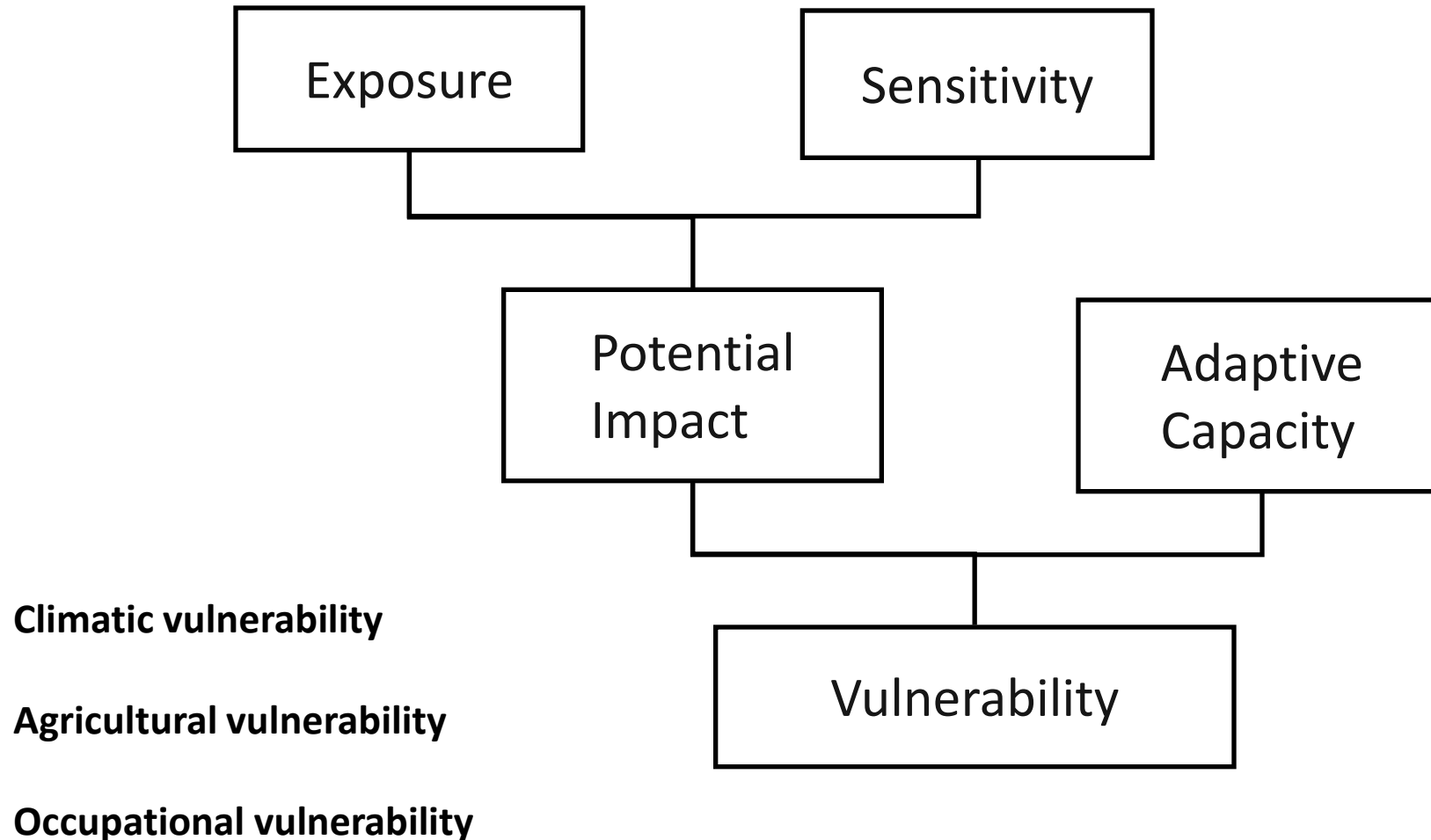


Drought Vulnerability & Risk Assessment

Assessing Vulnerability to Drought

- Conceptual Model of Vulnerability



Exposure index

(EI) = (DF+ DI+ AR+ SR+ MR+ WR+ DS+

TV+ VC+ CA+ CCA+ DC+ WCA+ PD+ WS+ RAI+ SPI

Declared Drought frequency (DF) (%);

Drought intensity (DI) (%);

Annual rainfall (AR) (%);

Seasonal rainfall (SR);

Monthly rainfall (kharif) (MR);

Weekly rainfall (WR);

Dry spell (DS) frequency (%) ;

Temperature Variation (TV);

Vegetation cover (VC);

Cultivated area (%) (CA);

Change in cultivated area (CCA)

Dry crop area (%) (DC);

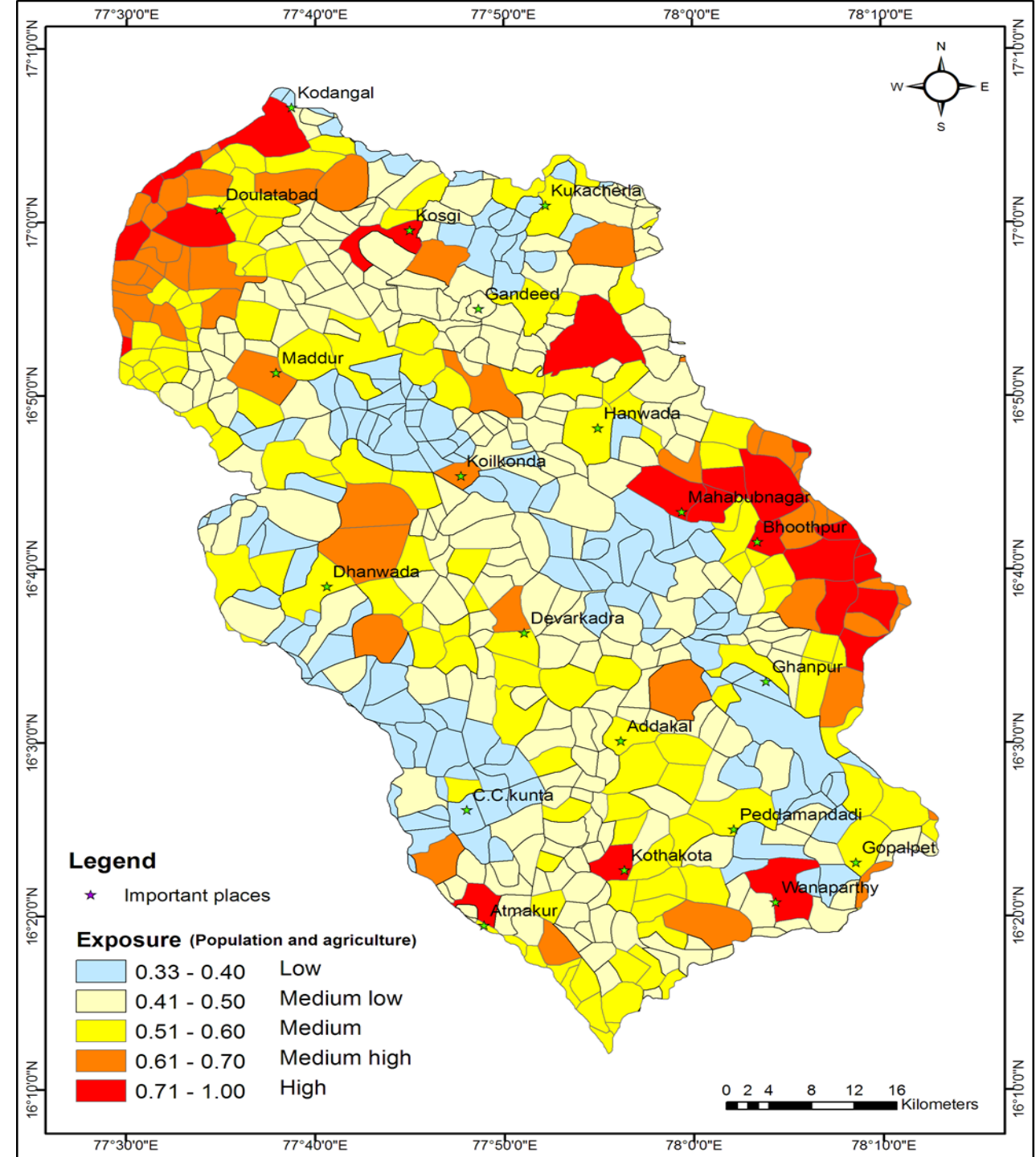
Wet crop area (%) (WCA);

Population density (PD);

Water stress (%) (WS);

Rainfall Analysis (RAI);

Soil moisture (SPI)



Sensitivity index

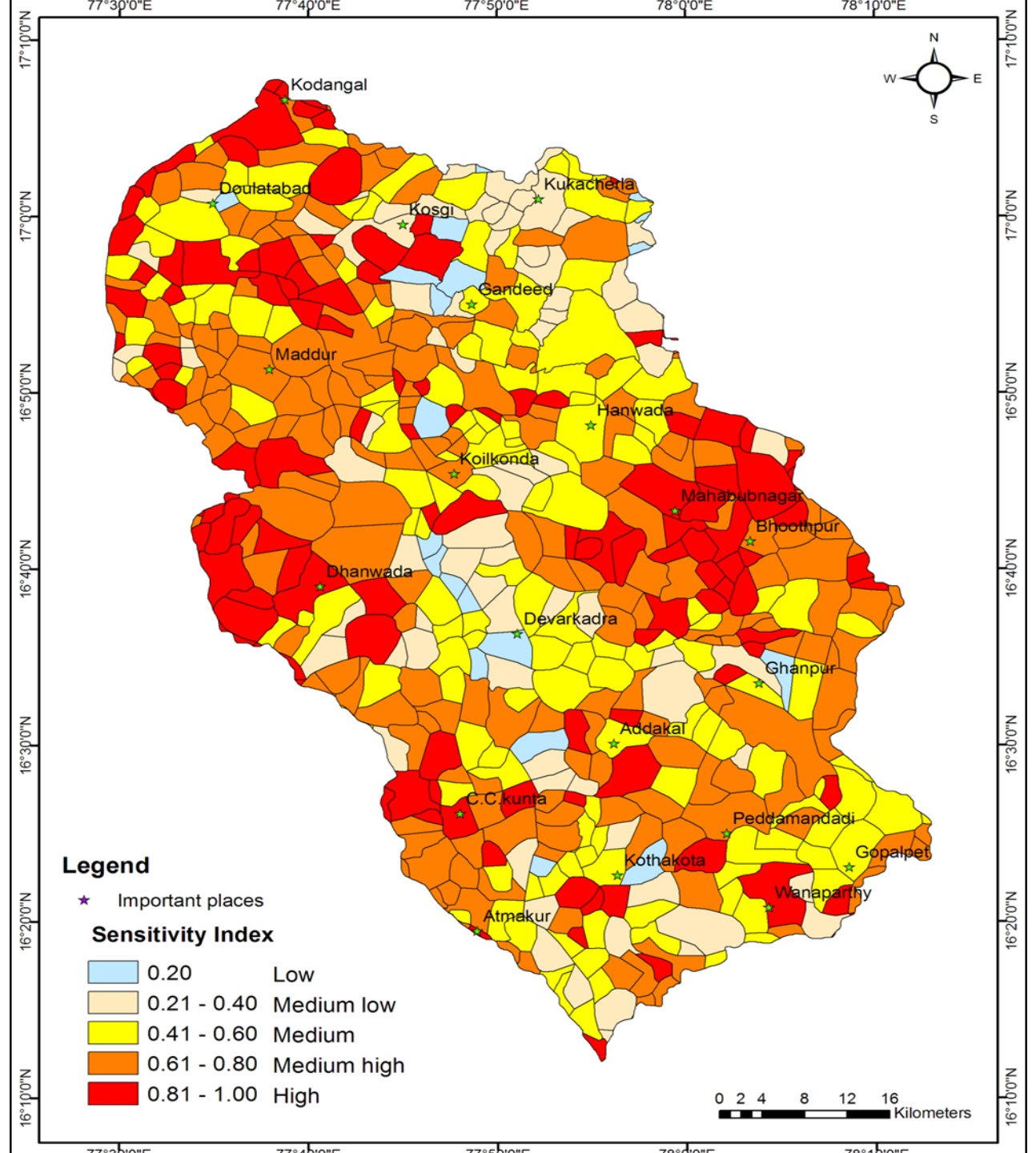
$$(SI) = (IA + AL + SL + CP) / 4$$

Irrigated area (%) (IA)

Agriculture labor (%) (AL)

Slope (SL) (%)

Crop production (CP)



Adaptive capacity

$$(ACI) = (WH+RO+WC+WI+GR+LD+WD+LR) / 8$$

Water holding in structure (WH)

Surface run-off (RO)

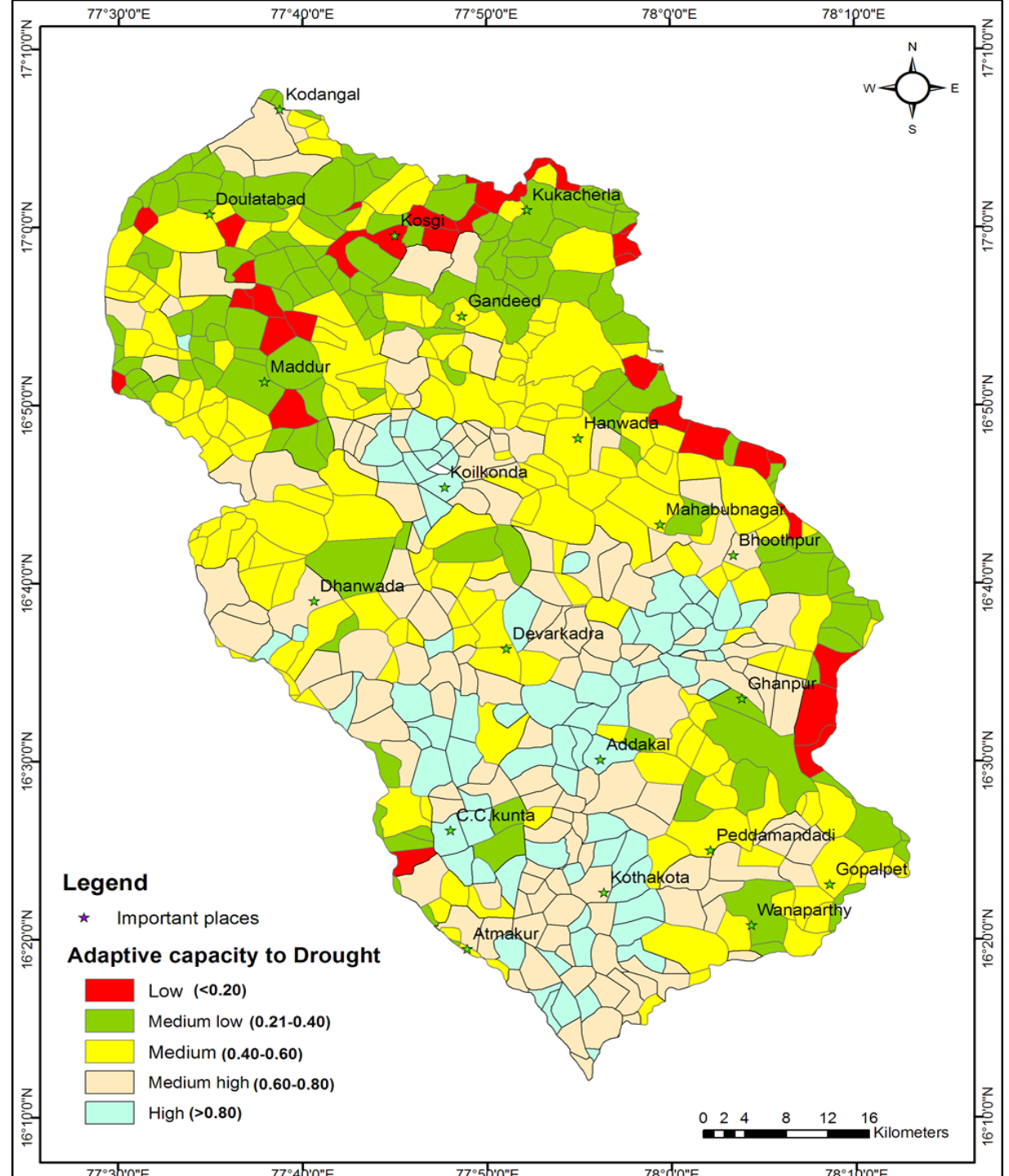
water holding capacity of Soil (WC)

Groundwater recharge (GR)

Livestock density (LD)

Water demand (WD)

Literacy (LR) information.



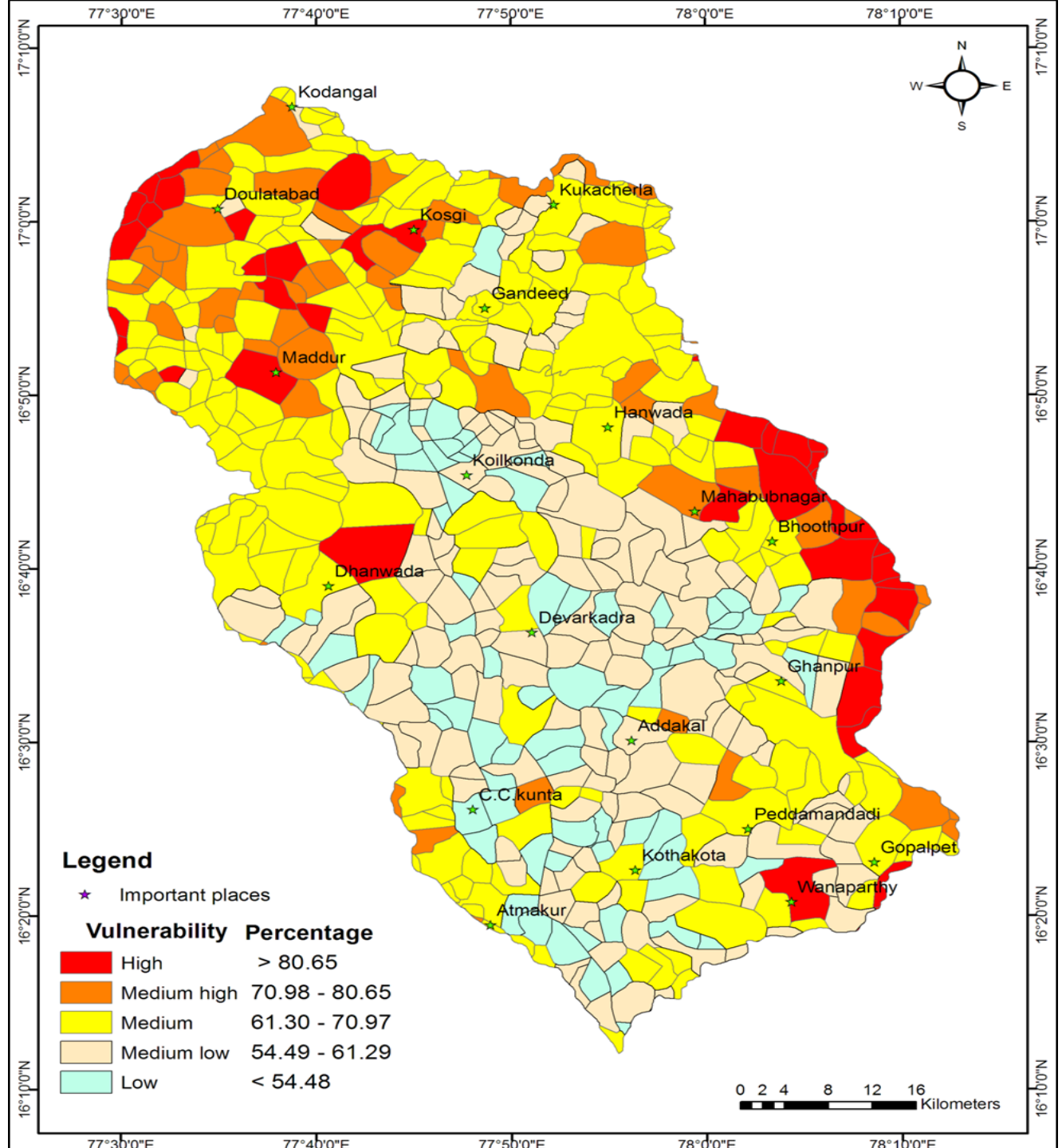
Drought vulnerability index

$$(DVI) = (EI+SI+ACI)/3 \times 100$$

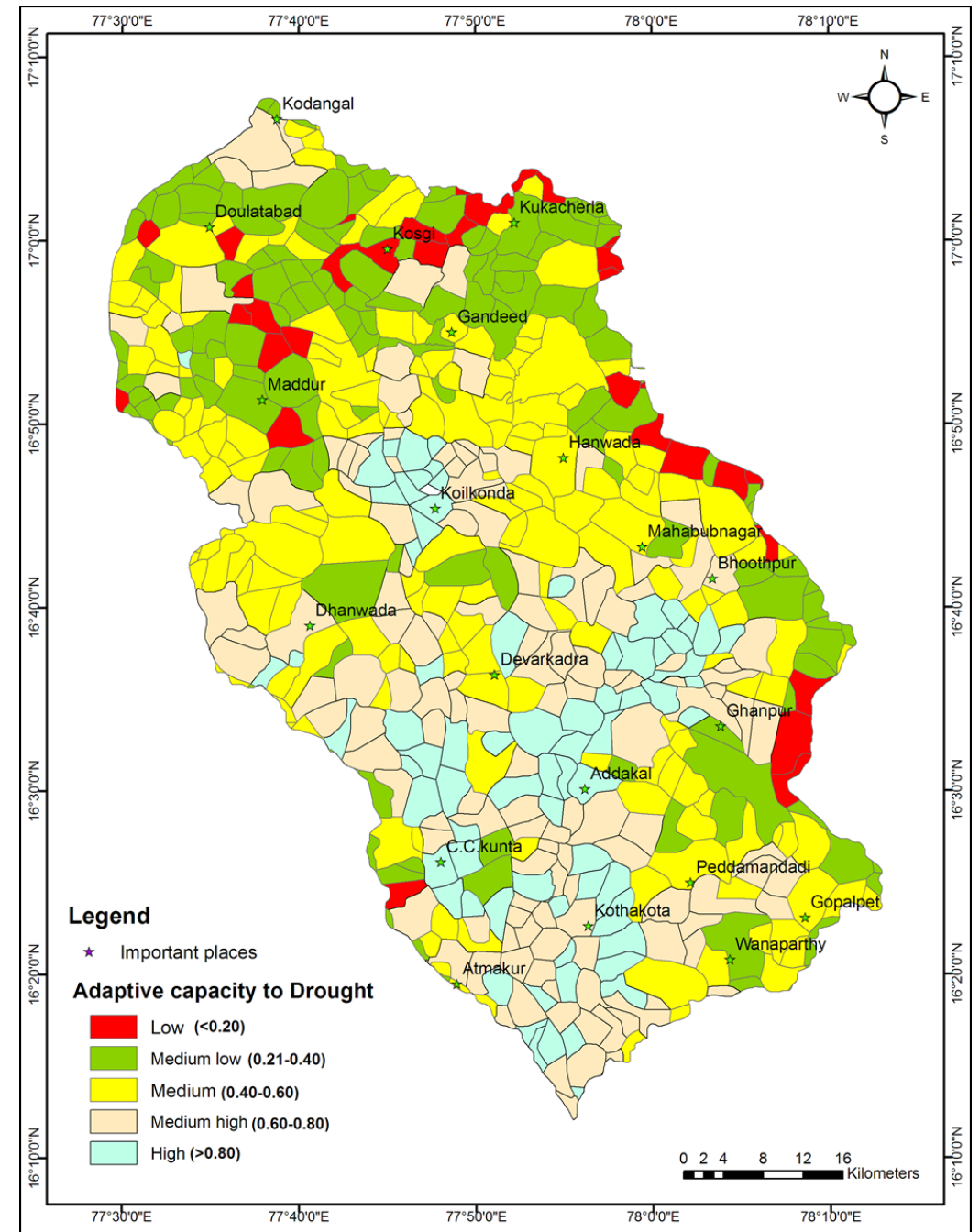
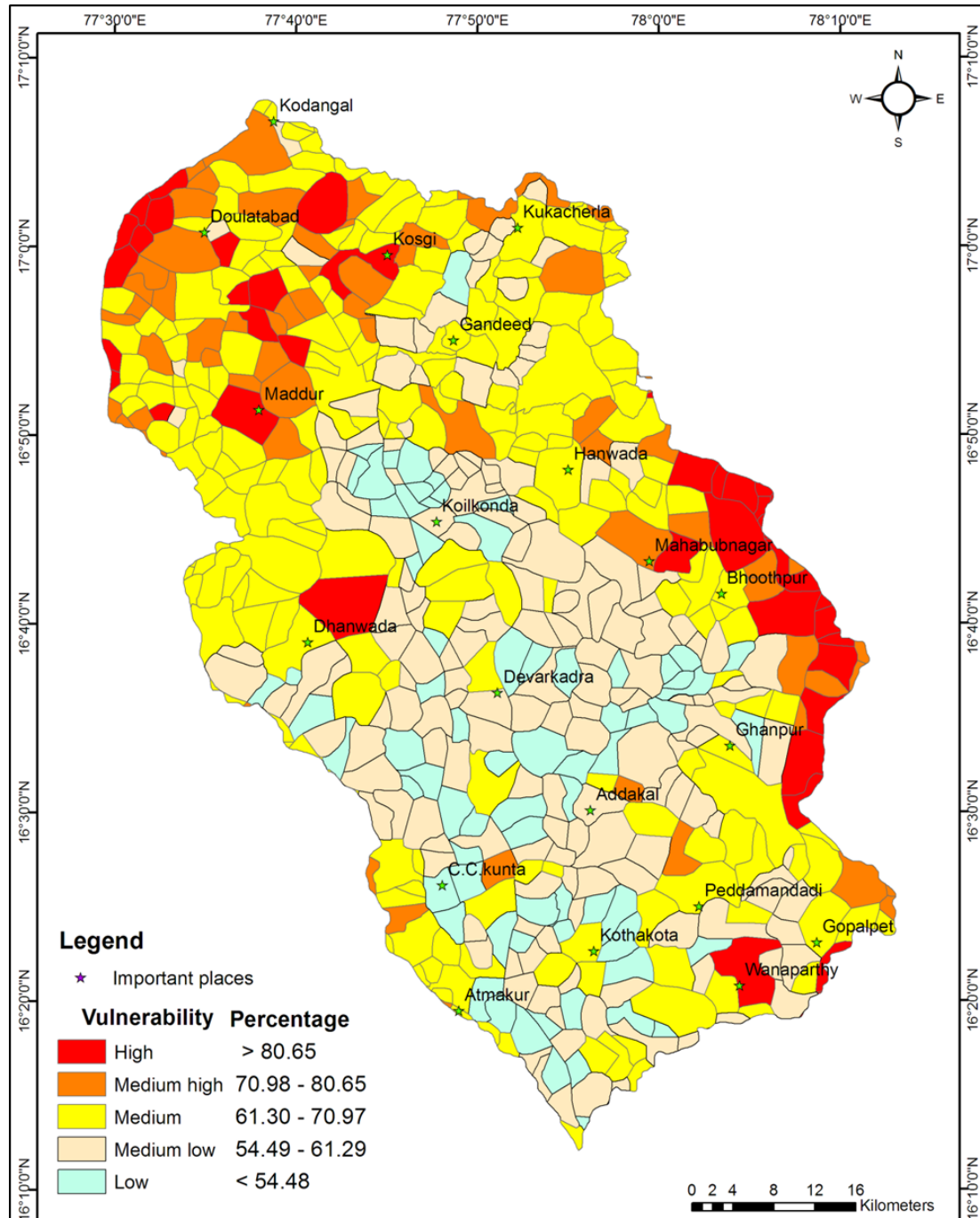
Exposure index (EI)

Sensitivity index (SI)

Adaptive capacity (ACI)



Vulnerability and adaptive capacity of villages to drought / water stress



Thank You