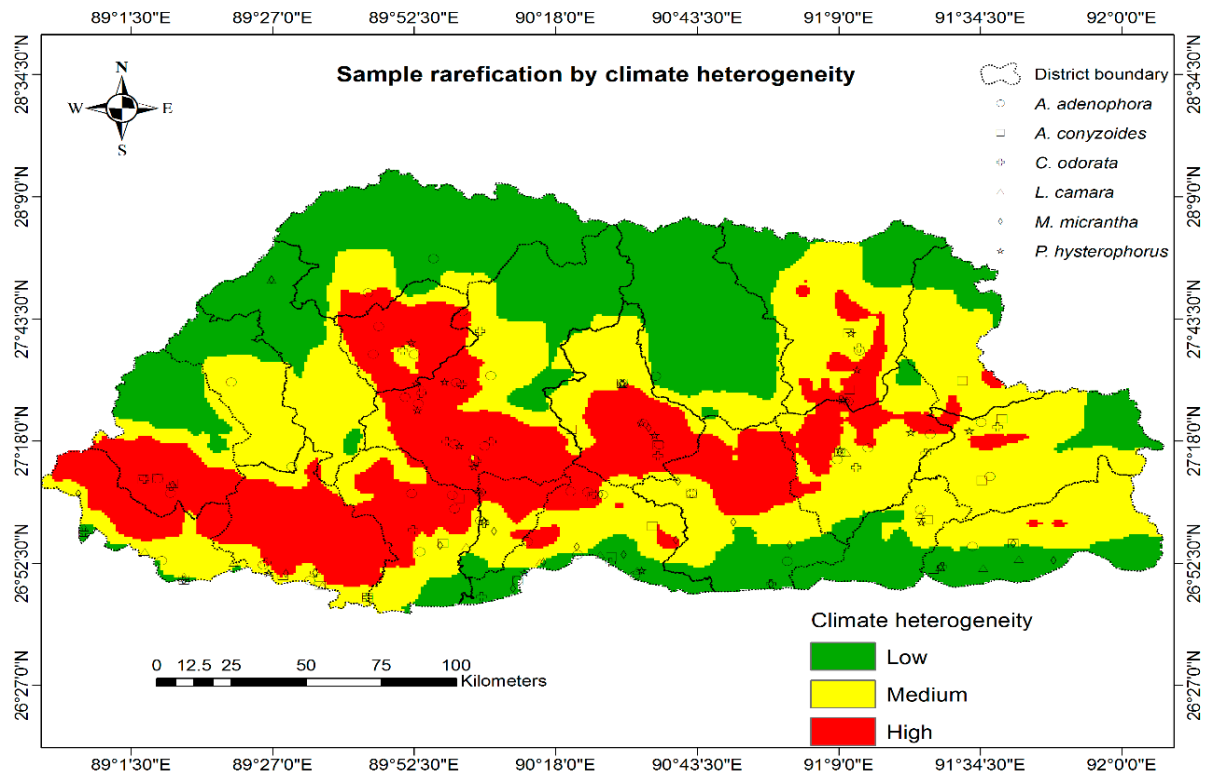


S1. Sample rarefaction using the climatic heterogeneity.

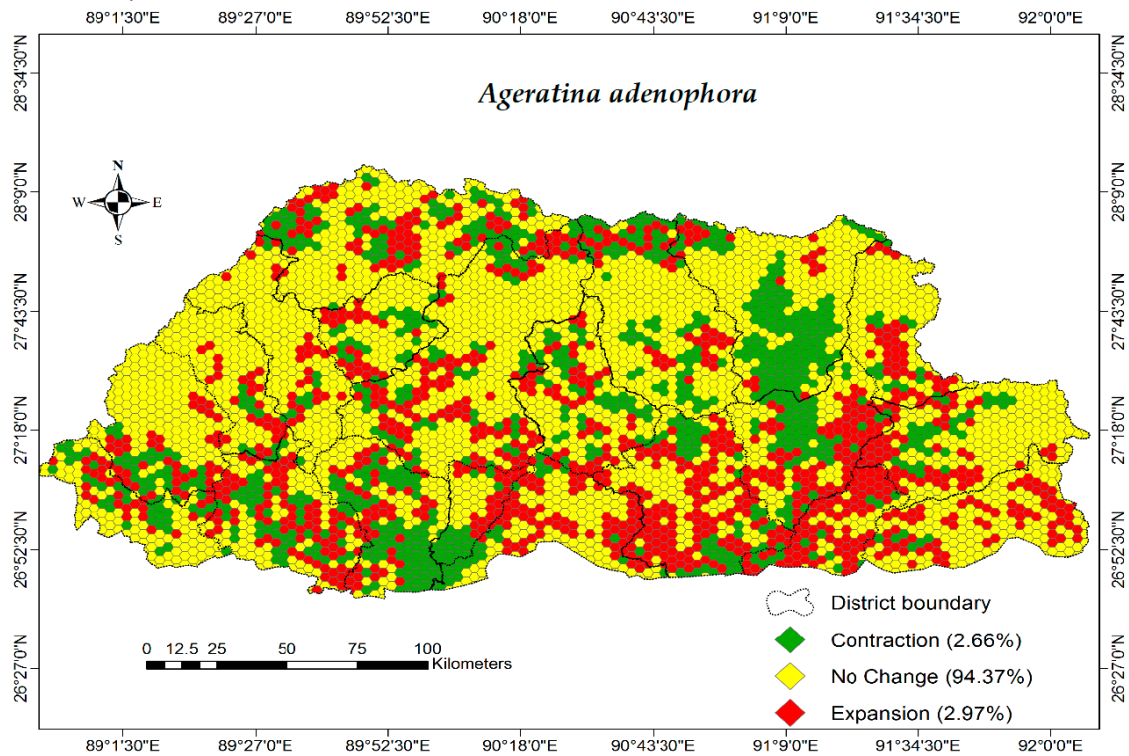
Climatic heterogeneity was constructed using principal component analysis. This analysis provides a single raster output and 3 principal components' eigenvalues in the form of a table. Climatic heterogeneity is calculated using the raster input and eigenvalues. Calculation was set as rectangular nearest neighbor to resolve with the cells of climatic variables.



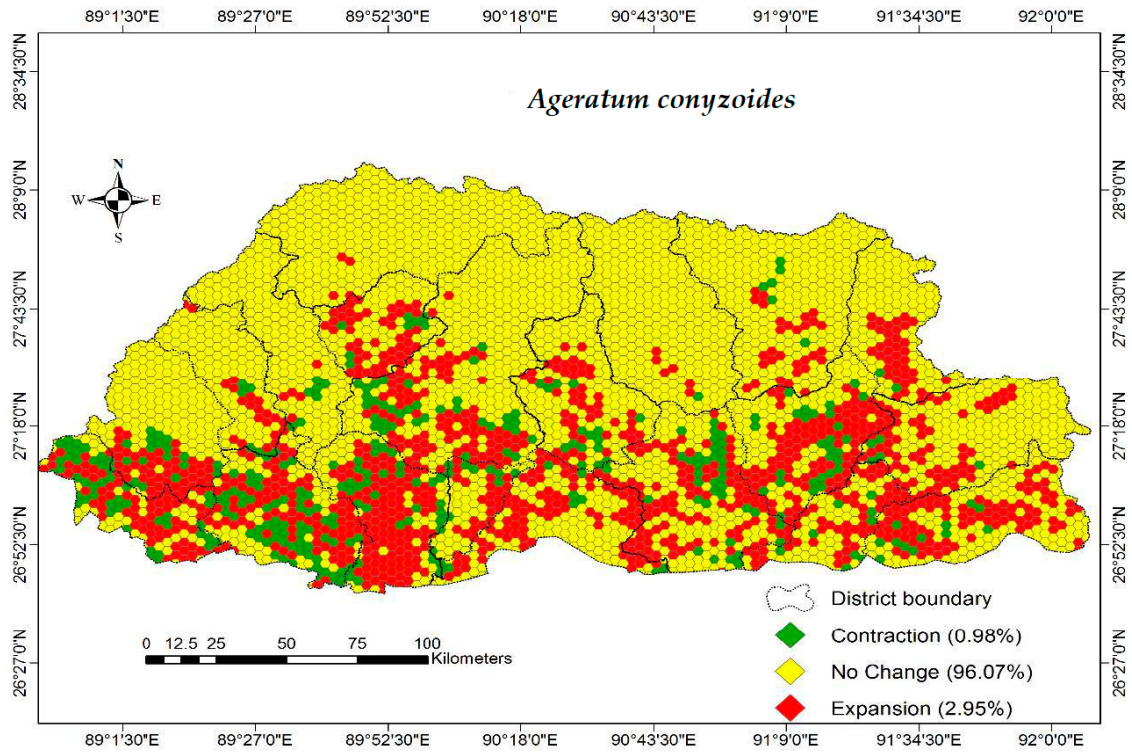
S2: Change maps of six species between the current and future climatic scenarios

The 8 km hexagonal binning was done to aggregate the small areas of polygon within the bigger hexagonal bins for better visualization. The rate of change in area is represented with colour codes (green = contraction, yellow = no change and red = expansion).

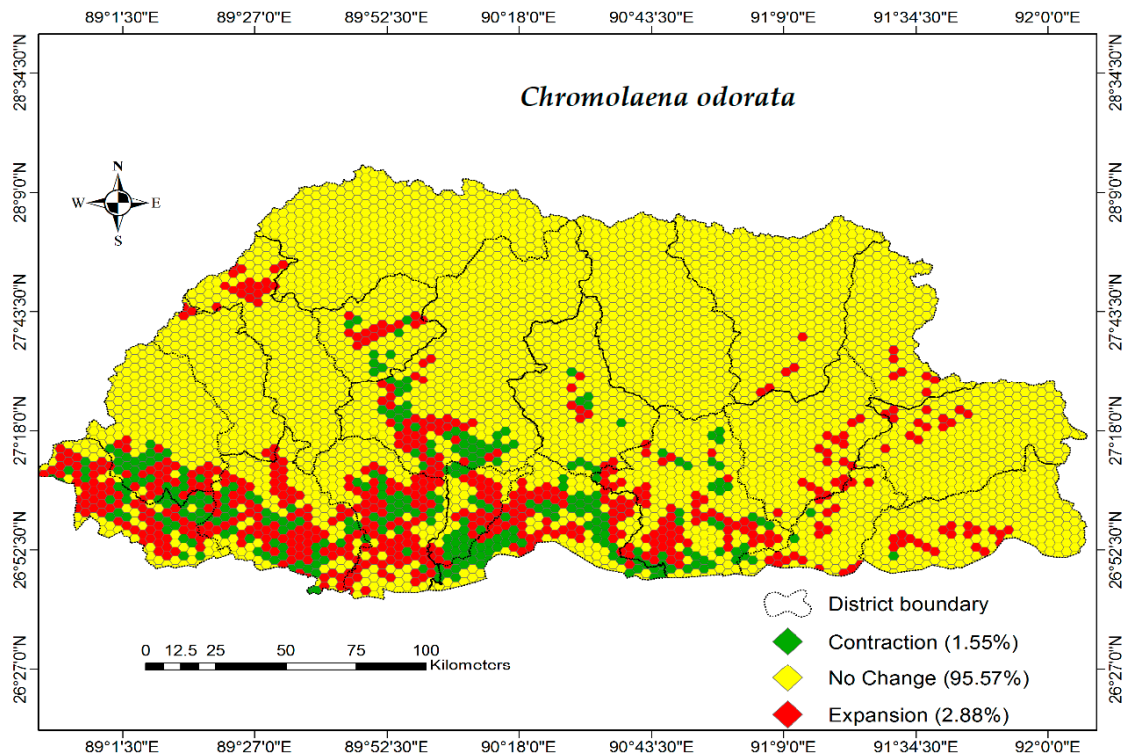
Ageratina adenophora is the most gregarious (26°44'12"N to 28°9'24"N - 88°48'32"E to 92°5'6"E) species as it spreads almost across the whole area.



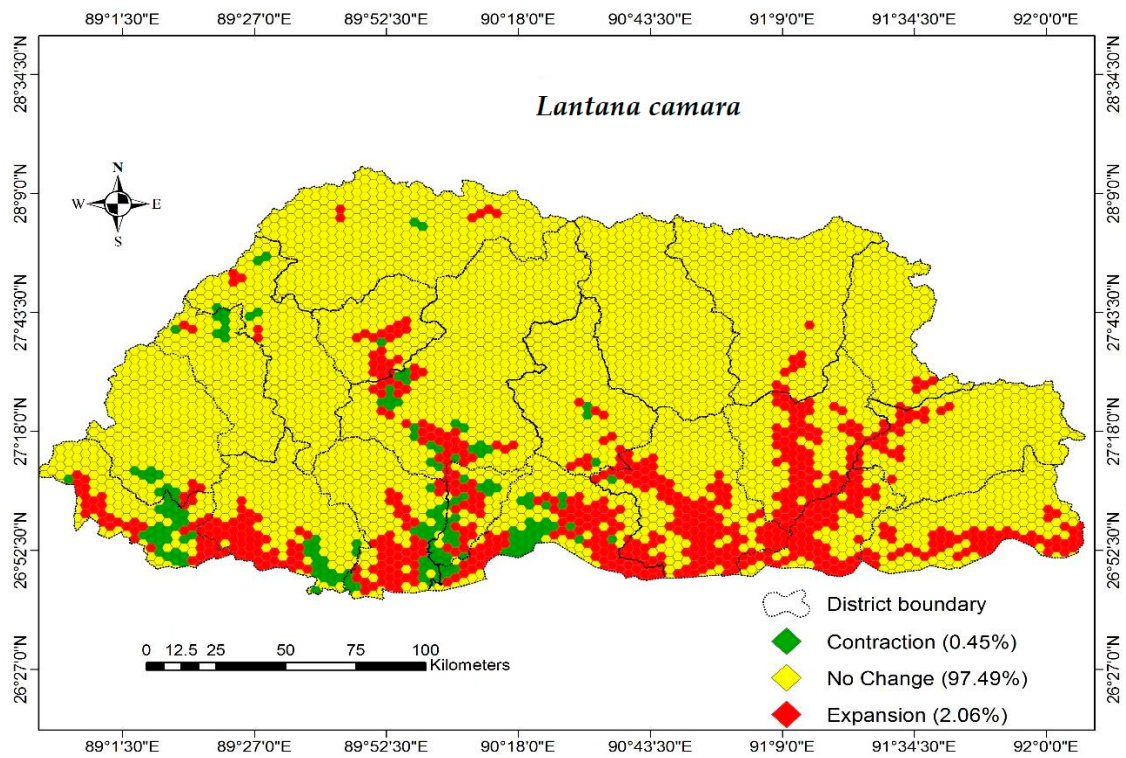
Ageratum conyzoides, second most gregarious species (26°44'33"N to 27°53'29"N - 88°45'21"E to 92°5'27"E)



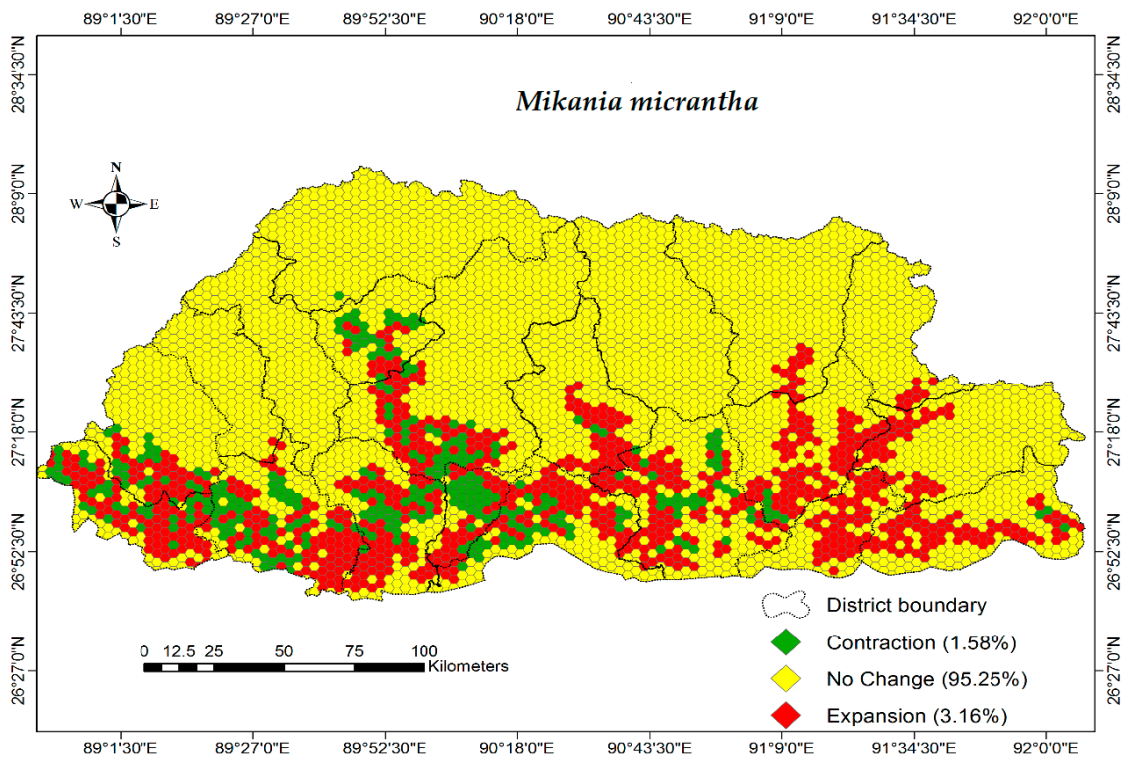
Chromolaena odorata, spreads between (26°44'50"N to 27°53'30"N - 88°46'4"E to 91°53'5"E)



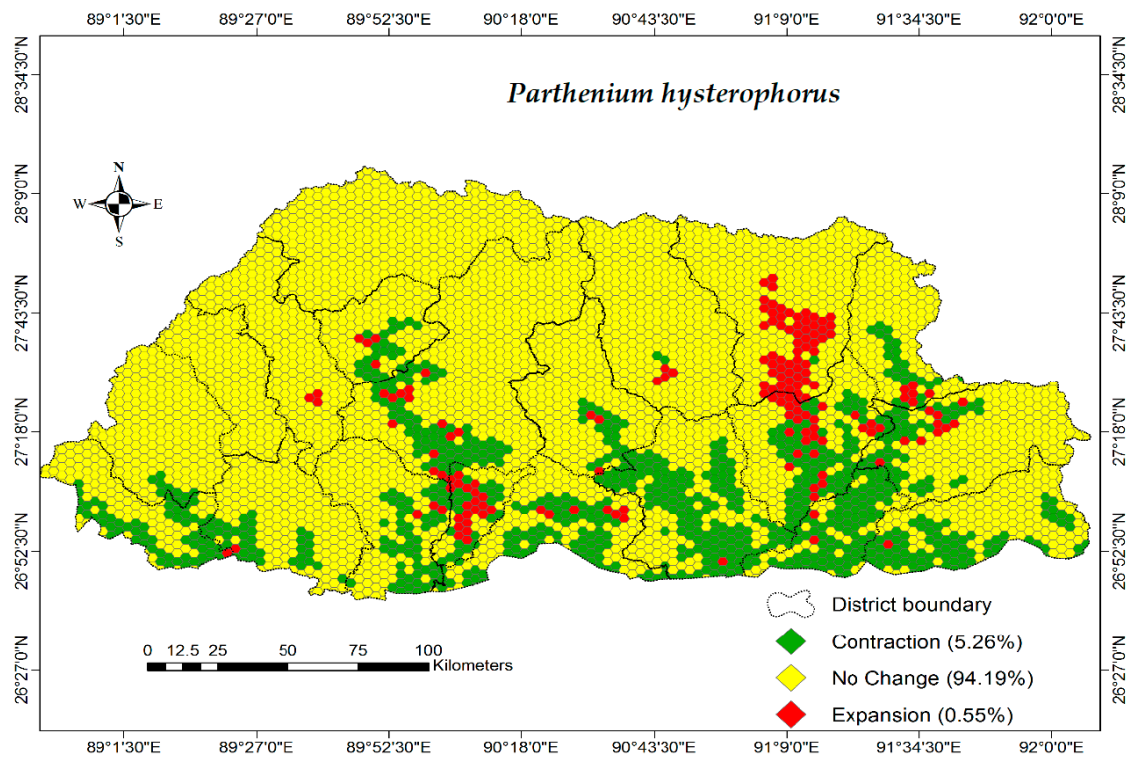
Lantana camara, spreads between (26°44'12"N to 27°41'49"N - 88°53'8"E to 92°7'13"E)



Mikania micrantha, spreads between (26°44'12"N to 27°37'56"N - 88°49'15"E to 92°6'31"E)



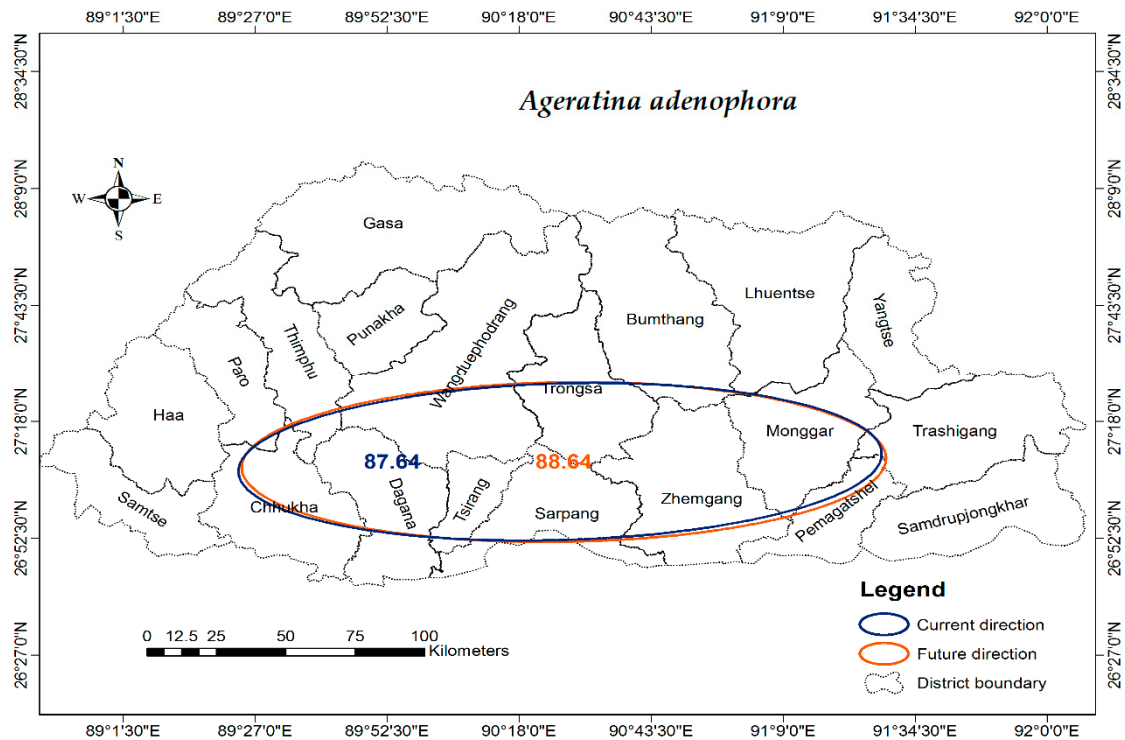
Parthenium hysterophorus, the least gregarious species (26°52'20"N to 27°45'43"N - 89°46'52"E to 91°43'53"E)



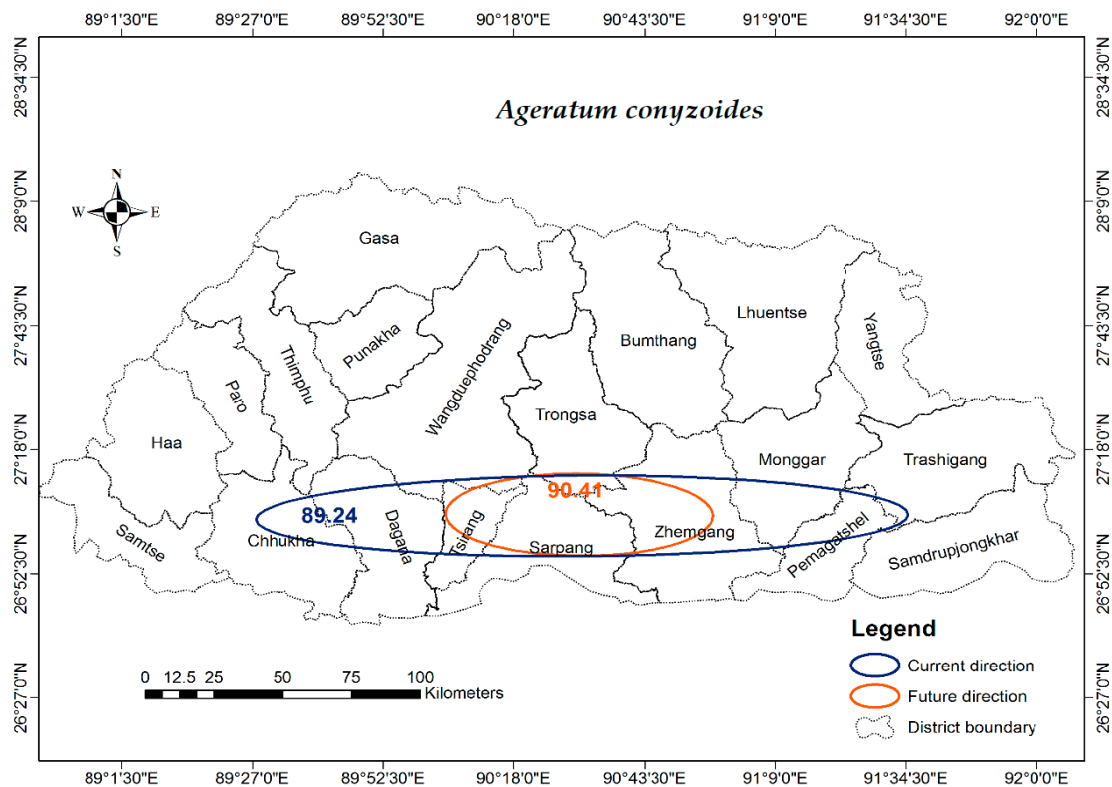
S3. Species wise directional distributions between current and future climatic scenarios

The numeric values (blue = current and orange = future) are the angles of rotation clockwise from the north.

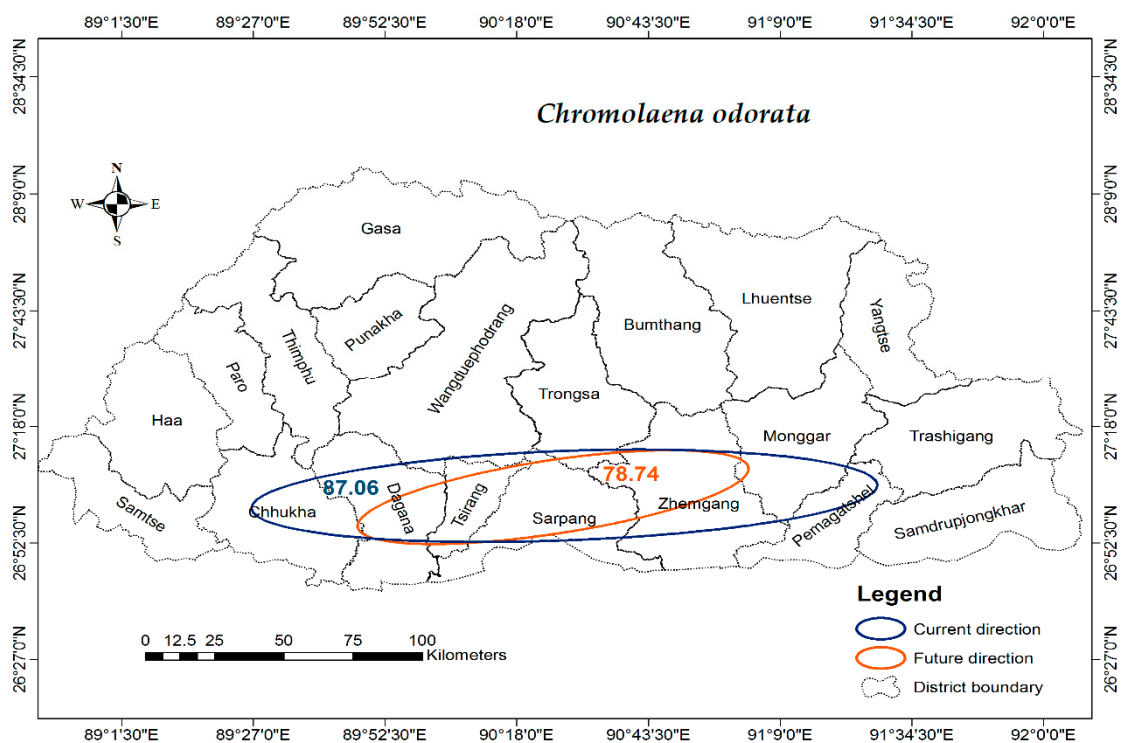
Ageratina adenophora showed a very little change from current to future scenarios.



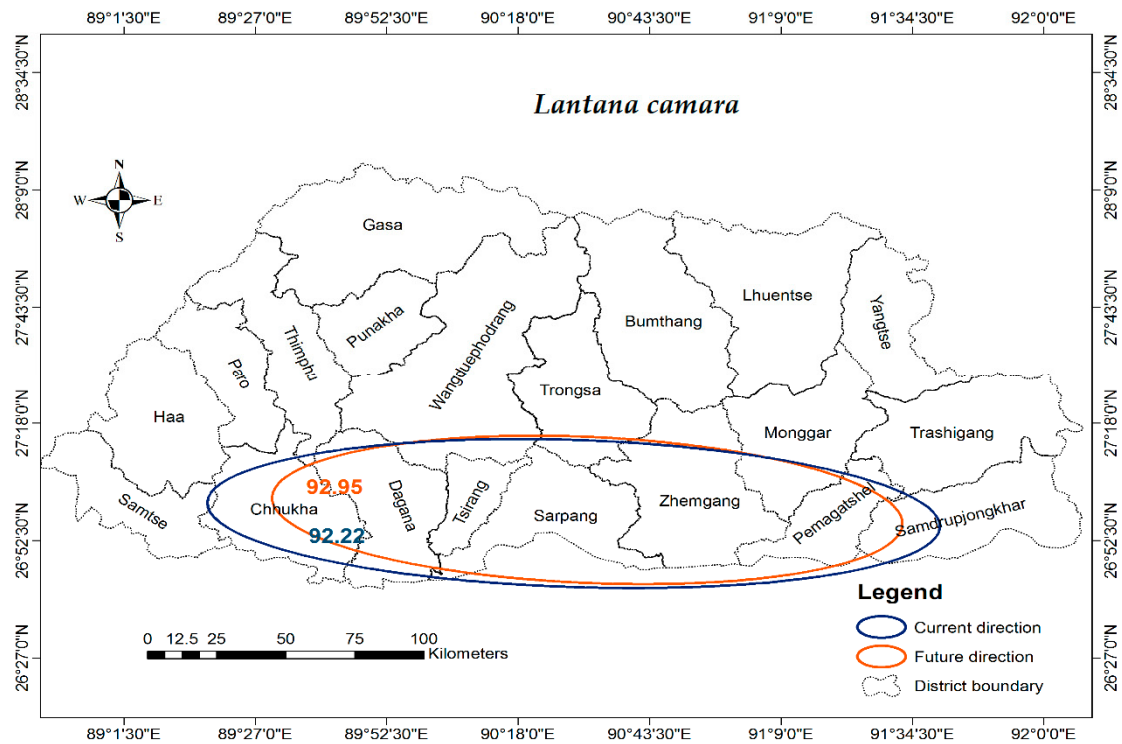
Ageratum conyzoides became almost directionless in the future scenario indicating its dispersed future invasion.



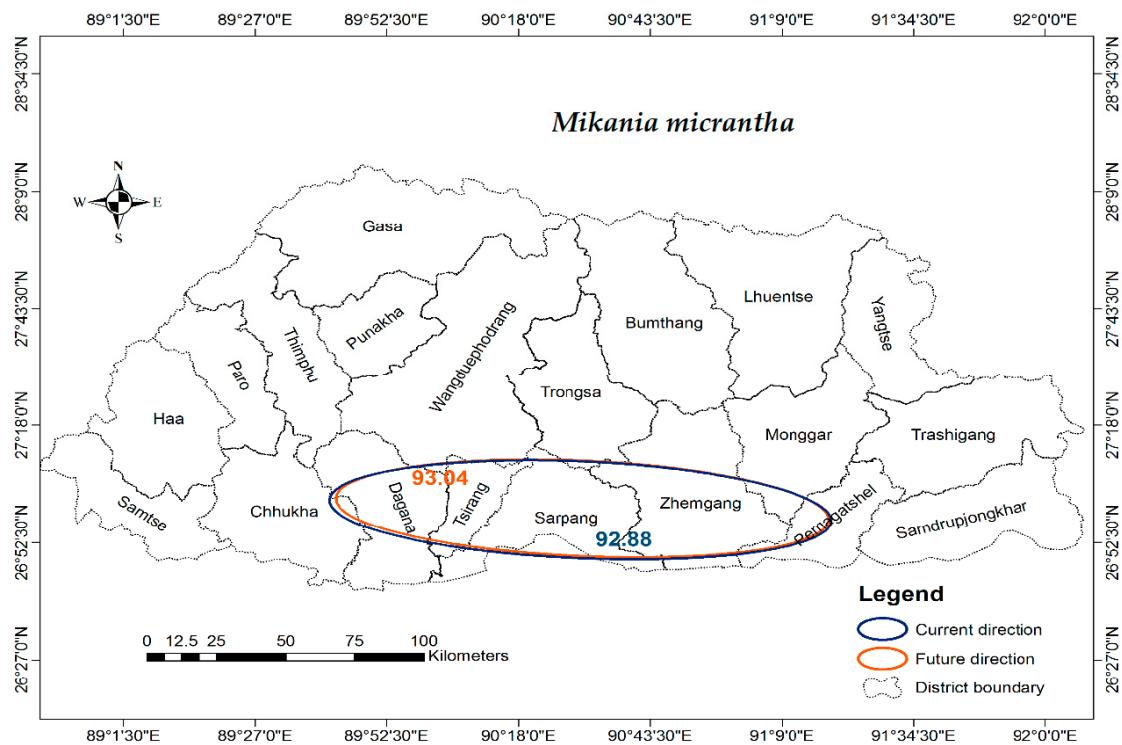
Chromolaena odorata changed from current approximately east (87.06°) to future northeast (78.74°) directions



Lantana camara rotated almost a degree more towards southeast from the current (92.22°) to the future (92.95°) scenarios.



Mikania micrantha did not change in its directions of invasion from the current (92.88°) to future (93.04°) scenarios



Parthenium hysterophorus did not change in east west direction, but shifted northward from the current to future scenarios.

