Definition of conceptual framework

- Definition of risk and vulnerability concept
- Identification of relevant vulnerability indicators
  - Literature/expert knowledge
  - Criteria: Salience, Credibility, Legitimacy
  - Data availability

Indicator pre-processing

- Data acquisition, pre-processing and statistical analysis
  - Creating prevalence surfaces based on DHS data
  - Resampling to 10x10 km2 grids
  - Data transformation
  - Data imputation and outlier treatment
  - Normalization
  - Multicollinearity analysis
= Final Indicator List

Regionalization

- Expert-based weighting exercise
  - Budget allocation to weight the single indicators
- Delineating homogeneous vulnerability regions
  - Regionalization (multi-resolution segmentation)
  - Taking into account the expert weights
- Vulnerability index
  - Calculation of a vulnerability index for each unit based on the vector magnitude

Modeling of integrated geons

Aim: to represent homogenous, integrative spatial regions of social vulnerability to malaria, independent from administrative units

Visualization

- Cartography
- Explorative analysis and visualization
  - Pie-charts
- WebGIS/DSS integration

Local sensitivity analysis

- Local sensitivity analysis
  - Evaluating the influence of the input indicators on the output vulnerability index