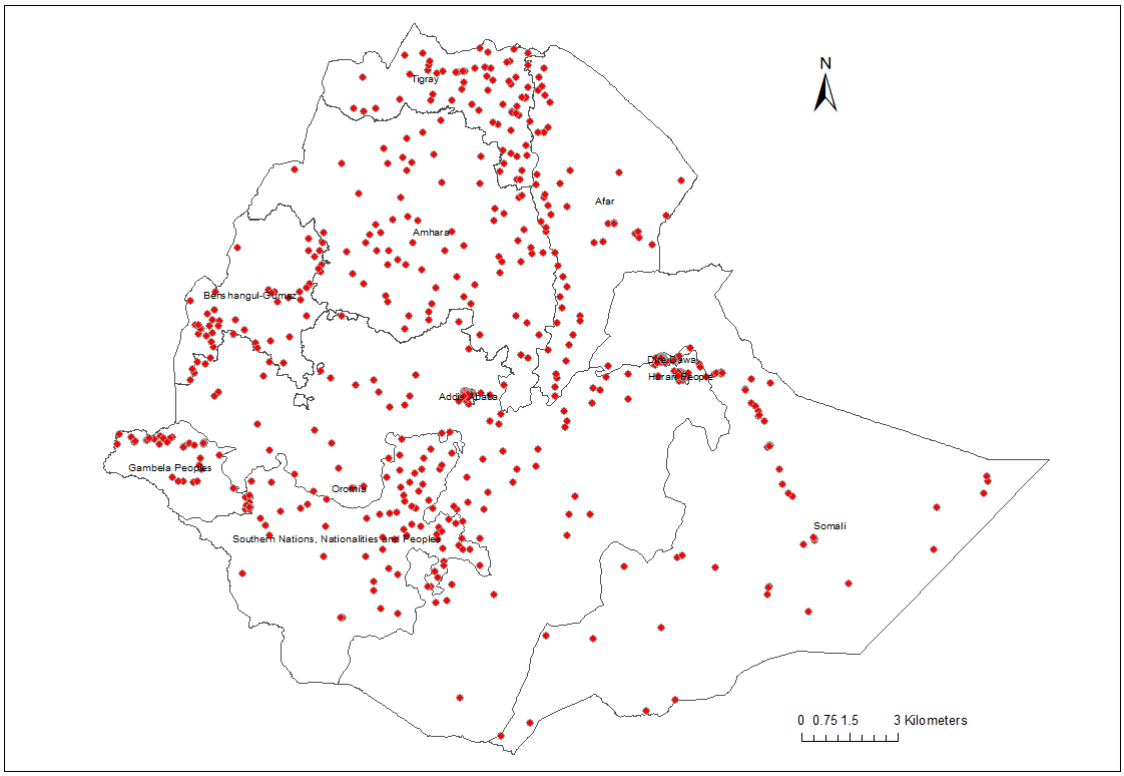
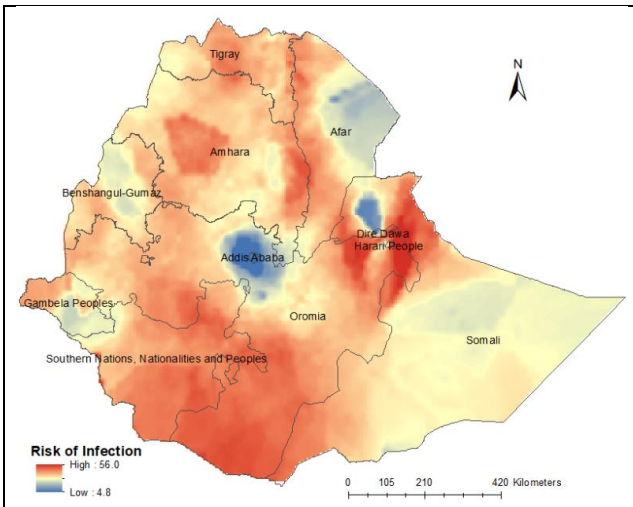
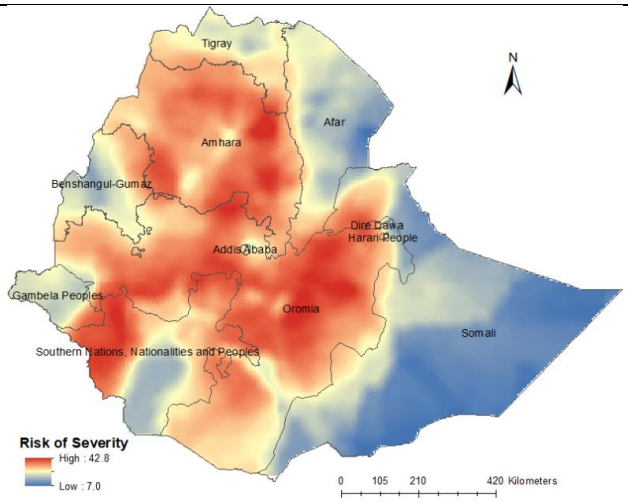
Supplemental Information



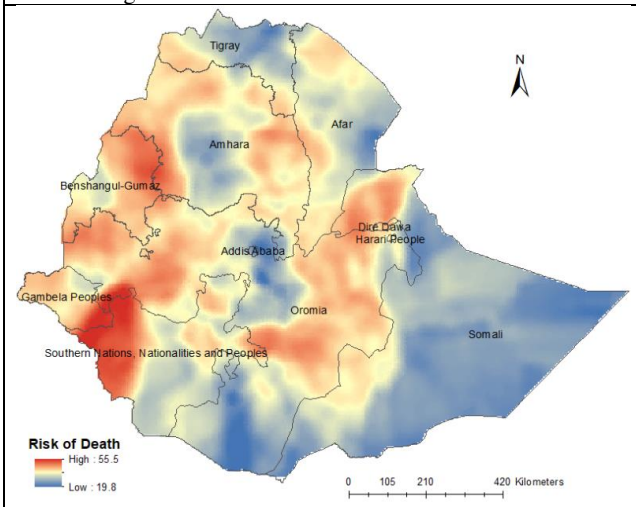
Supplemental Figure 1: A map showing the distribution of the Ethiopia Demographic and Health Survey (EDHS 2016) datapoints.



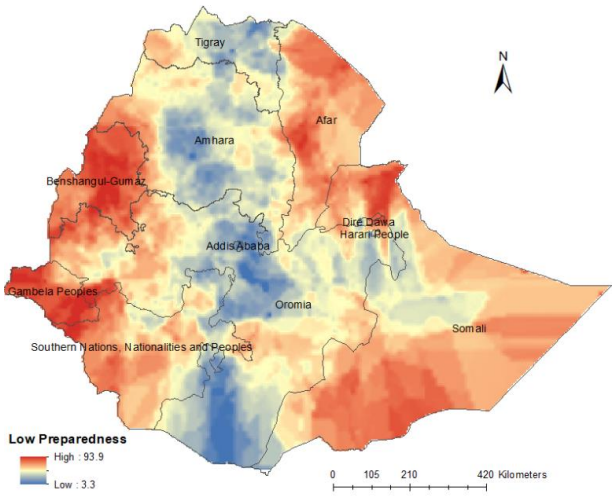
S Figure 2a. COVID-19 infection risk map in Ethiopia, created based on a geometric mean



S Figure 2b. COVID-19 severity risk map in Ethiopia, created based on a geometric mean

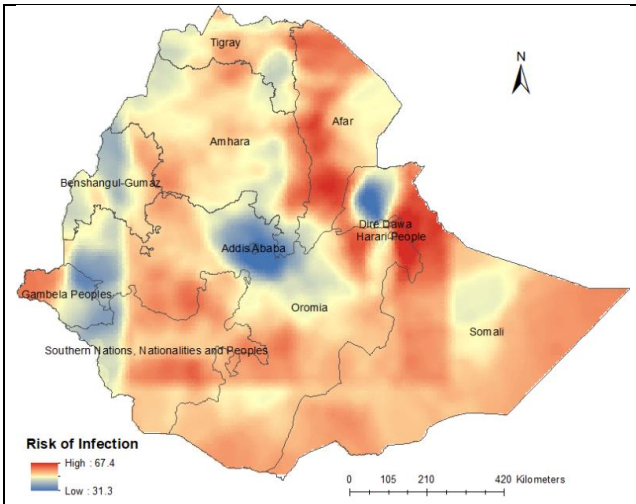


S Figure 2c. Death risk map of COVID-19 in Ethiopia, created based on a geometric mean

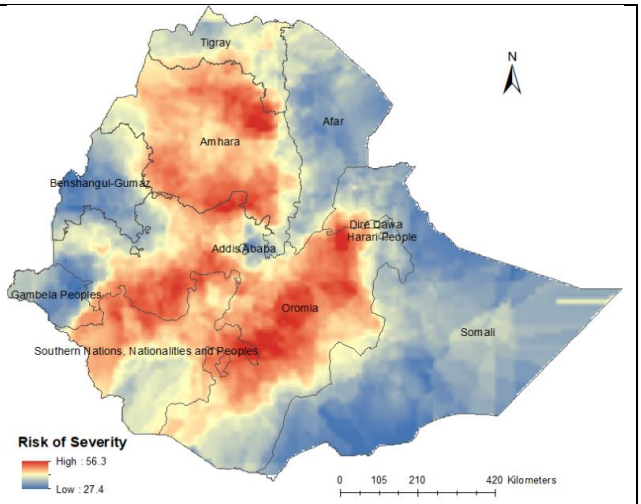


S Figure 2d. Service preparedness map of COVID-19 in Ethiopia, created based on a geometric mean

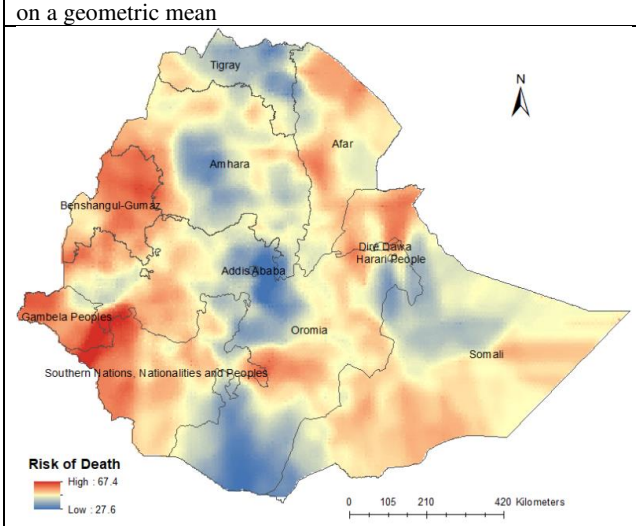
Supplemental Figure 2: Vulnerability maps of COVID-19 infection, severity, preparedness, and death in Ethiopia, created based on a geometric mean as alternative aggregation method.



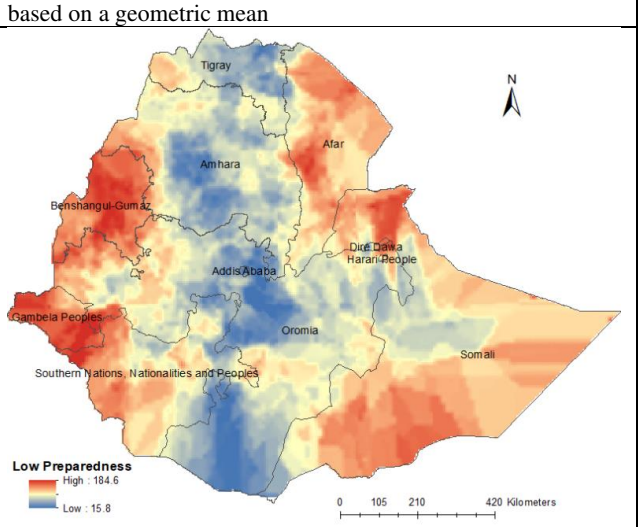
S Figure 3a. COVID-19 infection risk map in Ethiopia, created based on a geometric mean



S Figure 3b. COVID-19 severity risk map in Ethiopia, created based on a geometric mean

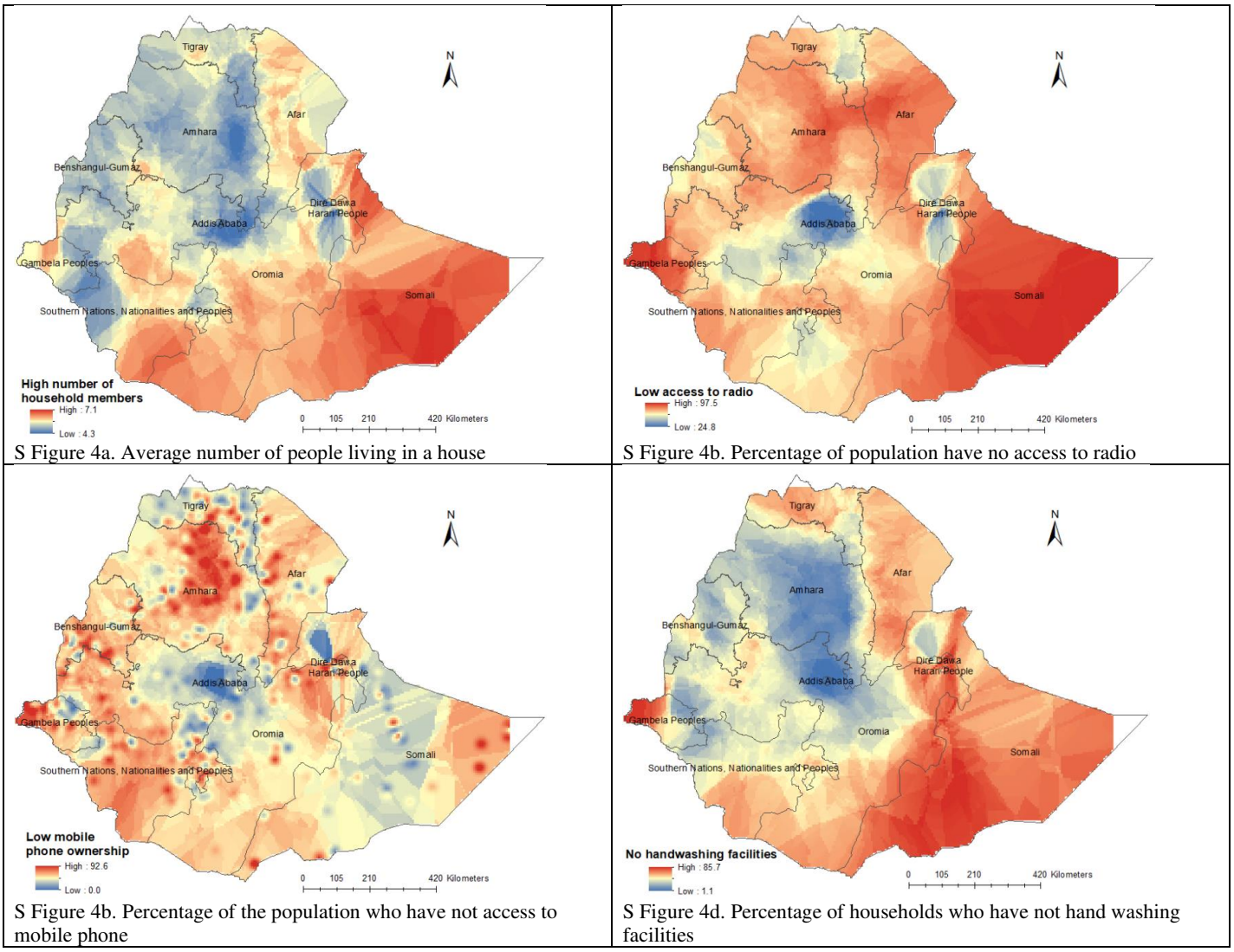


S Figure 3c. Death risk map of COVID-19 in Ethiopia, created based on a geometric mean



S Figure 3d. Service preparedness map of COVID-19 in Ethiopia, created based on a geometric mean

Supplemental Figure 3: Vulnerability maps of COVID-19 infection, severity, preparedness, and death in Ethiopia, created based on a principal component analysis (PCA) as alternative aggregation method.



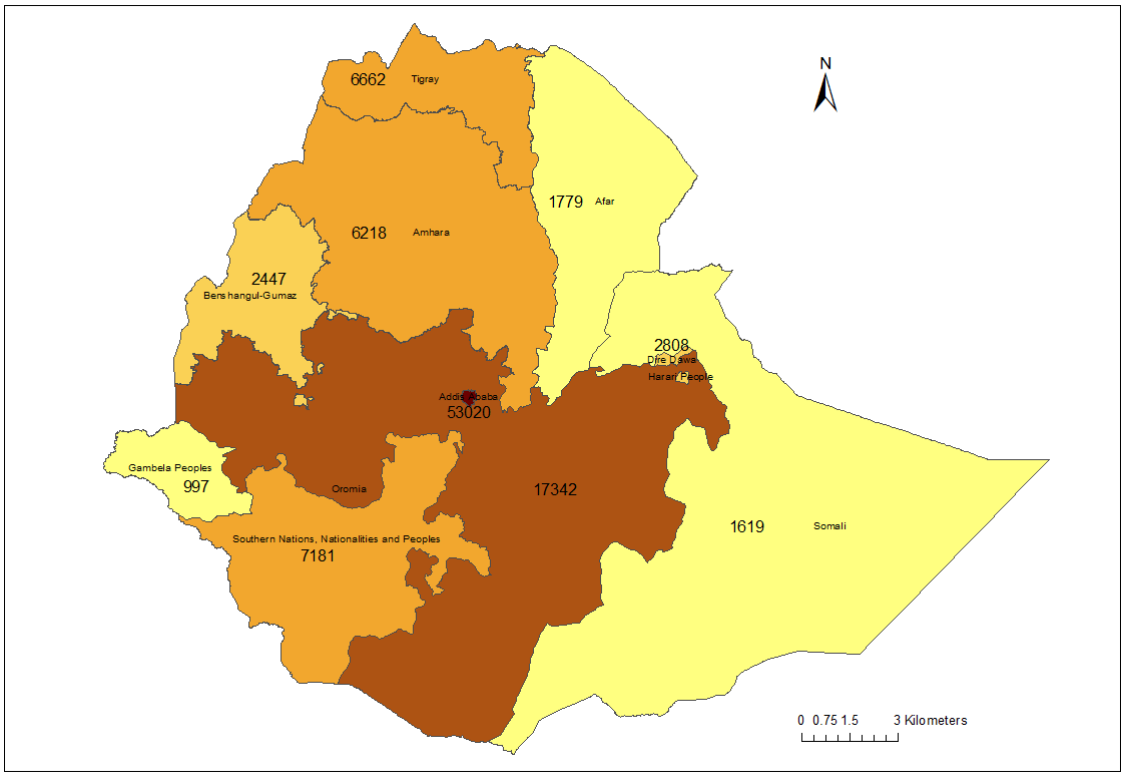
S Figure 4a. Average number of people living in a house

S Figure 4b. Percentage of population have no access to radio

S Figure 4b. Percentage of the population who have not access to mobile phone

S Figure 4d. Percentage of households who have not hand washing facilities

Supplemental Figure 4: Selected indicators showing the risk of COVID-19 infection in Ethiopia



Supplemental Figure 5: Number of COVID-19 confirmed cases at regional level in Ethiopia on 15 November 2020.

Supplemental Table 1: STROBE Statement—Checklist of items included in this study

	Item No	Recommendation	Page number
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	5
Objectives	3	State specific objectives, including any prespecified hypotheses	6
Methods			
Study design	4	Present key elements of study design early in the paper	6
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	6
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	6, 7 &8
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6, 7 &8
Data sources/ measurement	8	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6, 7, 8 & Table 1
Bias	9	Describe any efforts to address potential sources of bias	9
Study size	10	Explain how the study size was arrived at	NA
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	8 & 9
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	8 & 9
		(*b*) Describe any methods used to examine subgroups and interactions	8 & 9
		(*c*) Explain how missing data were addressed	8 & 9
		(*d*) If applicable, describe analytical methods taking account of sampling strategy	NA
		(*e*) Describe any sensitivity analyses	9
Results			
Participants	13	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	9 & 10
		(b) Give reasons for non-participation at each stage	9 & 10
		(c) Consider use of a flow diagram	Figure 1
Descriptive data	14	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Table 1
		(b) Indicate number of participants with missing data for each variable of interest	NA
Outcome data	15	Report numbers of outcome events or summary measures	9 & 10
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	NA
		(*b*) Report category boundaries when continuous variables were categorized	NA
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	NA
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	9
Discussion			
Key results	18	Summarise key results with reference to study objectives	10
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	13
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	10-13
Generalisability	21	Discuss the generalisability (external validity) of the study results	13
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	15