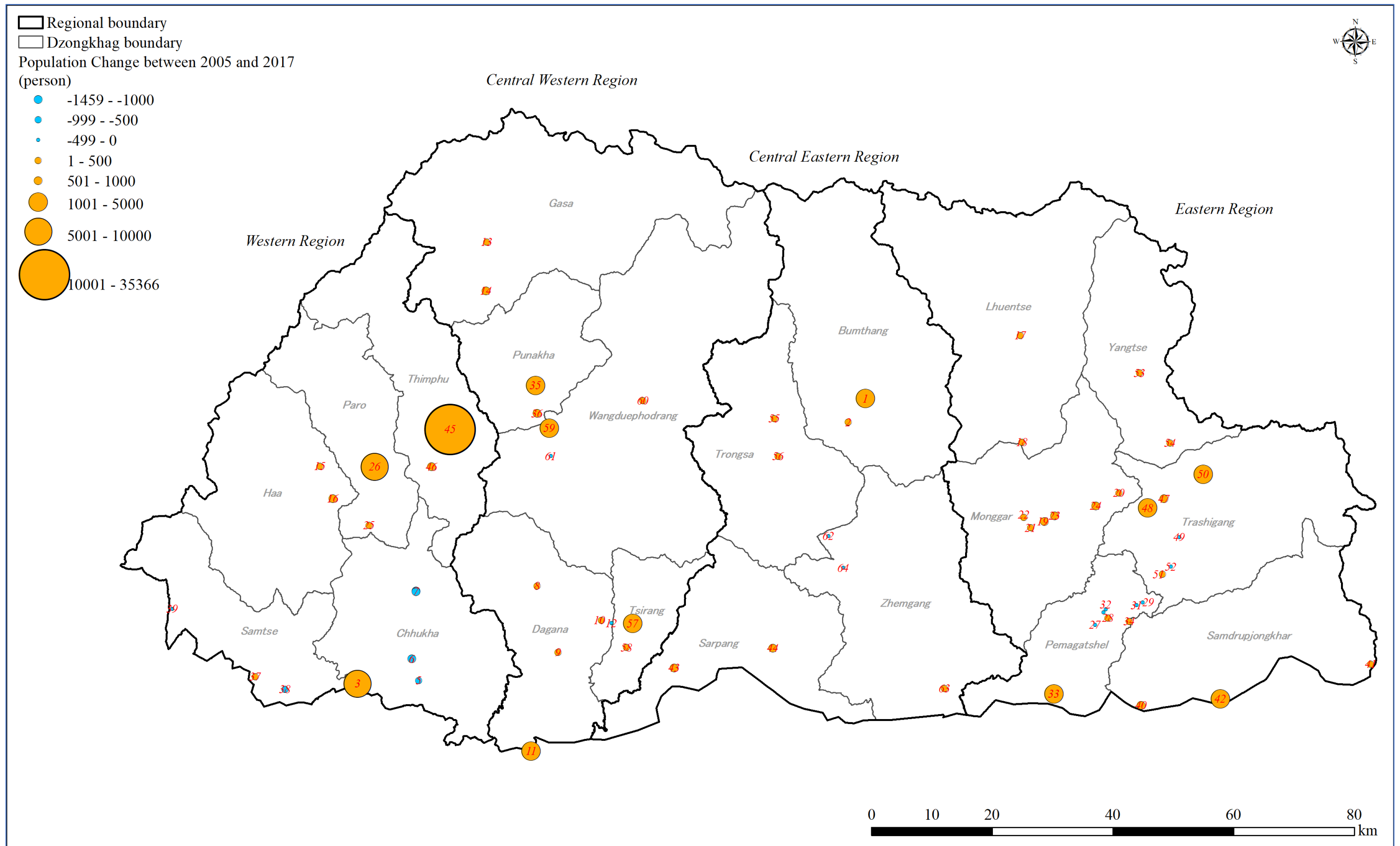
### 2-3 Settlement





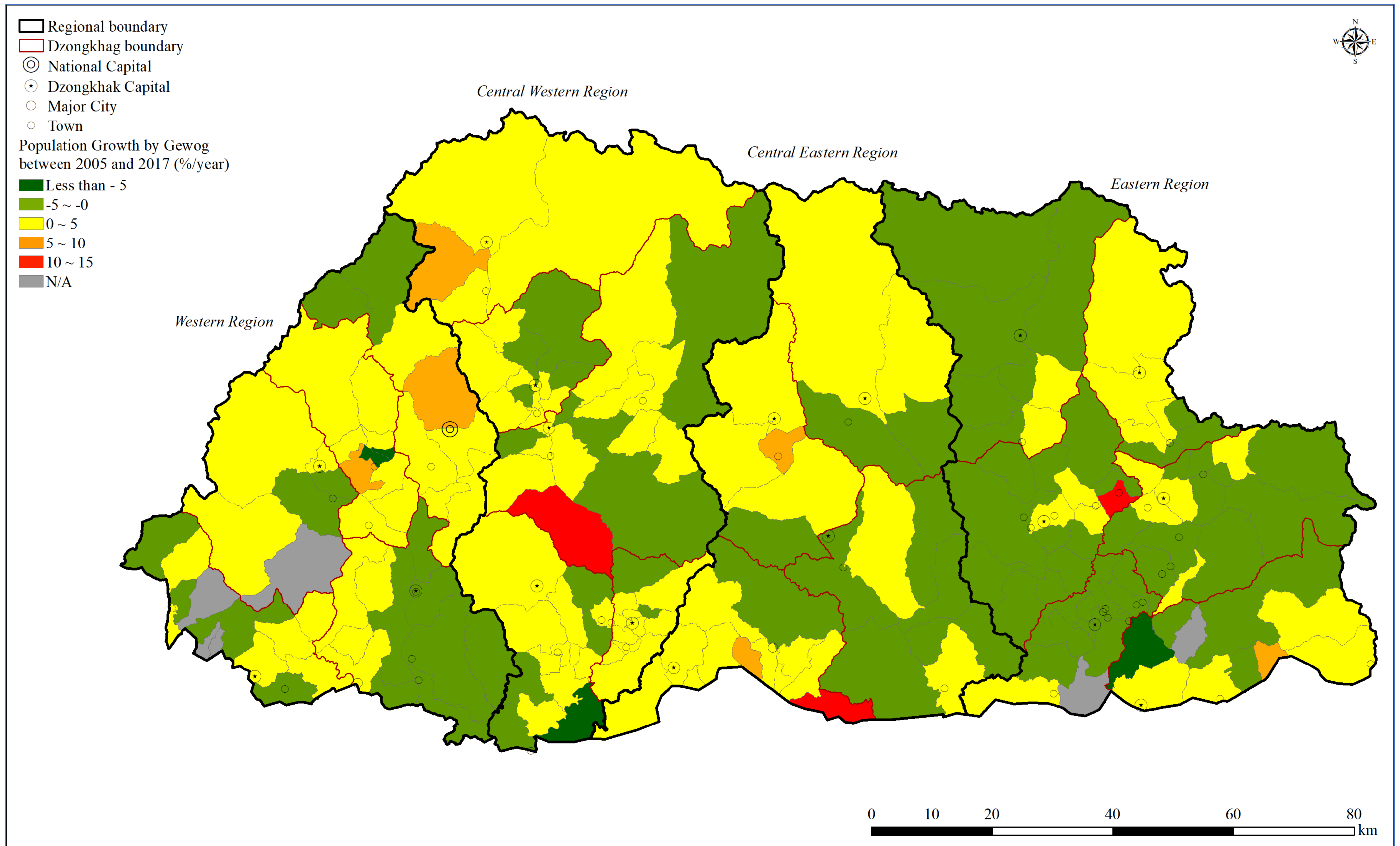
Source: NSB

2-4 Urban Population of Census Town in 2017 (64 Town)



Source: NSB

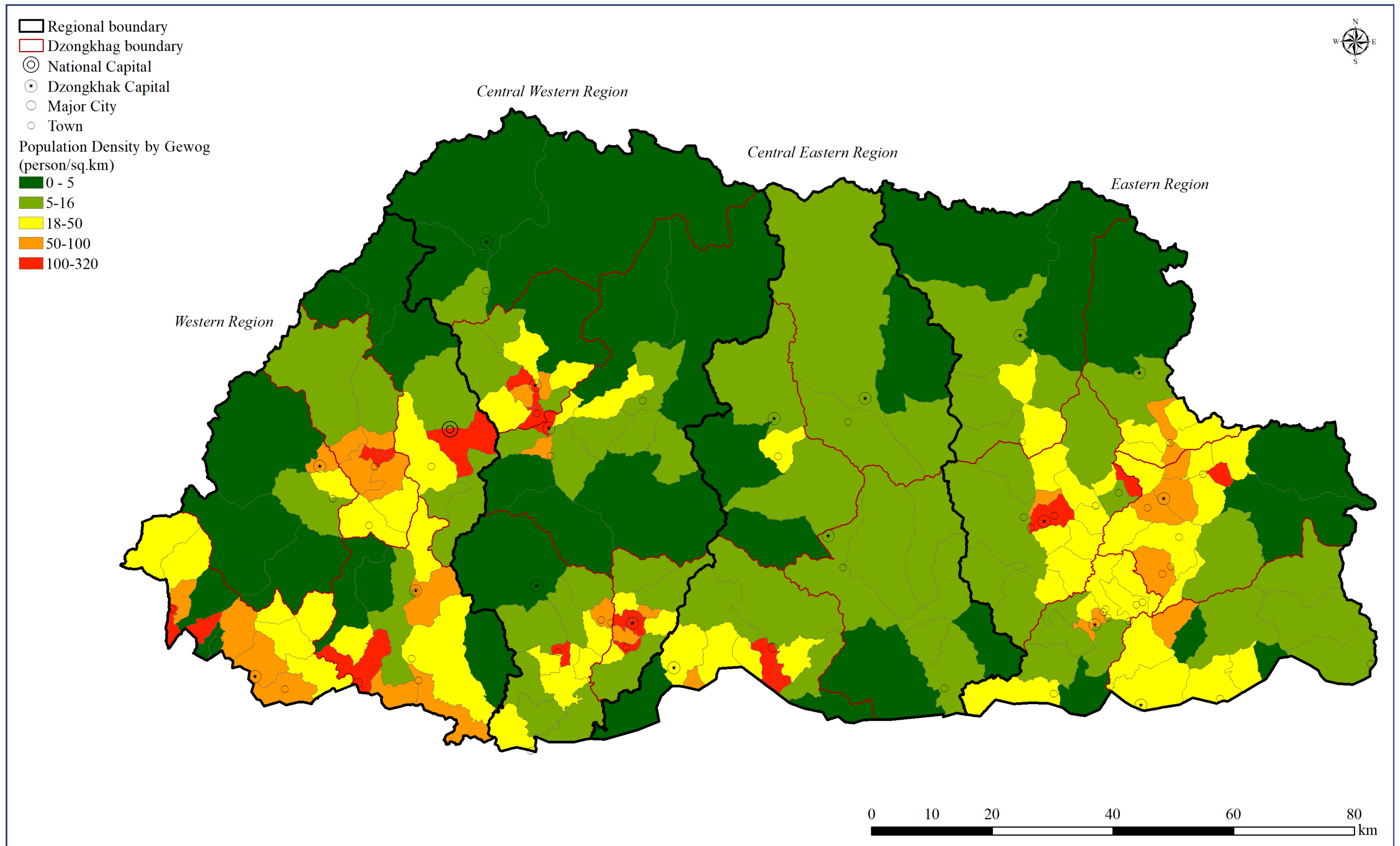
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Source: NSB

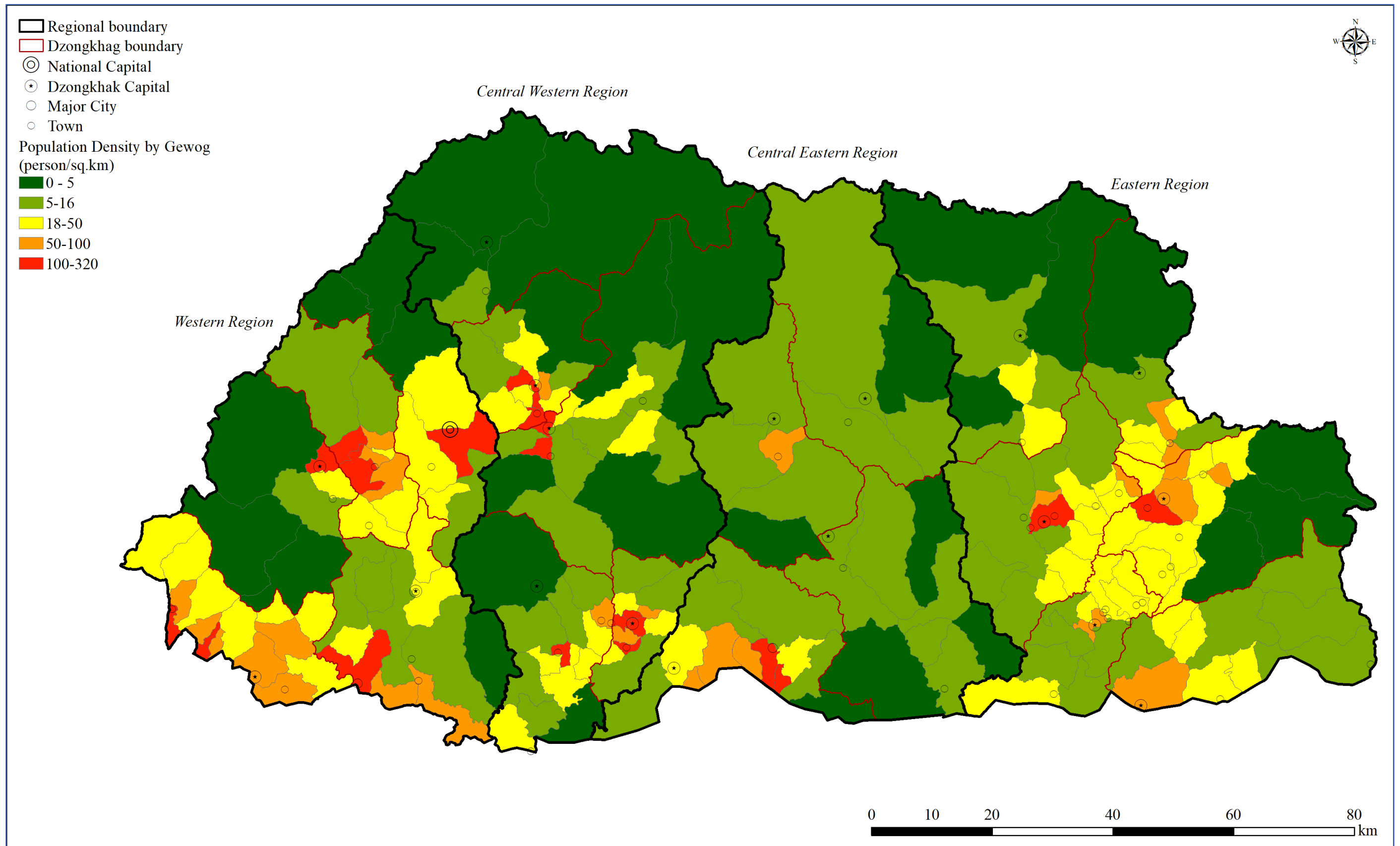
**2-6 Annual Population Growth Rate of 205 Gewogs between 2005 and 2017**





Source: NSB

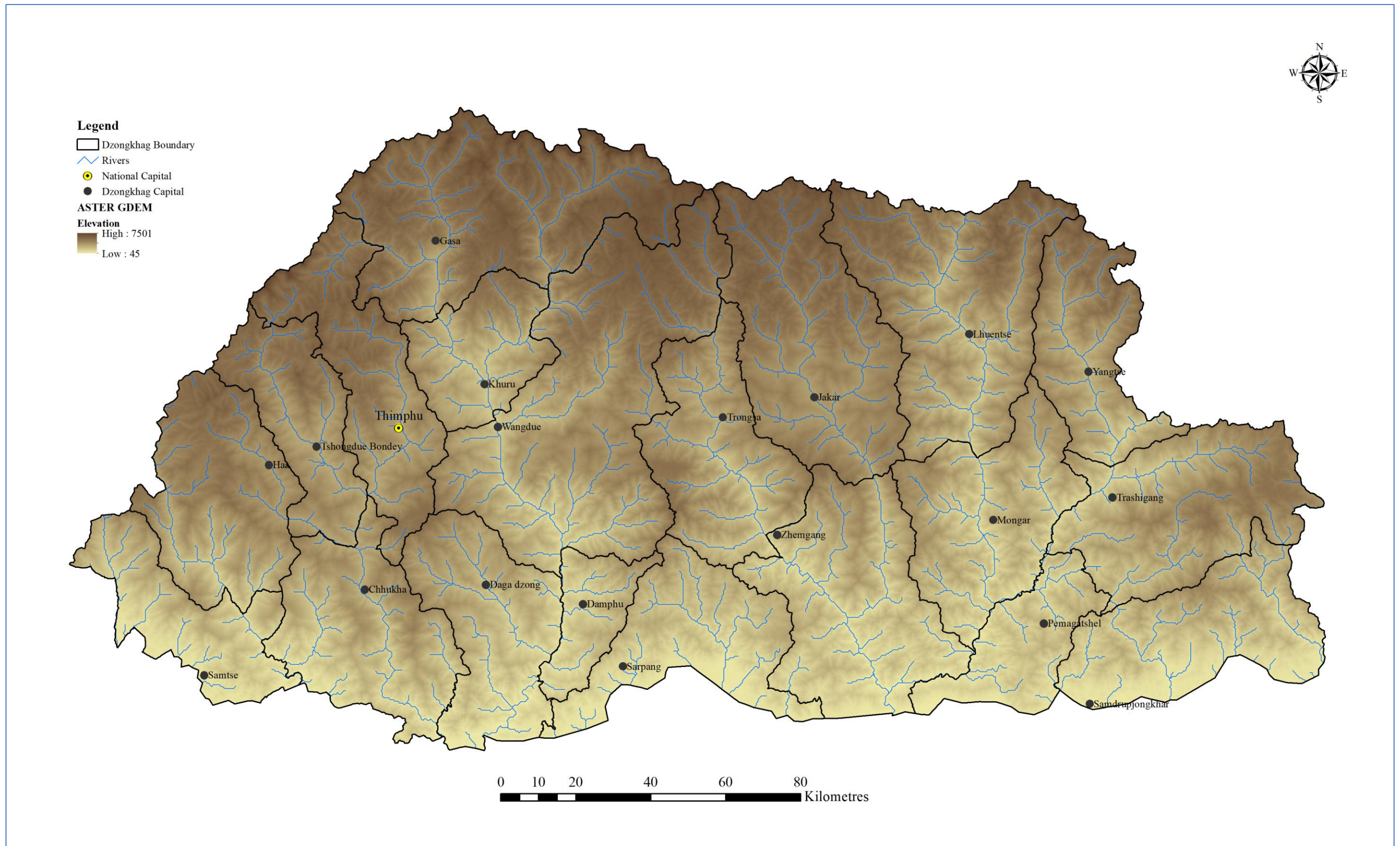
2-7 Population Density by Gewog in 2005



Source: NSB

**2-8 Population Density by Gewog in 2017**

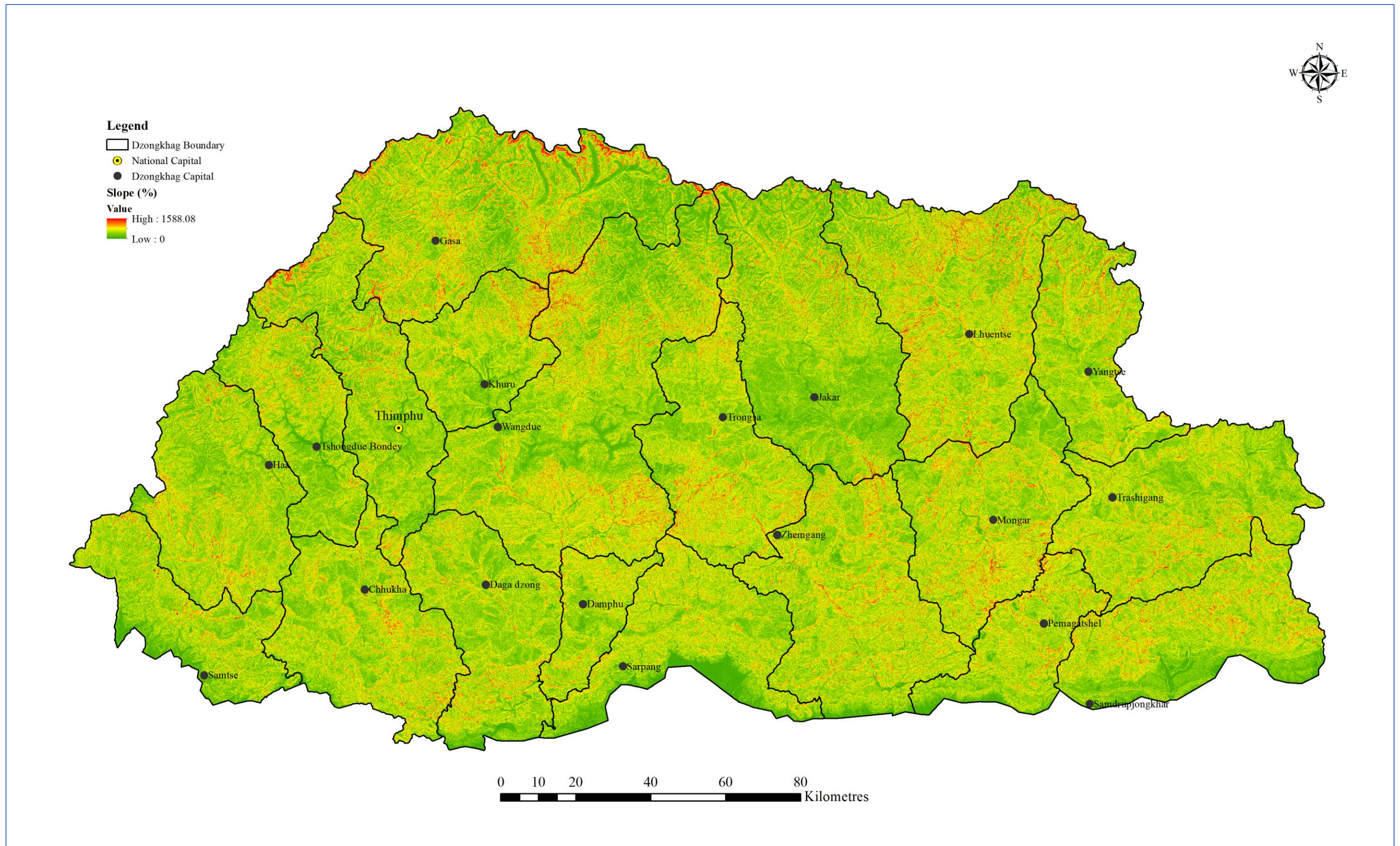




Source: JICA Project Team

3-1 Digital Elevation Model (ASTER GDEM 30m)

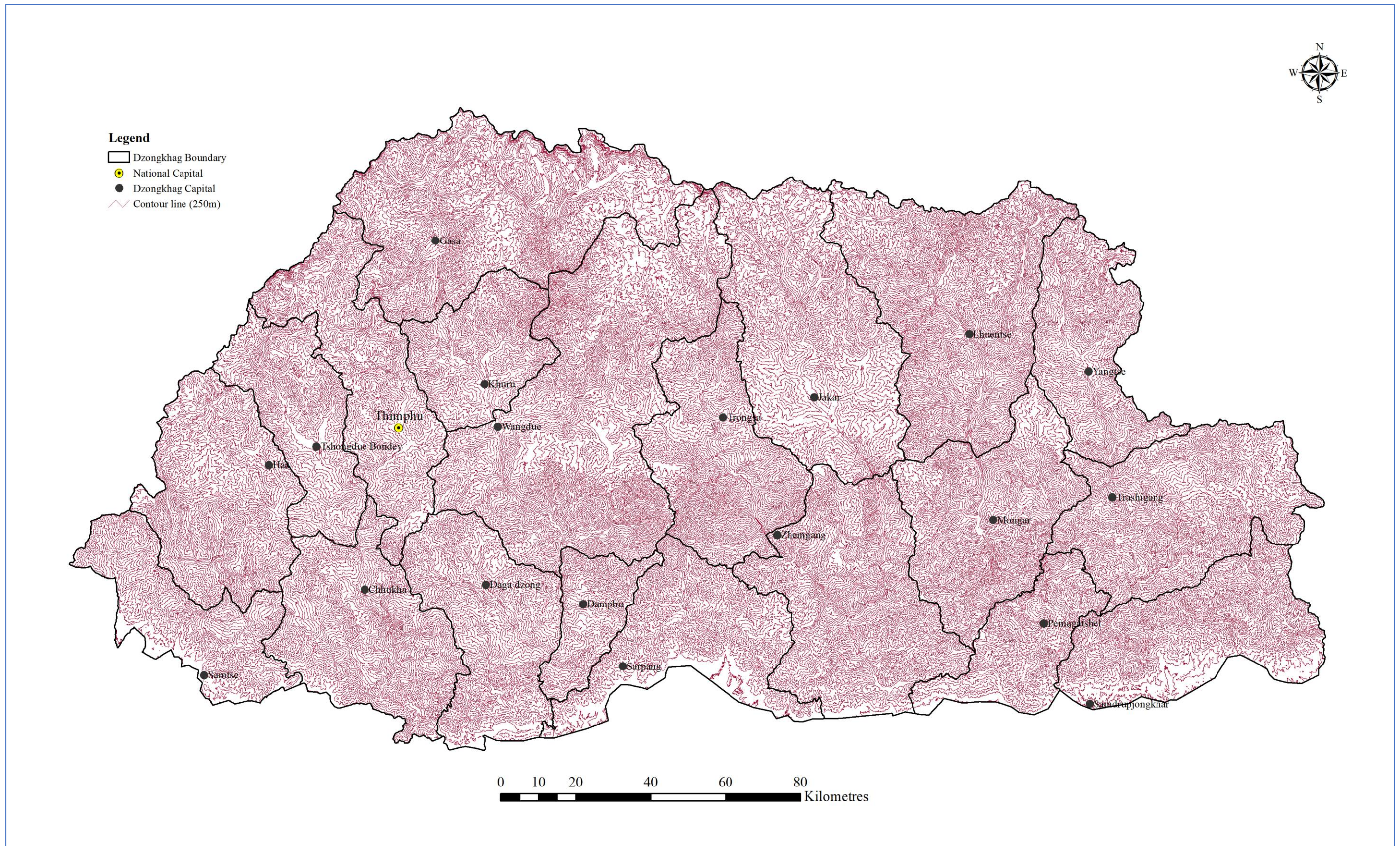




Source: JICA Project Team

3-2 Slope Data (%) derived from DEM

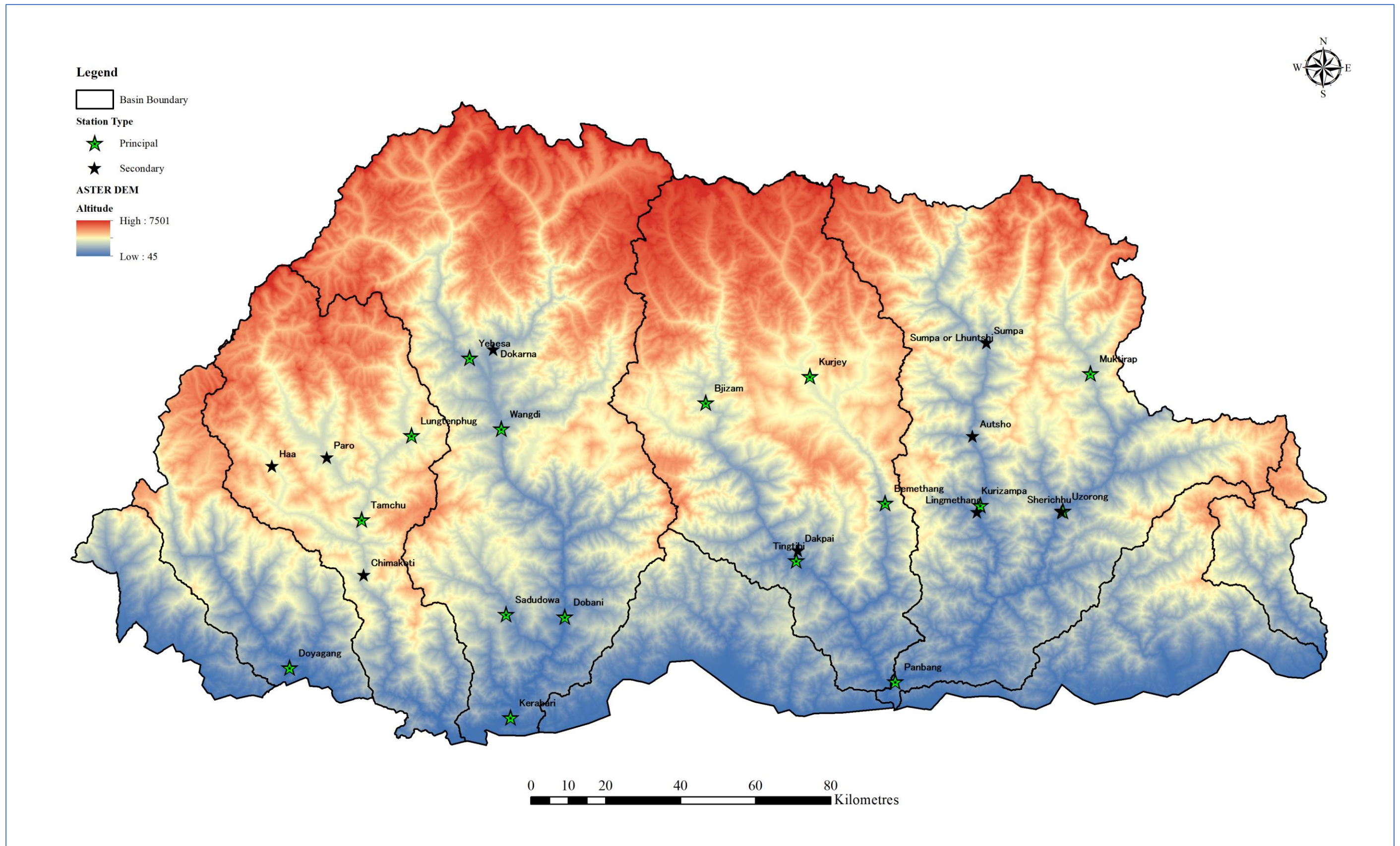




Source: JICA Project Team

3-3 Contour Line derived from DEM (250m interval)

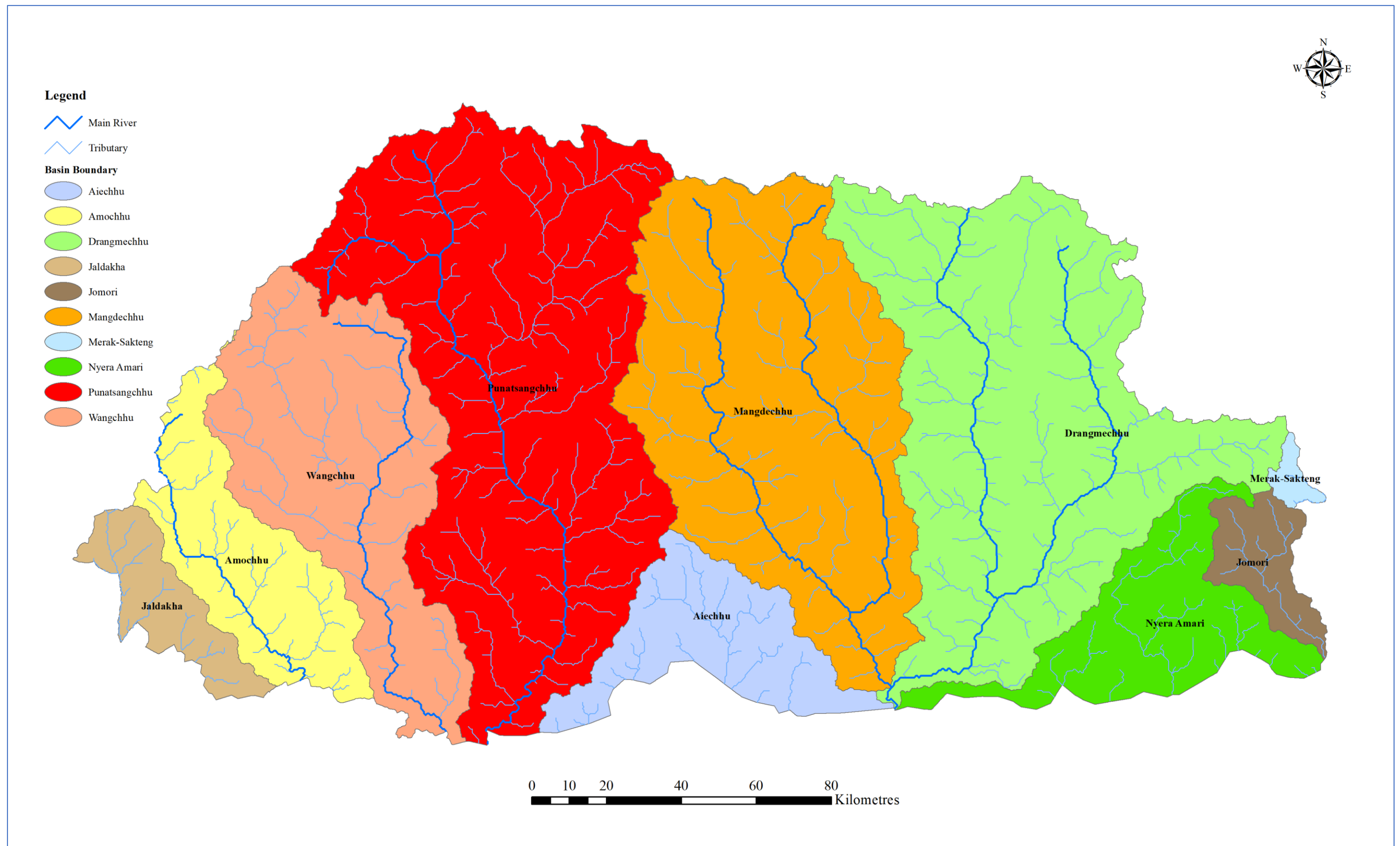




Source: NCHM

**3-4 Meteorology Station**

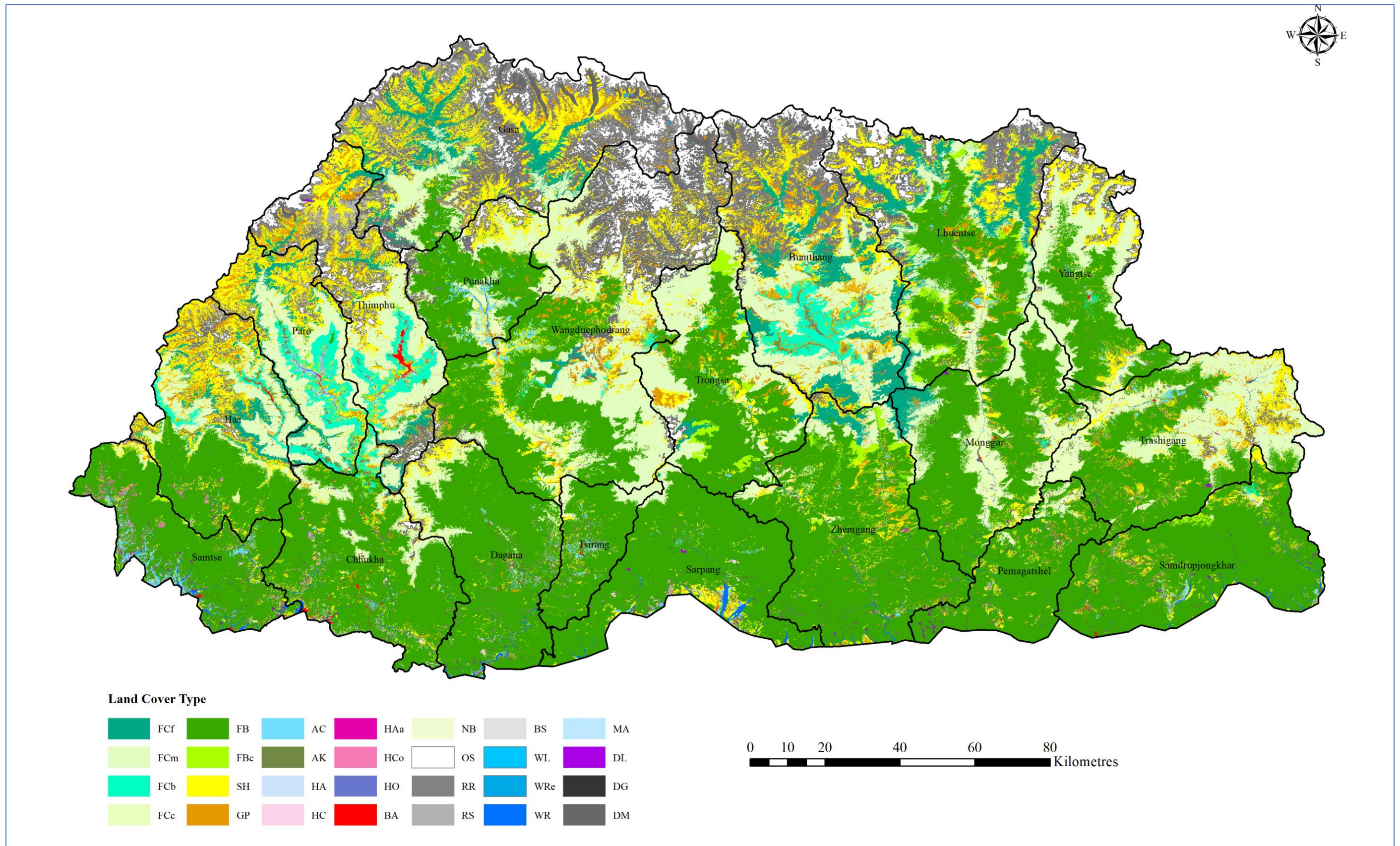




Source: NCHM

### 3-5 Basin Boundary with Main Rivers and Tributary

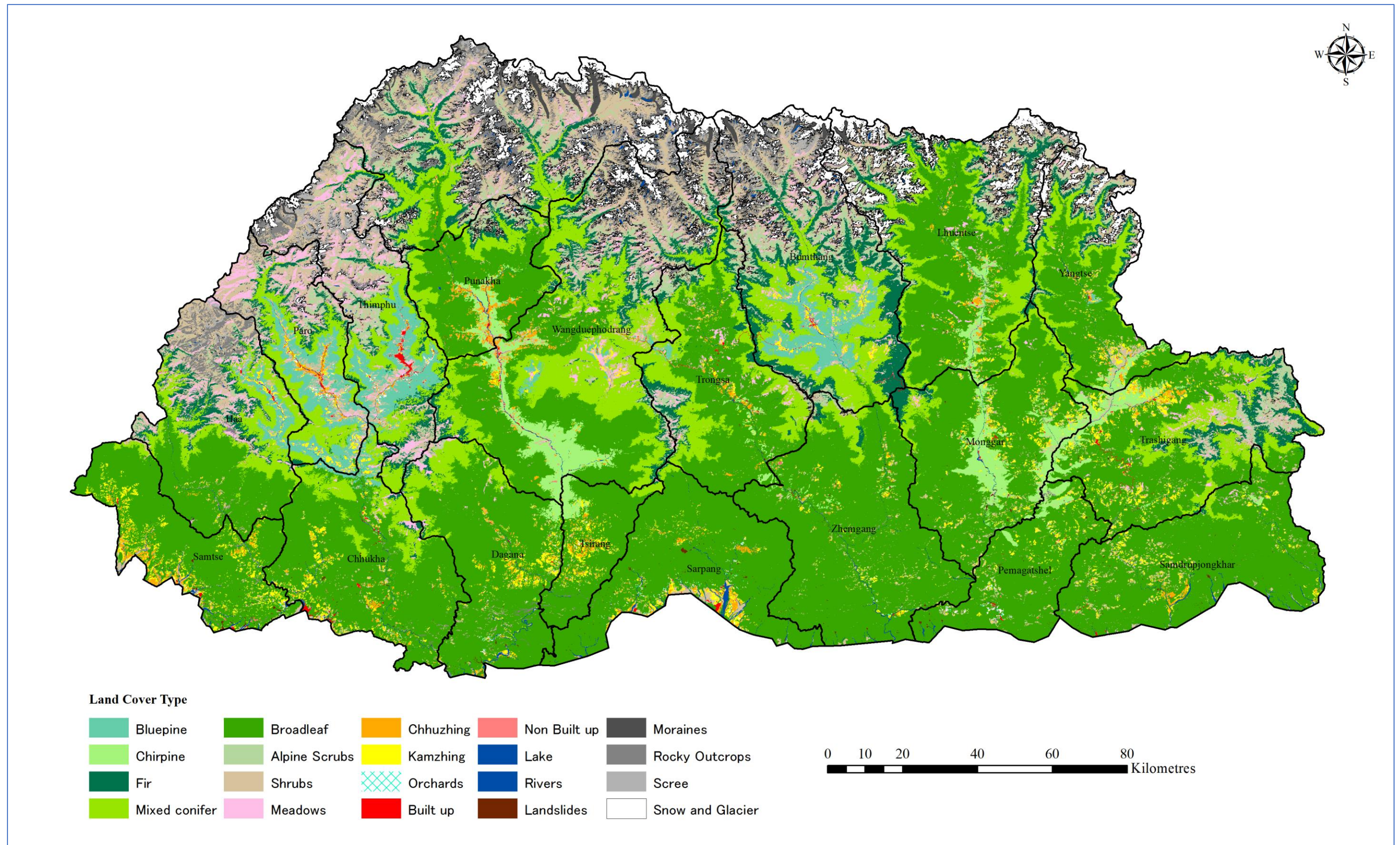




Source: MOAF

**3-6 Land Cover in 2010 based on ALOS**

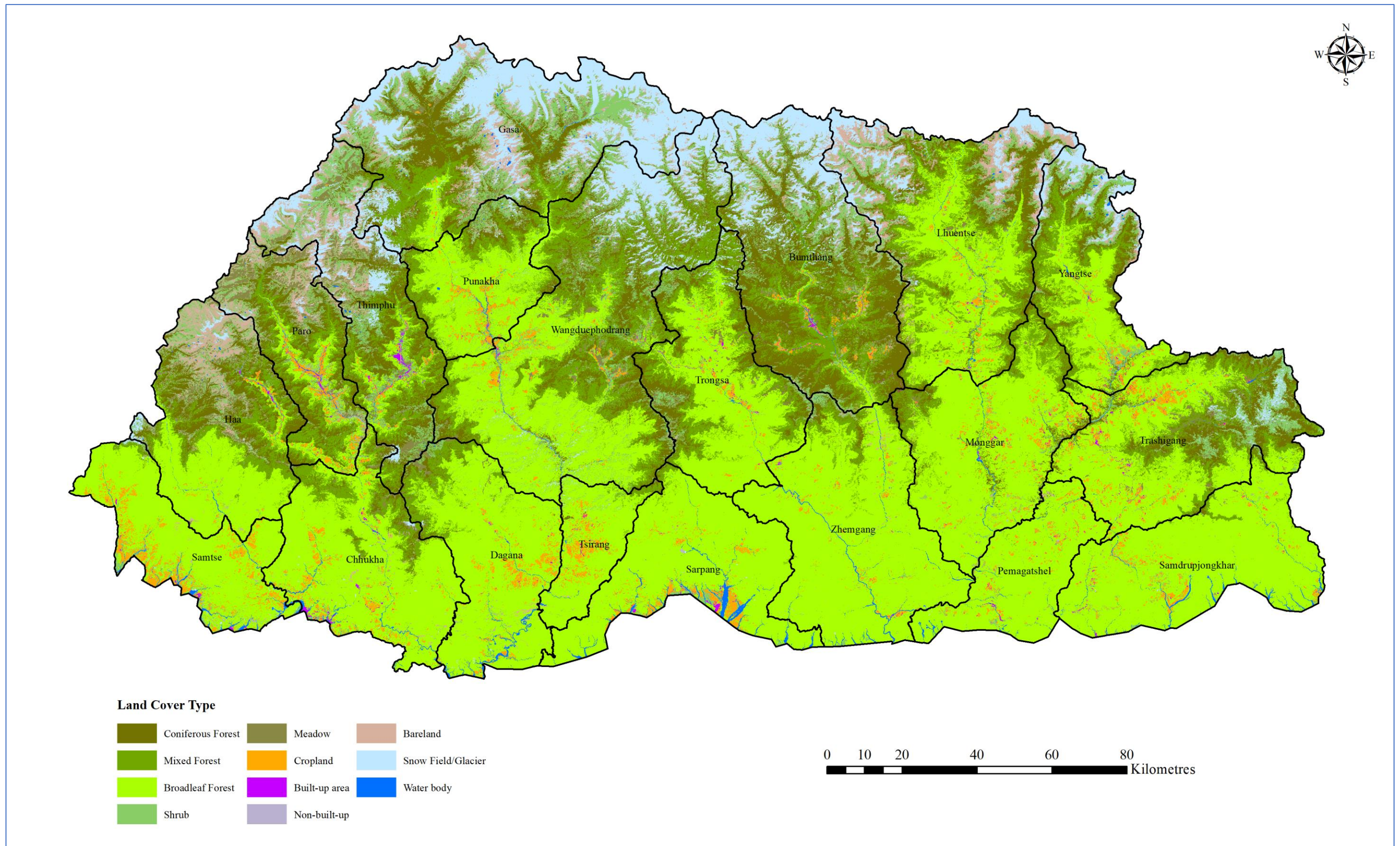




Source: MOAF

**3-7 Land Cover in 2016 based on LANDSAT**

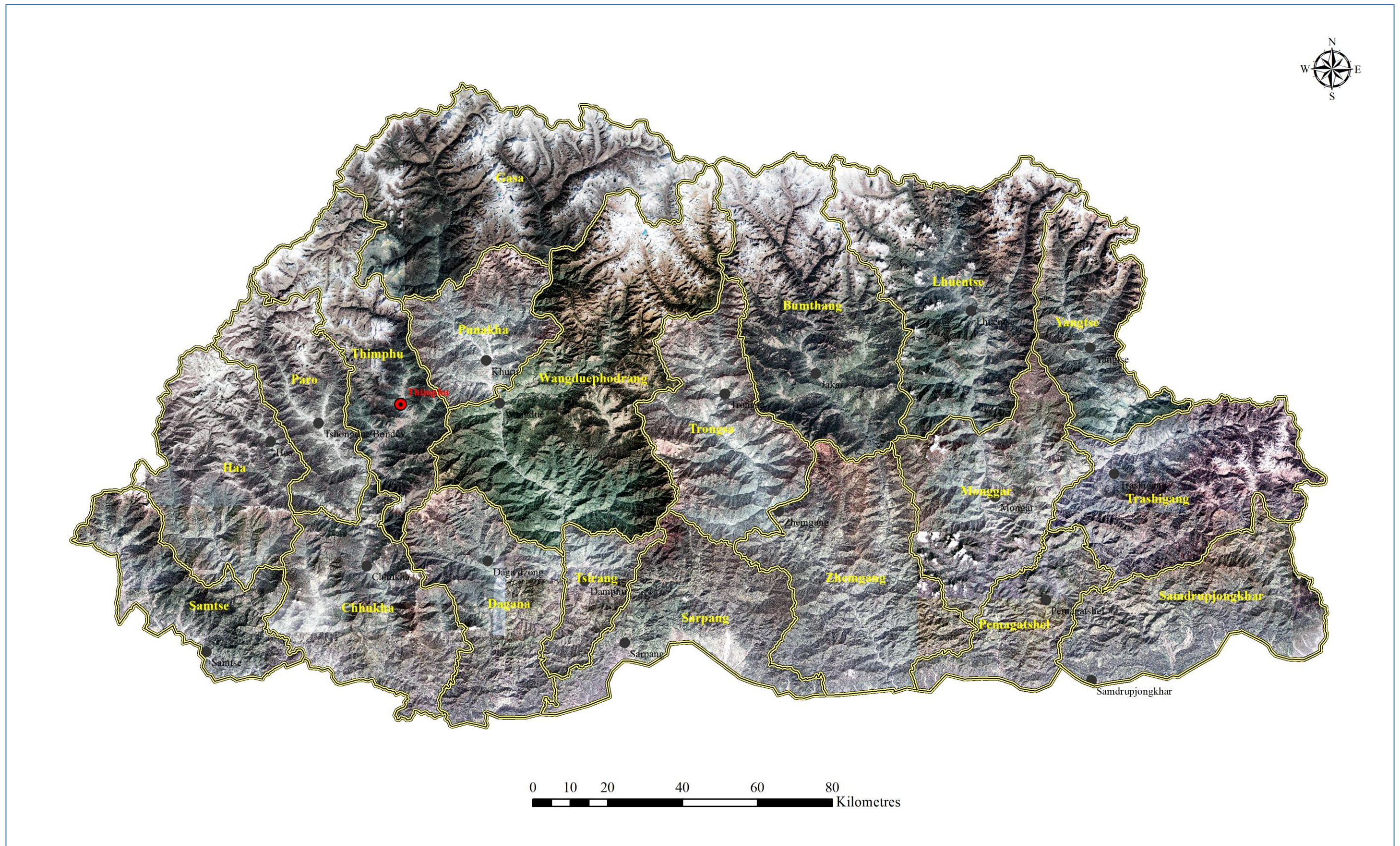




Source: JICA Project Team

### 3-8 Land Cover in 2017 based on SPOT6/7

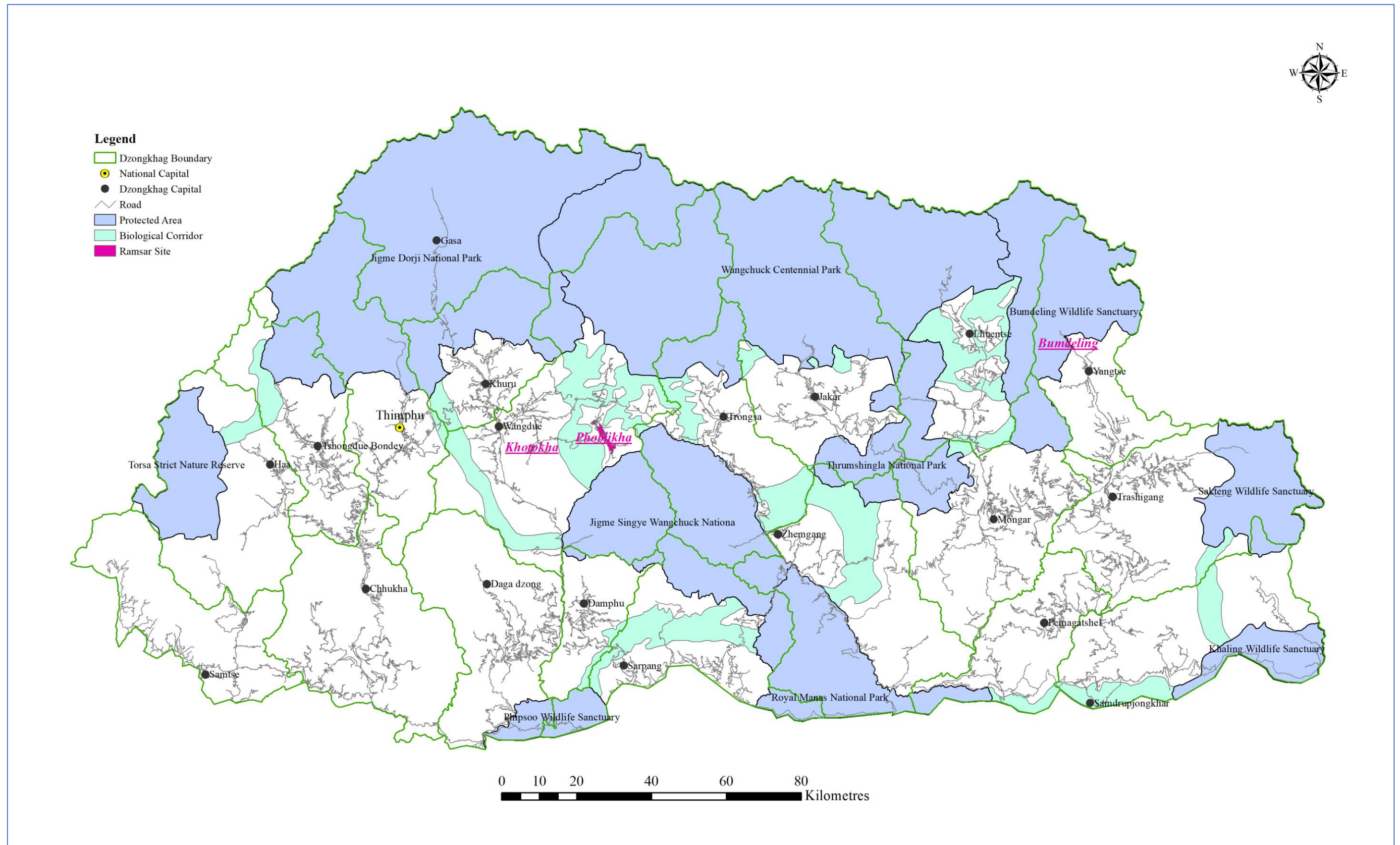




Source: MOAF

3-9 SPOT 6/7 Satellite Imagery

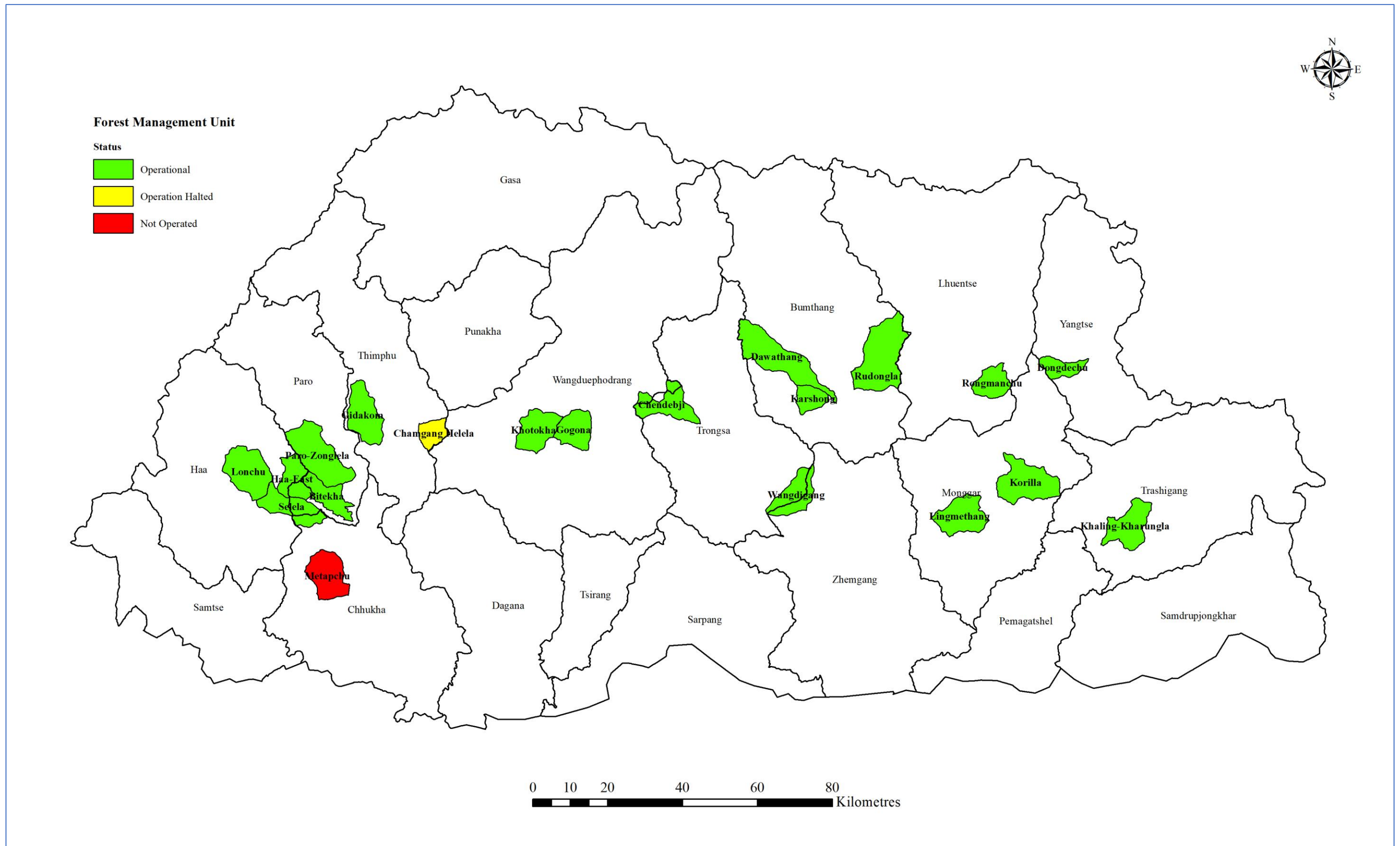




Source: MOAF

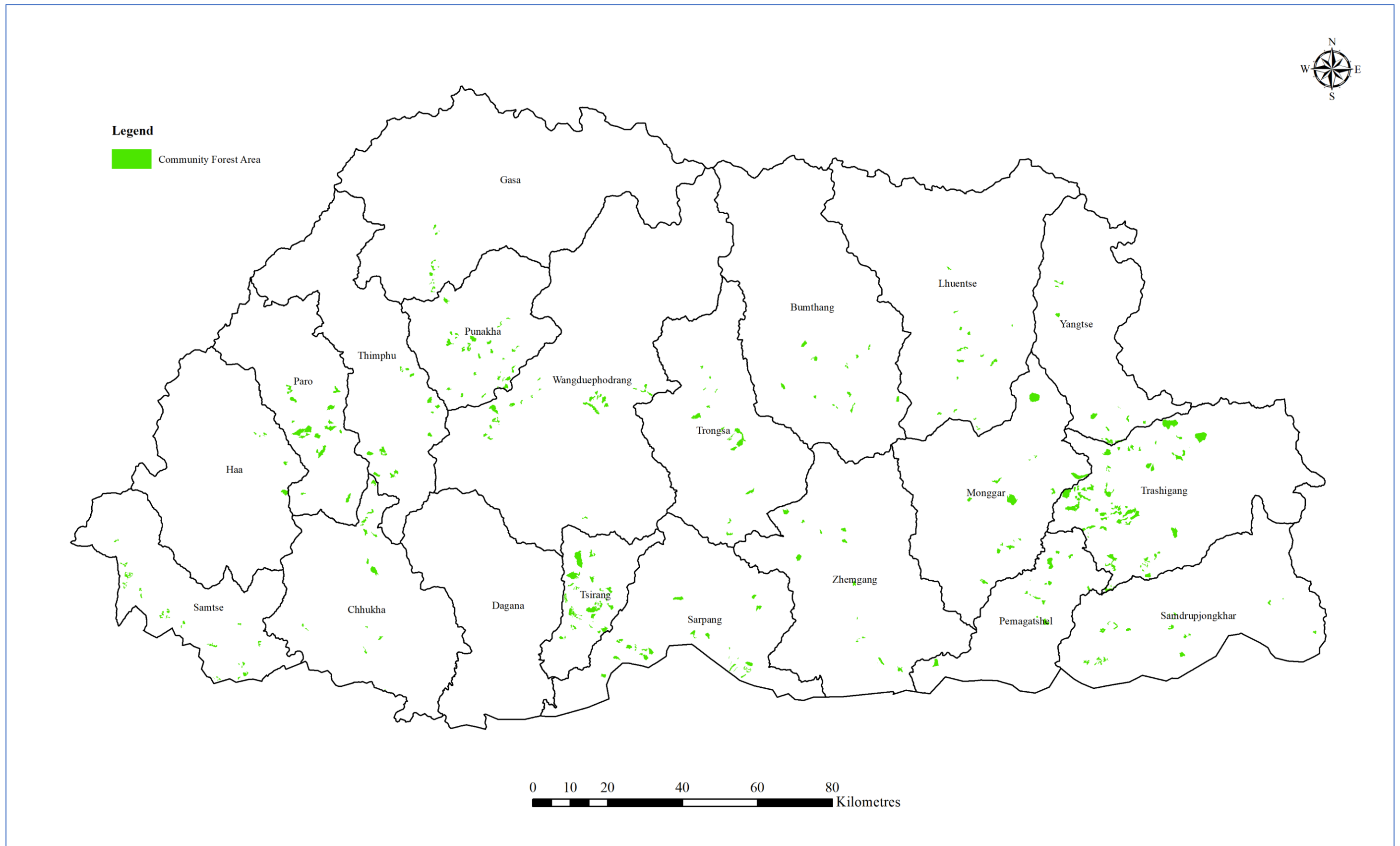
**3-10 Protection Area**





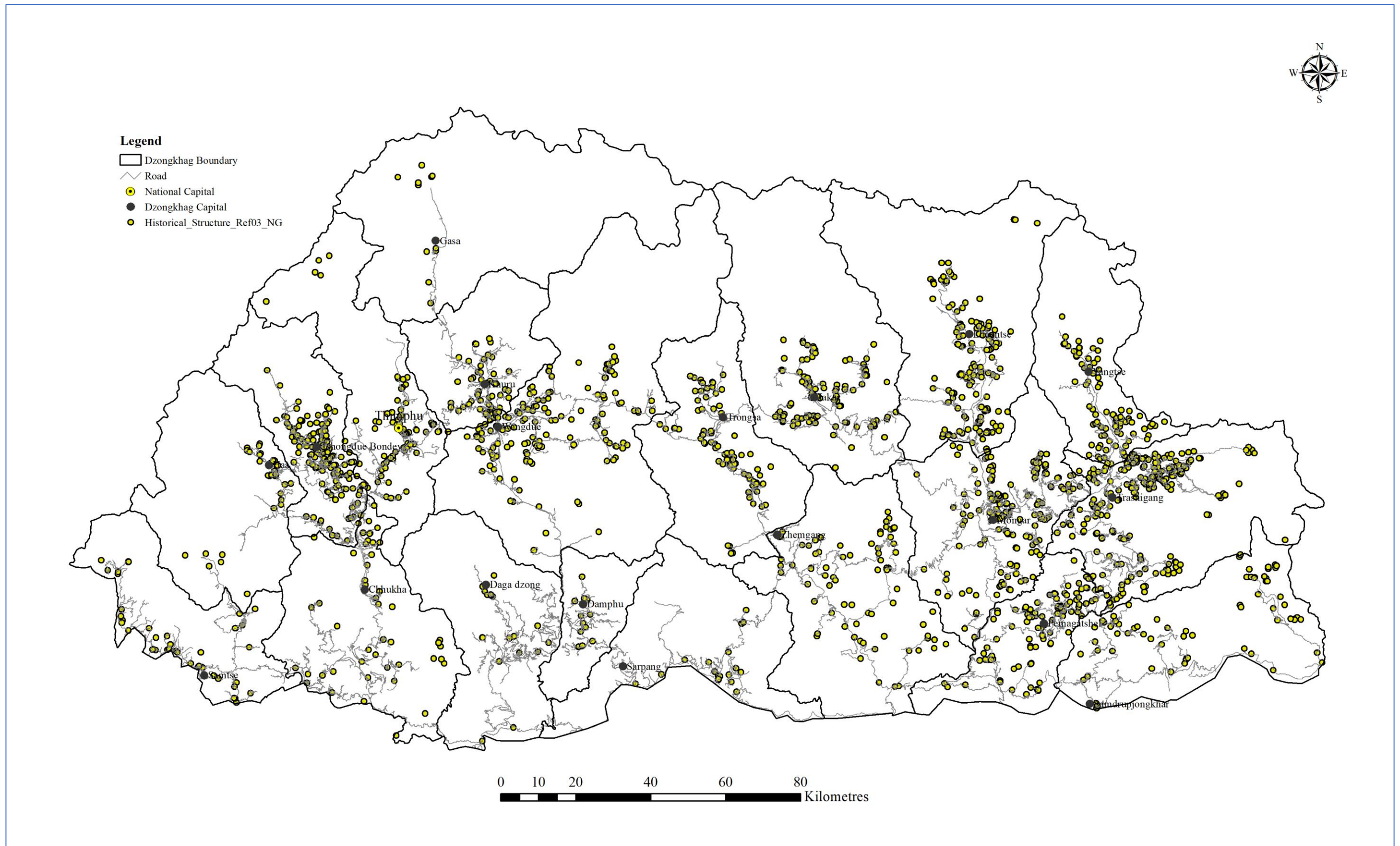
Source: MOAF

**3-11 Forest Management Unit (FMU)**



Source: MOAF

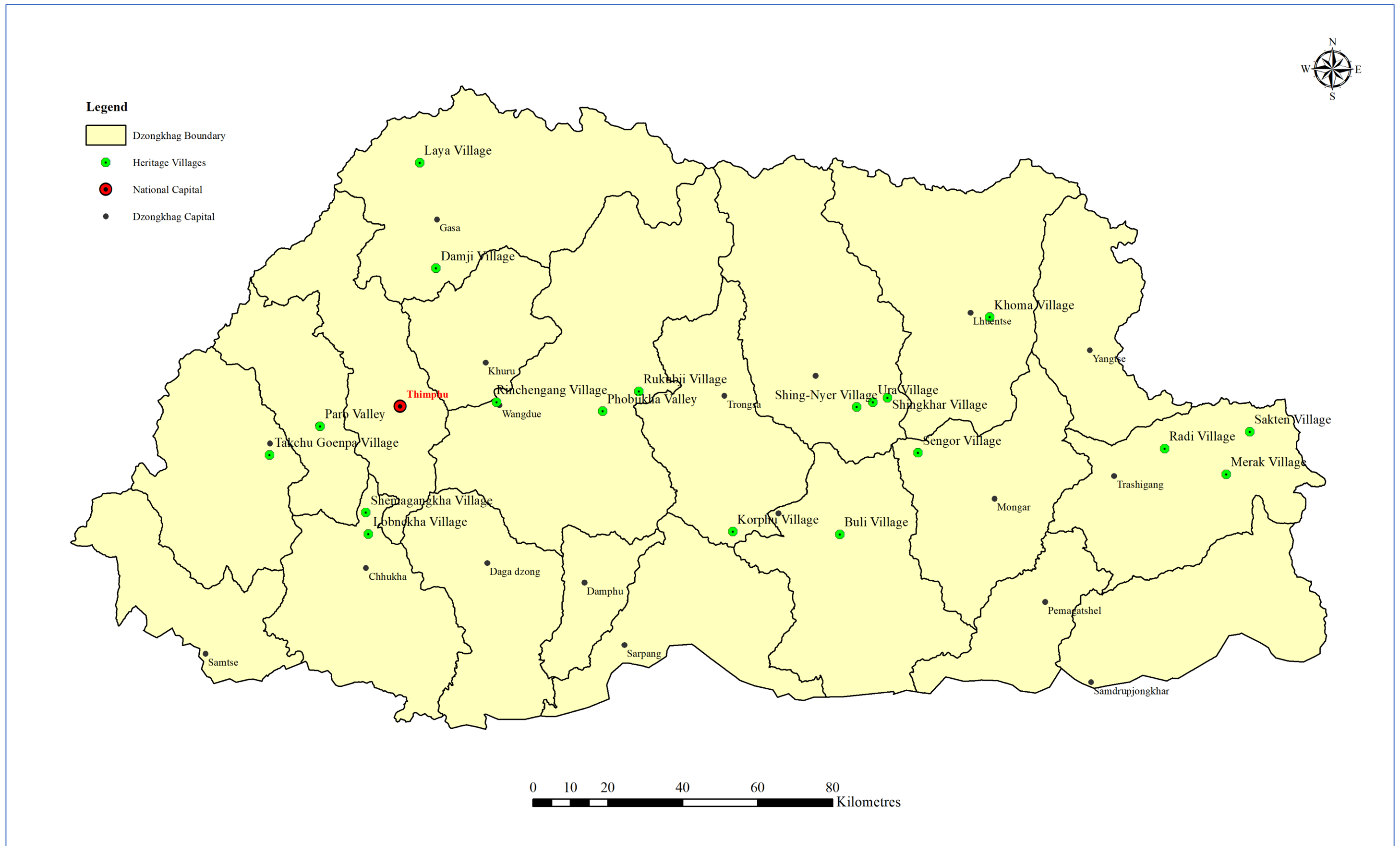
### 3-12 Community Forest Area



Source: NSB

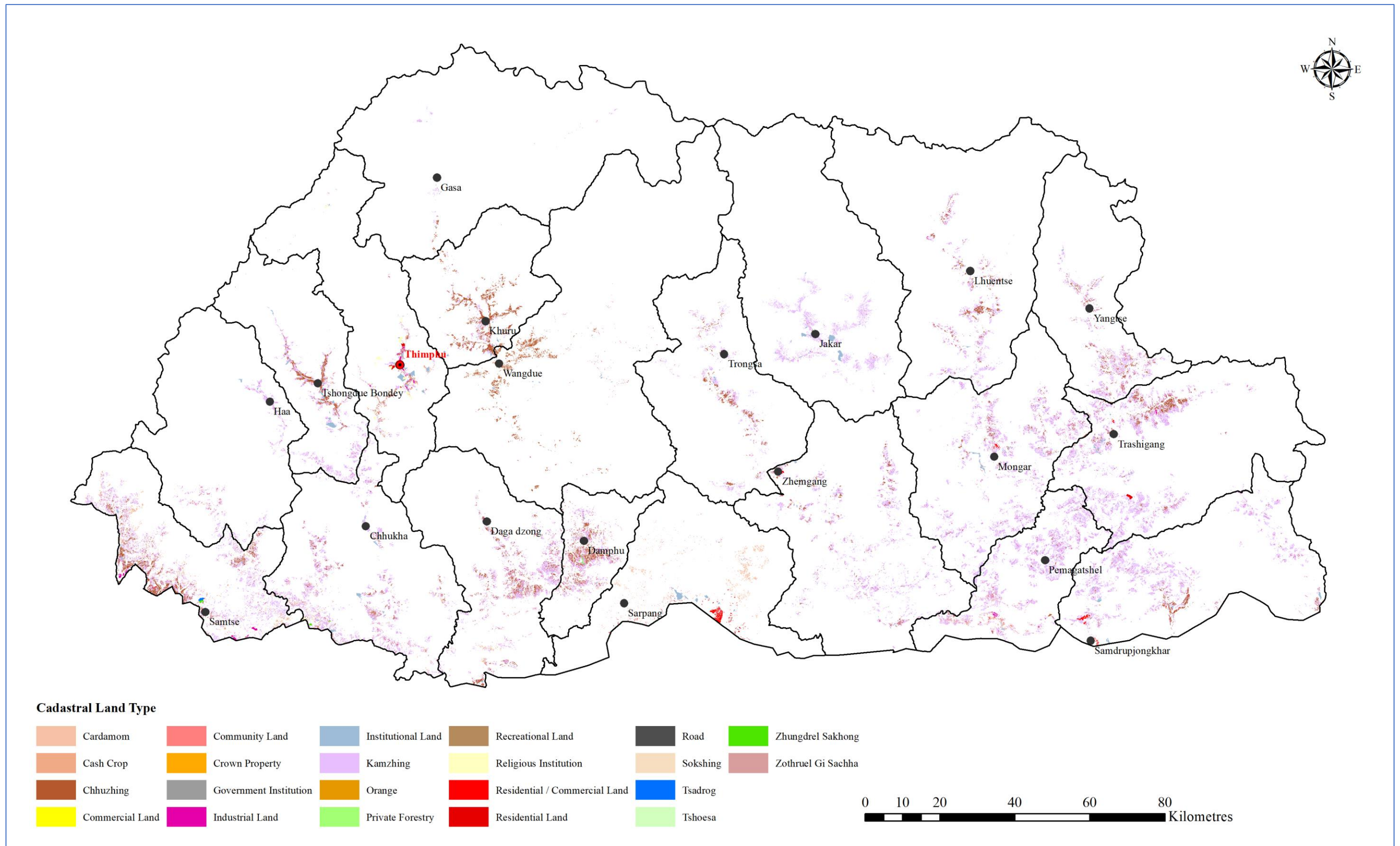
### 3-13 Historical Site





Source: MoHCA

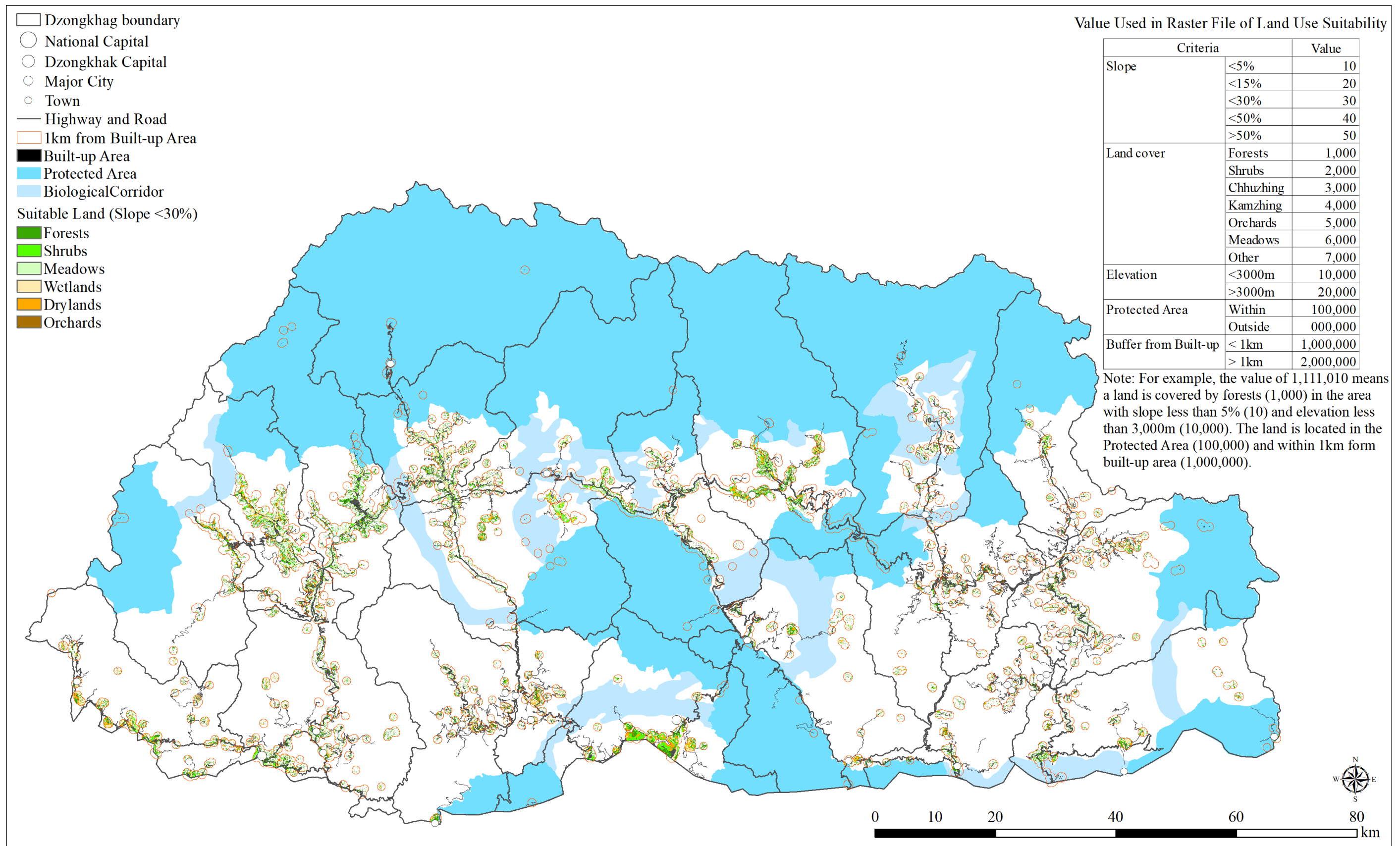
**3-14 Heritage Village**



Source: NLC

**3-15 Cadastral Land Type**





Source: ASTER GDEM (the JICA Project Team) and Land cover map prepared by MoAF using the stallite imageries from 2016

**3-16 Identification of Suitable Land for Urbanization in Bhutan**