DISABILITY AMONG ADULTS IN SENEGAL: AN ECOLOGICAL APPROACH

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CONTEXT

➜ Disability is the consequence of disease or injury on functioning.
➜ Measurement needs for SDGs.
➜ Important for prevention, care and territory planning.
➜ Though high burden of diseases, little is known about disability in Africa: burden, nature and determinants.

OBJECTIVE

➜ To confirm a non-hazardous spatial distribution of disability in Senegal.
➜ To identify environmental and socioeconomic factors associated with the prevalence of disability.
➜ To identify the contribution of the context.

DATA & METHOD

➜ 2013 Population census
➜ Disability measurement among adults (18-59 years old): standard short set of questions designed by the Washington group
➜ Spatial analysis and spatial autoregressive model at the district level (552 "communes")
➜ Multilevel analysis at individual, household and district levels (work in progress)

SPATIAL ANALYSIS
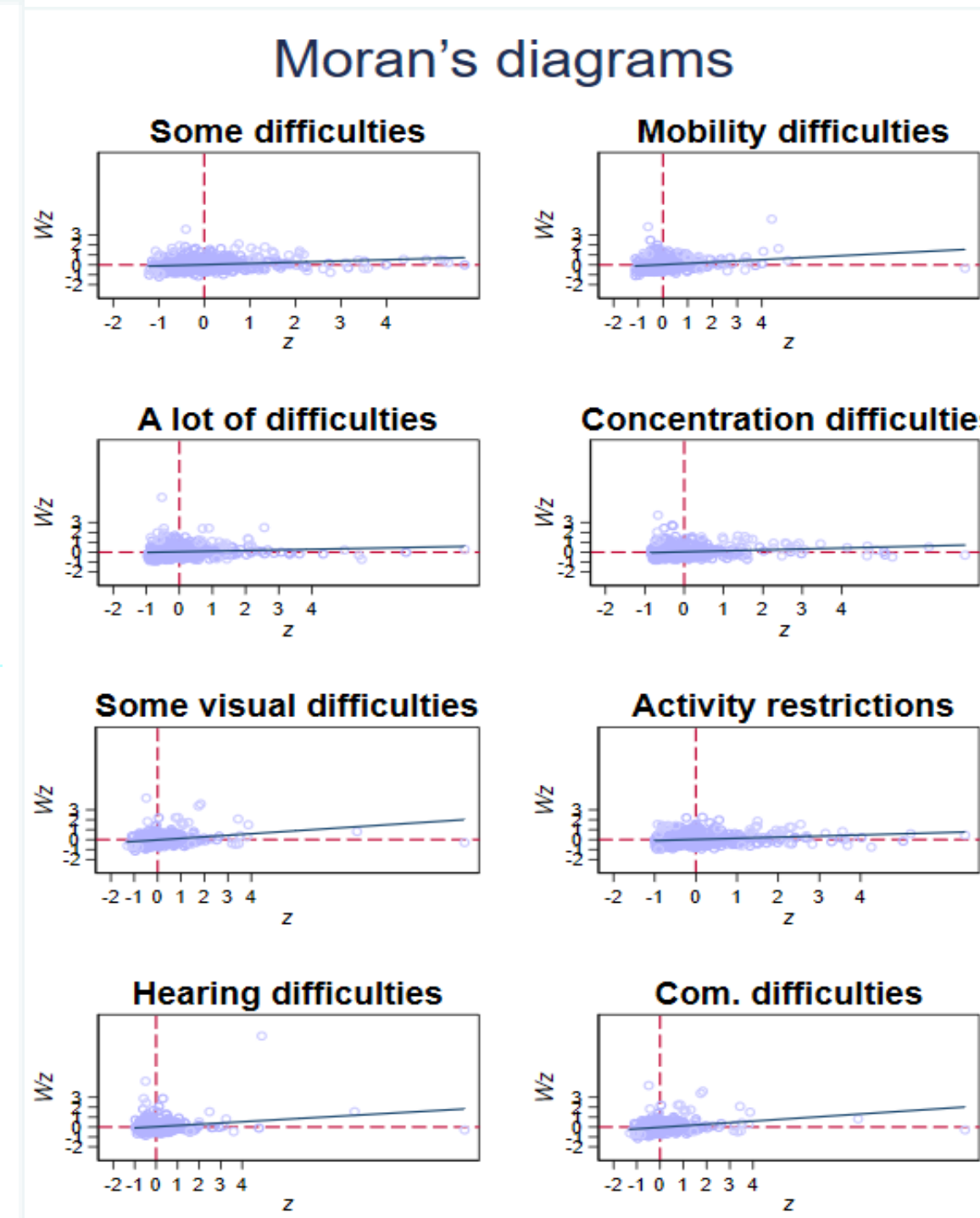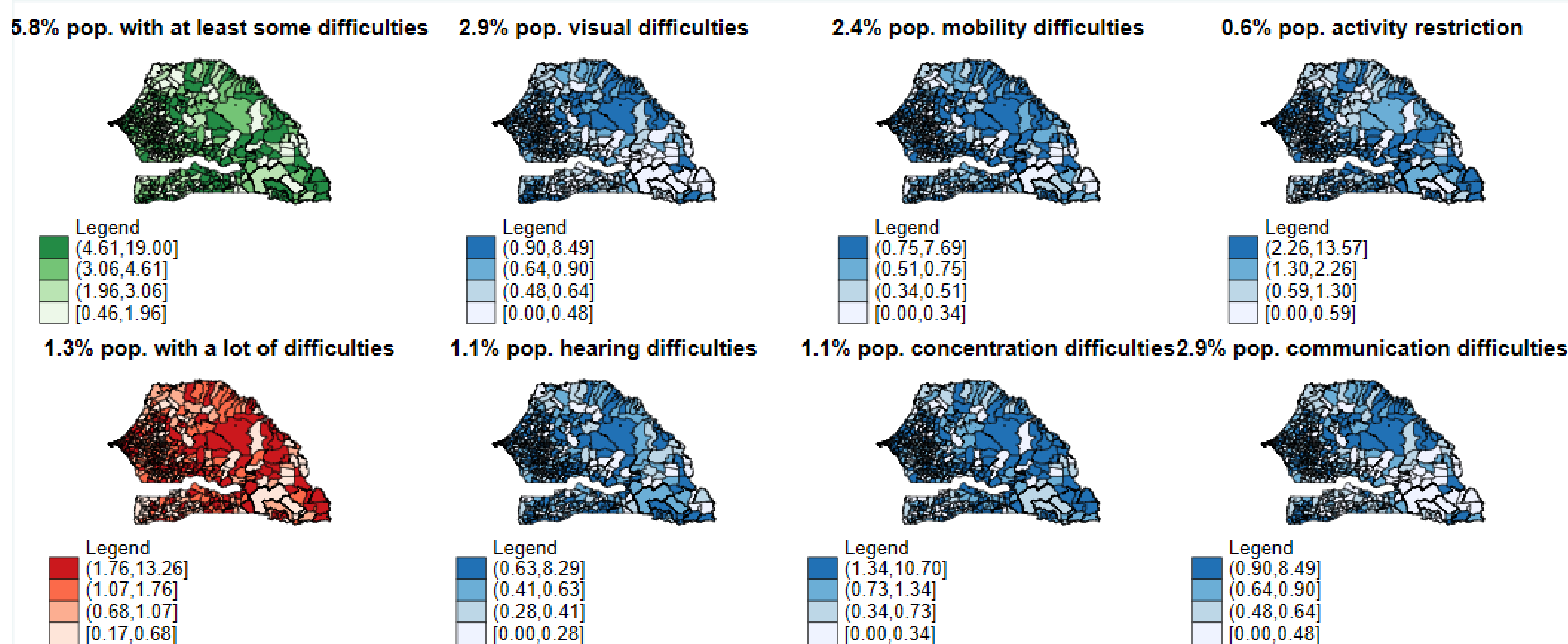
Limitations	Moran's index	p-value
Some difficulties	0.124	0.000
A lot of difficulties	0.063	0.014
Some visual difficulties	0.156	0.000
Some hearing difficulties	0.125	0.000
Some mobility difficulties	0.125	0.000
Some concentration difficulties	0.096	0.000
Some activity restrictions	0.113	0.000
Some comm. difficulties	0.156	0.000

SPATIAL AUTOREGRESSIVE MODELS

	Some difficulties	A lot of difficulties	Visual difficulties	Hearing difficulties	Mobility difficulties	Concentration difficulties	Activity restrictions	Communication difficulties
% children 5-17 never att. shool	0.007	0.005	-0.000	-0.001	0.003	0.007	0.012	-0.000
% children 5-17	-0.112*	-0.065**	-0.001	0.010	-0.009	-0.026	-0.064	-0.001
% household using harmful light.	0.002	-0.000	-0.002	0.002	-0.000	-0.002	-0.005	-0.002
% household using harmful cook. fuel	0.020*	0.009	0.002	0.002	0.004	0.008	0.013	0.002
Poverty rate	-0.002	-0.000	-0.002	-0.003	-0.002	-0.002	0.003	-0.002
% households practicing water crops	0.016*	0.002	0.004*	0.002	0.004*	0.005	0.003	0.004*
% households with one death	0.191***	0.044	-0.005	0.003	0.008	0.057**	0.072**	-0.005
Mean HH Size	-0.169**	0.020	-0.033*	-0.012	-0.008	-0.042	-0.018	-0.033*
Number of inhabitants per hospital(00)	0.110**	0.047*	0.009	0.007	0.015	0.004	0.094**	0.009
Number of children 5-17 by school struct. (00)	-0.232**	-0.080	-0.012	-0.009	-0.024	-0.044	-0.173**	-0.012
Spatial autocorrelation parameter ρ	0.186***	0.080	0.210***	0.187***	0.217***	0.163***	0.210***	0.210***
Observations	552	552	552	552	552	552	552	552

Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01.

LIMITATIONS

➜ Data reliability: information are reported by the head of the household for the other members that may tend to under-report (to shorten the questionnaire or because they are not aware of).
➜ Disabled people who live in institutions are not included in the analysis.

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CONCLUSIONS

➜ Disability is spatially auto-correlated, thus observations are not independent.
➜ In general, disability prevalence decreases when the share of children 5-17 increases, translating the association between disability and age and with the household size.
➜ At the opposite, disability prevalence increases in districts with higher % of household using harmful cooking fuel, practicing water crops agriculture, who have recently experienced a death and where there is higher number of inhabitants per hospitals.