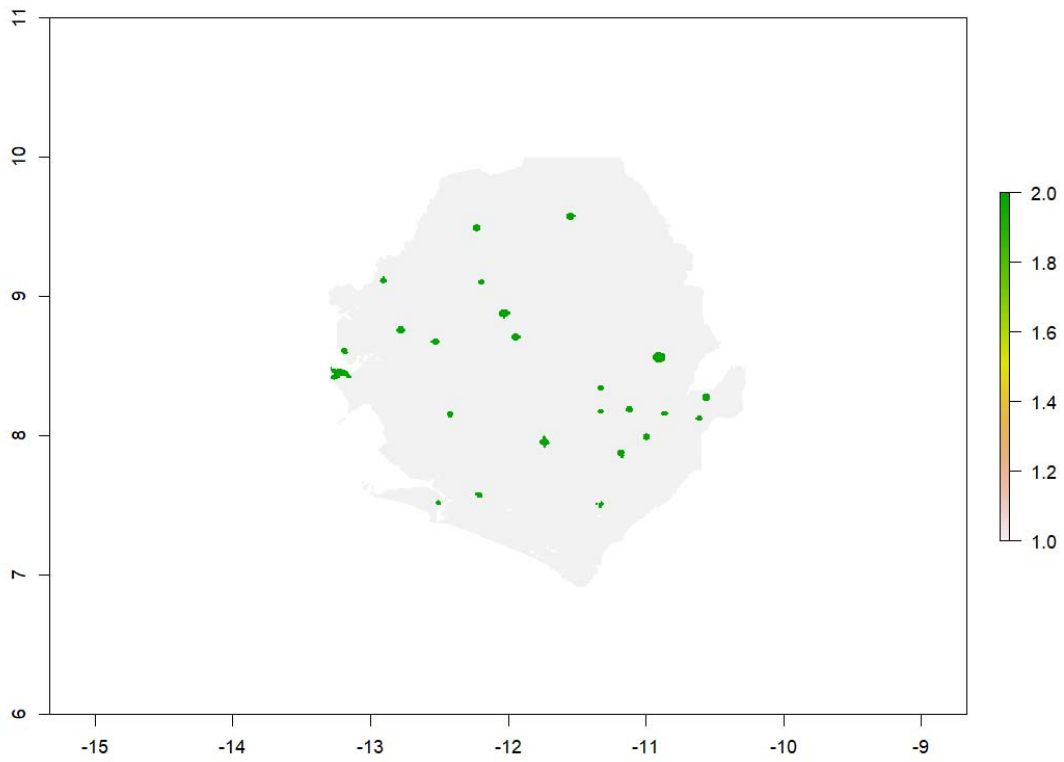
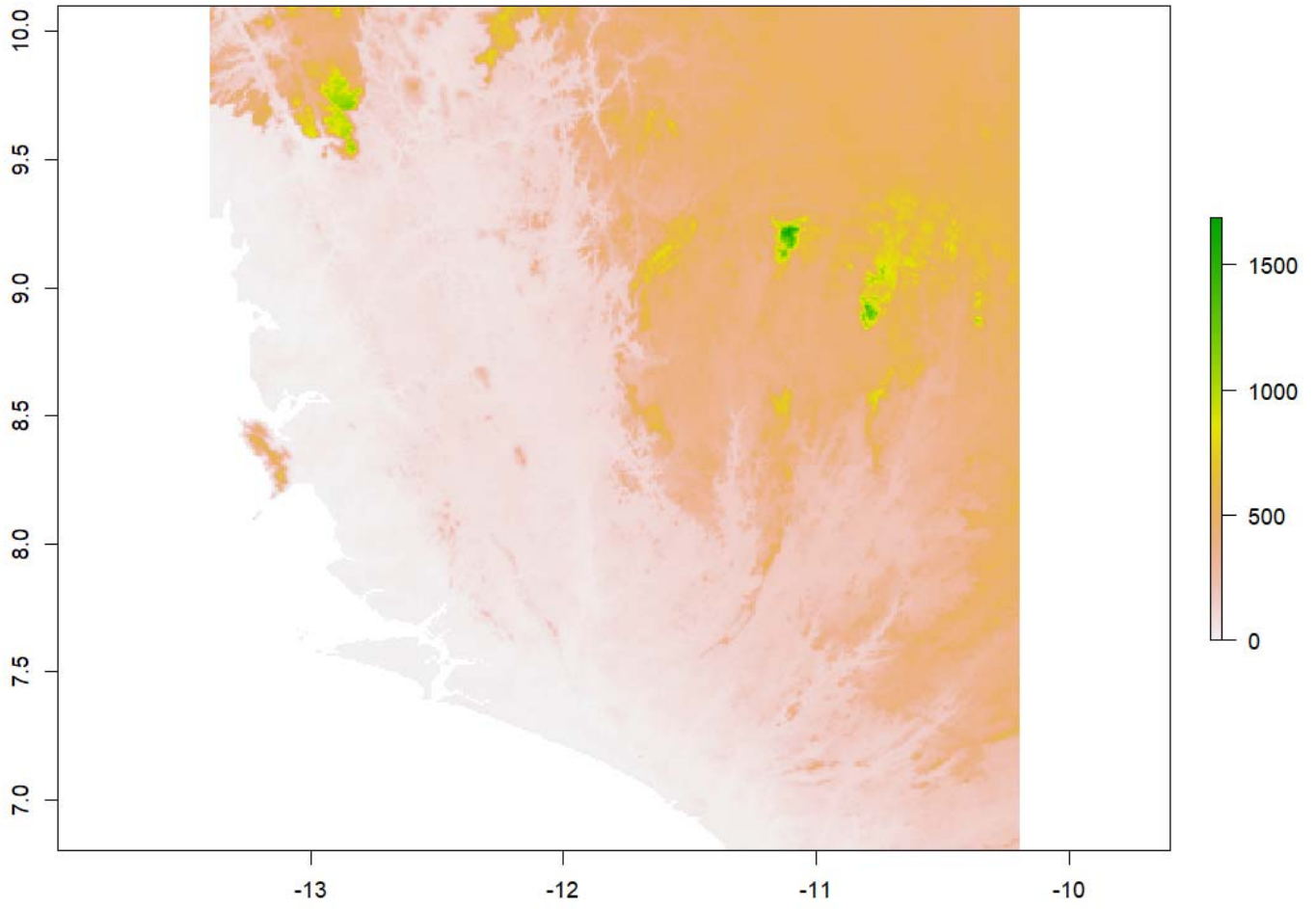


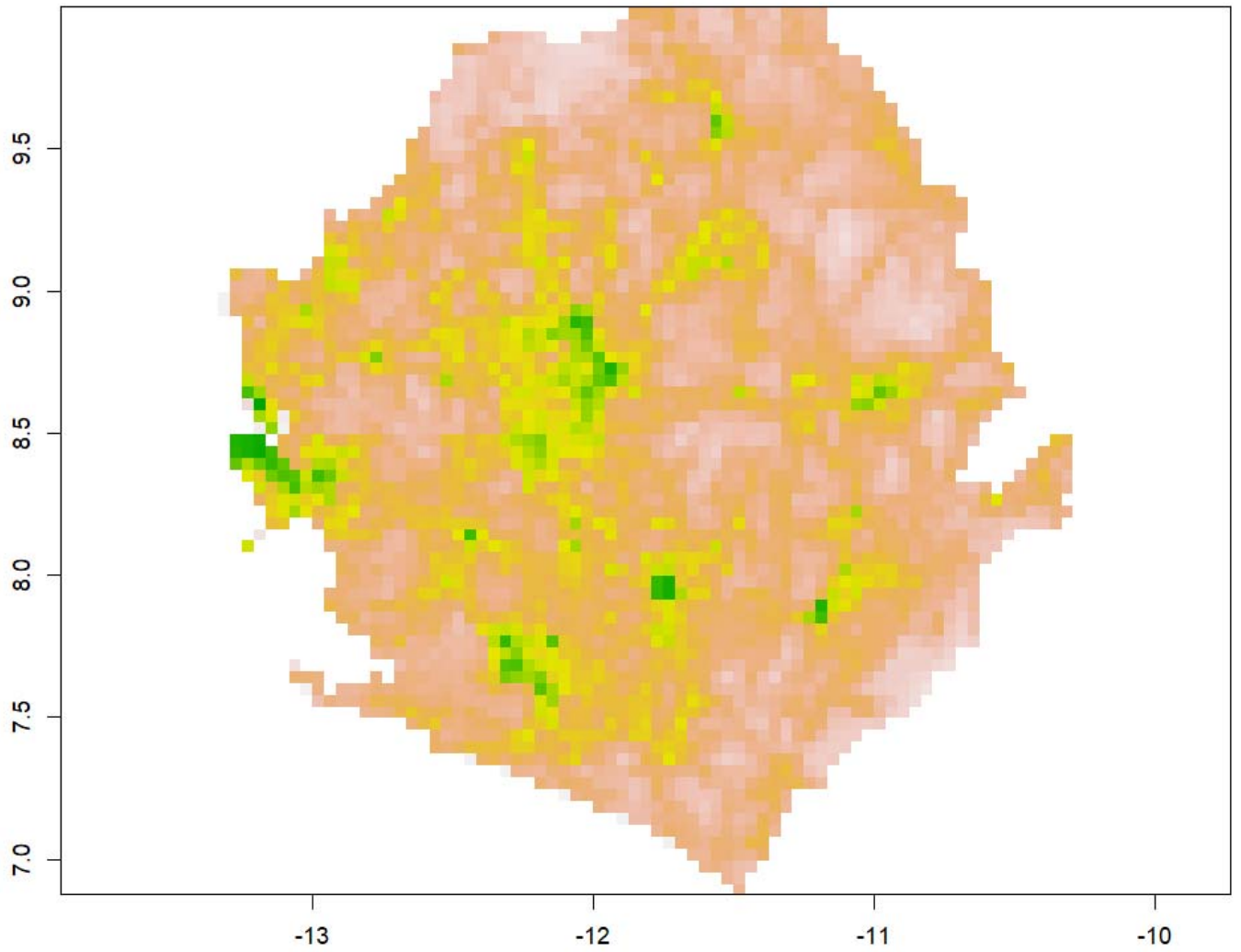
S1: Map of Sierra Leone showing all provinces with clearly delineated boundaries and distinct colors. An inset map highlights Sierra Leone's location within Africa.



S2 Urban extent grid at 0.00833 degrees (30 arc seconds) resolution, indicating the proportion of rural and urban areas in Sierra Leone extracted from the Global Rural-Urban Mapping Project (GRUMP v1)

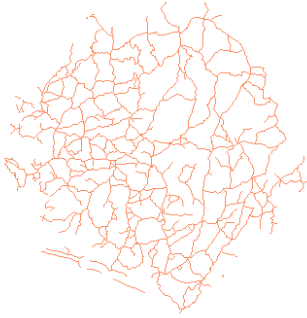


S3 Elevation (aggregated to 30 seconds) from <https://diva-gis.org/>

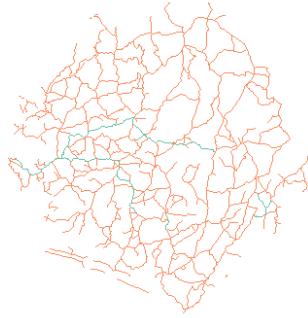


S4 The percentage of live births (or stillbirths) in the two (or three/five) years preceding a 2019 survey delivered at a health facility, which is an indicator for the presence of health facility (Health Facility) obtained from Demographic and Health Surveys (DHS) Program

MED_DESCRI



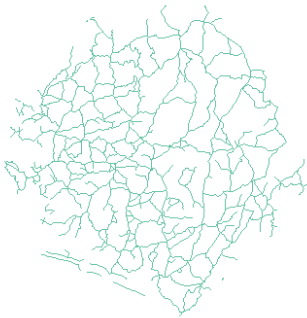
RTT_DESCRI



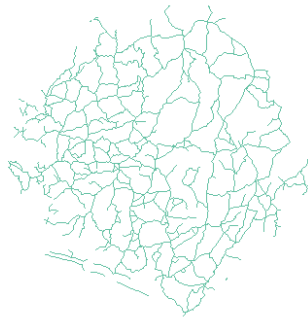
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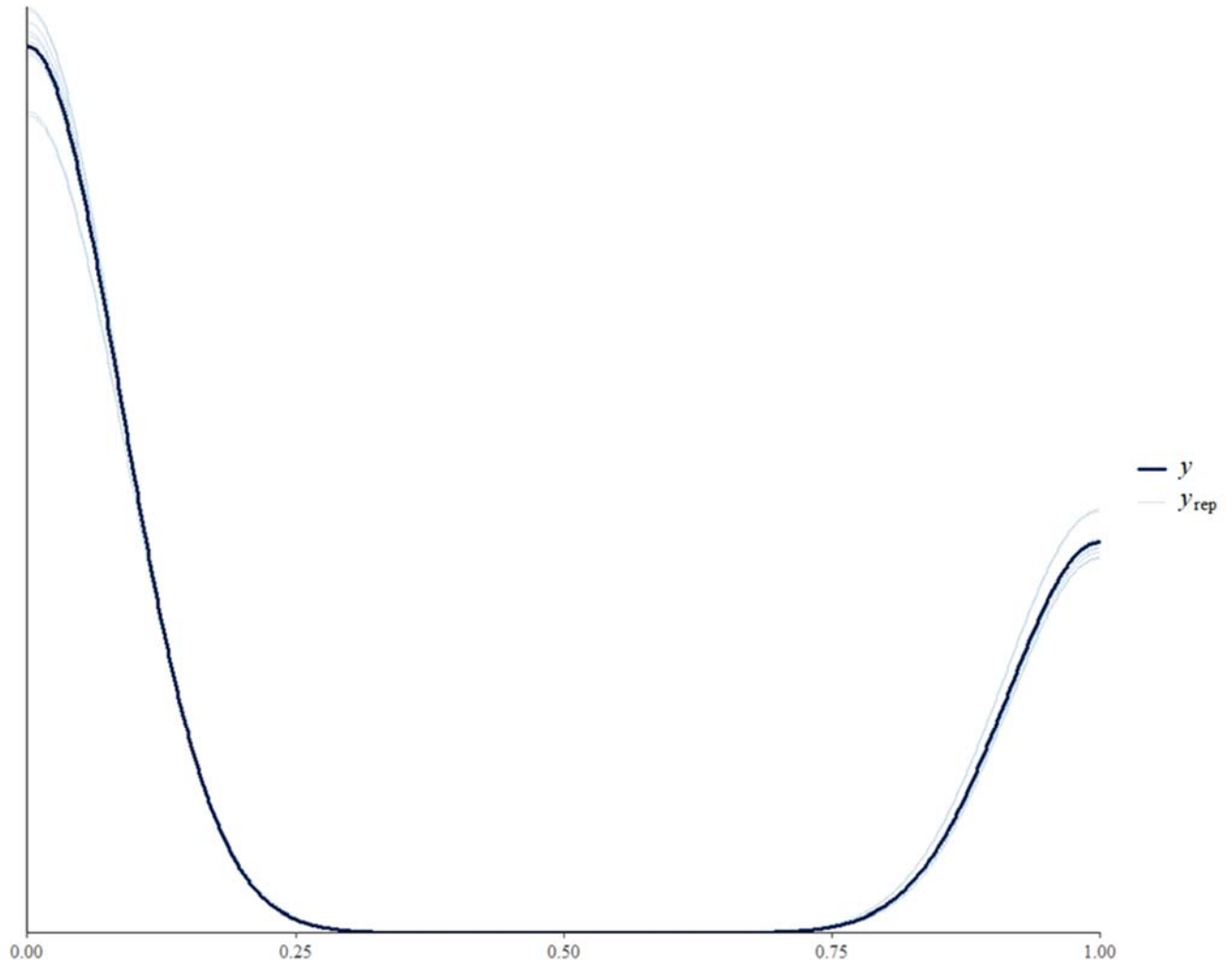
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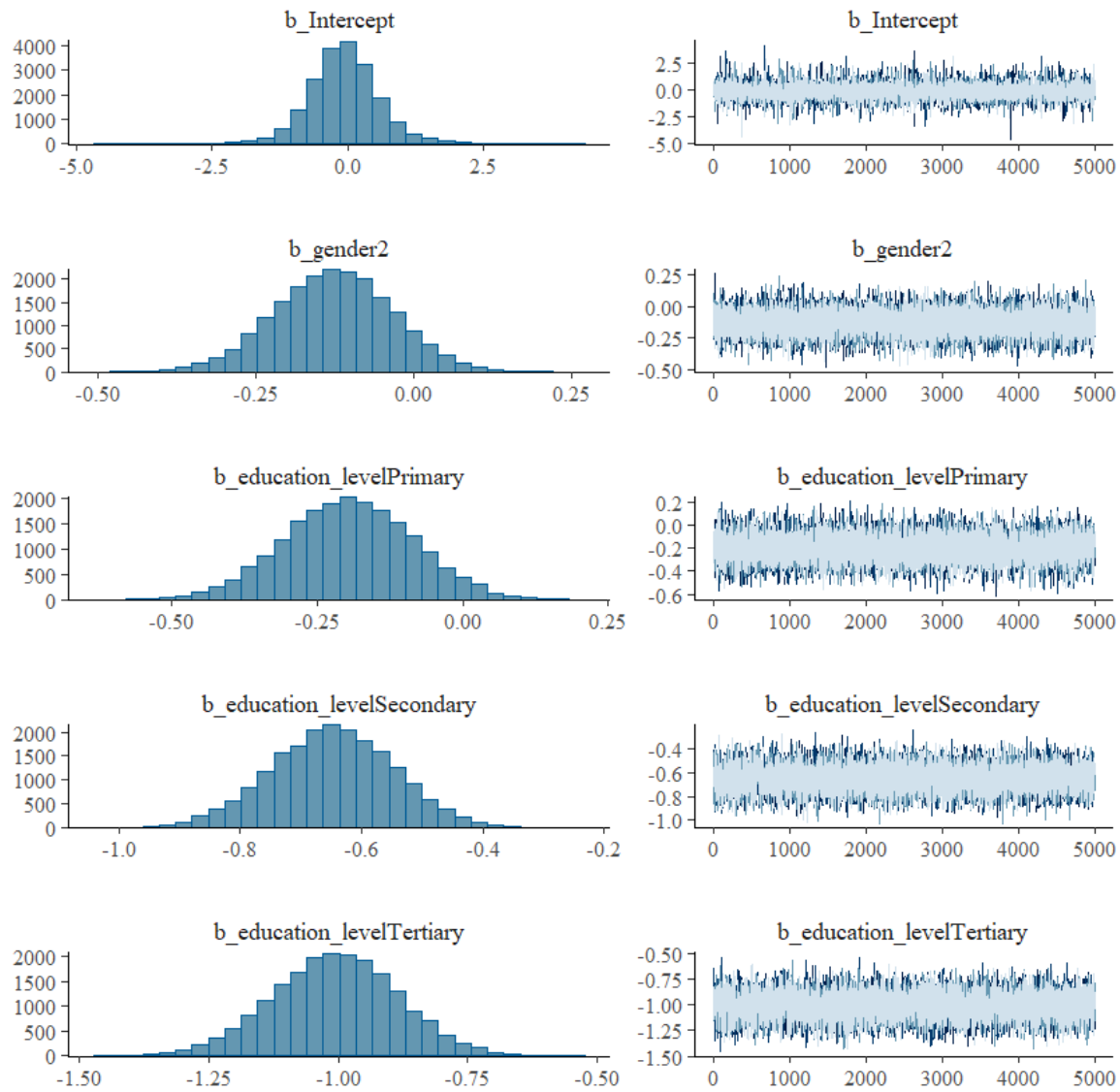
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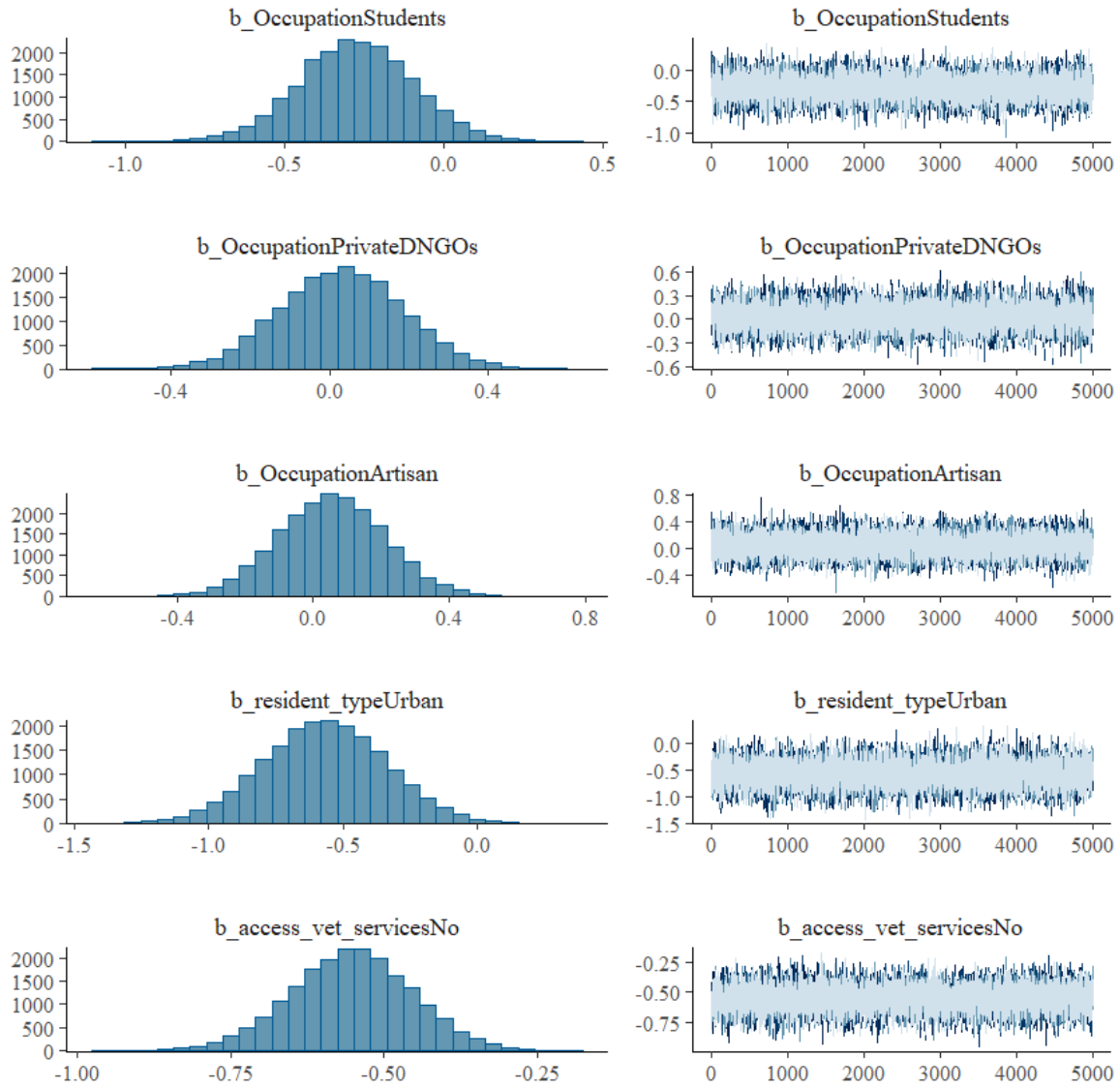


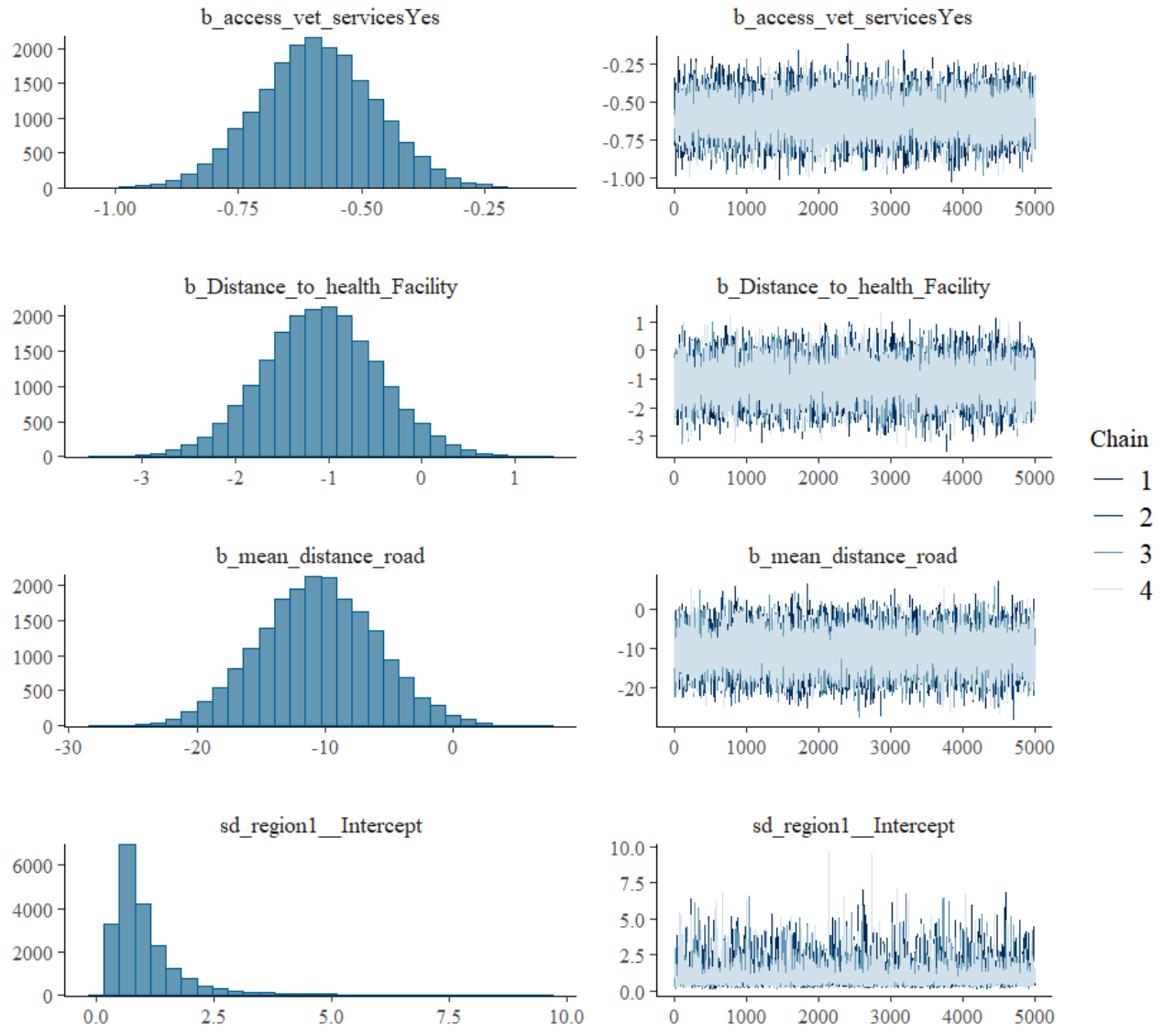
S5 The road data network shapefile for Sierra Leone from <https://diva-gis.org/>



S6 Figure 2 Posterior predictive checks showed strong agreement between the observed data and the model's replicated data. The density plot (Figure X) illustrates substantial overlap between the observed response distribution (dark blue) and the replicated posterior predictive distribution (light blue), indicating that the model adequately captures the variability in the data.







S7 Trace plots showing good mixing of chains for most of the parameters