

COUNTRY EXPOSURE MODEL

Review main statistic of a exposure model and create summaries for a given Country.

```
/home/risk/venvs/py38w/lib/python3.8/site-packages/geopandas/_compat.py:111: UserWarning: The Shapely GEOS version (3.9.1-CAPI-1.14.2) is incompatible with the GEOS version PyGEOS was compiled with (3.10.1-CAPI-1.16.0). Conversions between both will be slow.
  warnings.warn(
```

```
# Parameters
country = "Namibia"
```

Exposure files:
Exposure_Com_Namibia.csv
Exposure_Ind_Namibia.csv
Exposure_Res_Namibia.csv

Sanity checks and formats

Namibia
Exposure/Exposure/Exposure_Com_Namibia.csv
Exposure/Exposure/Exposure_Ind_Namibia.csv
Exposure/Exposure/Exposure_Res_Namibia.csv
Occupants / Dwellings = 4.2
Reference avg household size (2019) = 4.22
Population (exposure / UN_2021) = 0.98
Exposure models OK

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	2,539.9K	563.2K	\$10,802.0M	94.69%	78.05%
Ind	0.0K	7.1K	\$791.8M	1.19%	5.72%
Com	0.0K	24.5K	\$2,245.8M	4.11%	16.23%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	50,369.1K	\$10,540.8M	85	\$275
Res	43,584.8K	\$8,562.3M	77	\$248
Ind	2,013.4K	\$473.6M	284	\$393
Com	4,770.9K	\$1,504.8M	195	\$471

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Khomas Region	\$2,579.6M	110.6K	472.1K	18.64%	18.59%	18.59%
Ohangwena Region	\$1,478.8M	63.5K	271.0K	10.69%	10.67%	10.67%
Omusati Region	\$1,464.3M	62.8K	268.4K	10.58%	10.56%	10.57%
Erongo Region	\$1,189.7M	51.1K	218.2K	8.60%	8.59%	8.59%
Oshikoto Region	\$1,165.8M	50.1K	213.8K	8.42%	8.42%	8.42%
Oshana Region	\$1,096.0M	47.1K	201.0K	7.92%	7.91%	7.91%
Kavango-East Region	\$994.5M	42.7K	182.4K	7.19%	7.18%	7.18%
Otjozondjupa Region	\$891.5M	38.3K	163.6K	6.44%	6.44%	6.44%
Kunene Region	\$594.6M	25.7K	109.5K	4.30%	4.31%	4.31%
Zambezi Region	\$580.1M	25.0K	106.9K	4.19%	4.21%	4.21%
Hardap Region	\$520.7M	22.5K	96.0K	3.76%	3.78%	3.78%
Karas Region	\$479.6M	20.7K	88.5K	3.47%	3.48%	3.48%
Omaheke Region	\$431.0M	18.6K	79.6K	3.11%	3.13%	3.13%
Kavango-West Region	\$373.4M	16.2K	69.0K	2.70%	2.72%	2.72%

Exposure by simplified taxonomy

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
MUR	\$6,186.5M	222,270	900.8K	44.70%	37.37%	35.47%
RC	\$2,266.2M	15,402	154.1K	16.37%	2.59%	6.07%
W	\$2,114.0M	102,076	409.5K	15.27%	17.16%	16.12%
ADO/E	\$1,095.5M	80,543	344.7K	7.92%	13.54%	13.57%
OT	\$985.5M	157,371	651.9K	7.12%	26.46%	25.67%
MCF	\$930.3M	15,363	78.8K	6.72%	2.58%	3.10%
S	\$261.7M	1,787	0.0K	1.89%	0.30%	0.00%

Exposure by taxonomy

		COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MACRO_TAXO	TAXONOMY				
MUR	MUR+CB/LWAL+CDN/H:2/RES	\$1,308.9M	46,748	10.51%	8.10%
OT	ME+MEO/LWAL+CDN/H:1/RES	\$951.0M	151,864	7.64%	26.30%
MUR	MUR+STDRE/LWAL+CDN/H:2/RES	\$839.6M	29,987	6.74%	5.19%
	MUR+CB/LWAL+CDN/H:1/RES	\$794.8M	47,947	6.38%	8.30%
RC	CR/LFINF+CDL/HBET:4-7/RES	\$708.0M	1,191	5.68%	0.21%
W	W+WLI/LWAL+CDL/H:1/RES	\$620.3M	35,769	4.98%	6.19%
MUR	MUR+STDRE/LWAL+CDN/H:1/RES	\$509.8M	30,756	4.09%	5.33%
W	W+WWD/LWAL+CDN/H:1/RES	\$420.7M	33,590	3.38%	5.82%
ADO/E	MUR+ADO/LWAL+CDN/H:2/RES	\$384.2M	15,135	3.08%	2.62%
MUR	MUR+STRUB/LWAL+CDN/H:2/RES	\$375.5M	16,761	3.01%	2.90%
W	W+WLI/LWAL+CDL/H:2/RES	\$340.5M	11,626	2.73%	2.01%
	W+WLI/LWAL+CDL/H:1/COM	\$324.5M	6,048	2.61%	1.05%
ADO/E	EWV/LN+CDN/H:1/RES	\$298.7M	47,691	2.40%	8.26%
W	W+WWD/LWAL+CDN/H:2/RES	\$296.9M	14,034	2.38%	2.43%
MCF	MCF+CB/LWAL+CDL/HBET:3-6/RES	\$287.6M	692	2.31%	0.12%
	MCF+CB/LWAL+CDL/H:2/RES	\$267.1M	6,312	2.14%	1.09%
MUR	MUR+CB/LWAL+CDN/H:2/COM	\$243.6M	2,063	1.96%	0.36%
	MUR+CB/LWAL+CDN/H:1/COM	\$237.2M	4,130	1.90%	0.72%
ADO/E	MUR+ADO/LWAL+CDN/H:1/RES	\$233.3M	15,525	1.87%	2.69%
RC	CR/LWAL+CDL/HBET:4-7/RES	\$228.8M	385	1.84%	0.07%
MUR	MUR+STRUB/LWAL+CDN/H:1/RES	\$228.0M	17,191	1.83%	2.98%
	CR/LFINF+CDL/H:3/RES	\$204.0M	3,349	1.64%	0.58%
RC	CR/LFINF+CDL/HBET:8+/RES	\$199.1M	267	1.60%	0.05%
	CR/LFINF+CDL/HBET:4-7/COM	\$188.2M	251	1.51%	0.04%
	MUR+CL/LWAL+CDN/H:2/RES	\$187.8M	6,706	1.51%	1.16%
MUR	MUR+CB/LWAL+CDN/HBET:3-6/RES	\$173.1M	636	1.39%	0.11%
MCF	MCF+CB/LWAL+CDL/H:1/RES	\$162.2M	6,474	1.30%	1.12%
	MUR+STDRE/LWAL+CDN/H:2/COM	\$158.1M	1,341	1.27%	0.23%
MUR	MUR+STDRE/LWAL+CDN/H:1/COM	\$154.0M	2,682	1.24%	0.46%
	MUR+CL/LWAL+CDN/H:1/RES	\$114.0M	6,878	0.92%	1.19%
W	W+WLI/LWAL+CDL/H:2/COM	\$111.1M	1,009	0.89%	0.17%
MUR	MUR+STDRE/LWAL+CDN/HBET:3-6/RES	\$111.0M	408	0.89%	0.07%
	CR/LFINF+CDL/H:2/RES	\$110.7M	2,790	0.89%	0.48%
RC	CR/LFINF+CDL/HBET:8+/COM	\$98.6M	34	0.79%	0.01%
MUR	MUR+CB/LWAL+CDN/H:1/IND	\$95.2M	1,316	0.76%	0.23%
S	S/LFM+CDL/H:1/IND	\$78.0M	686	0.63%	0.12%
	S+SL/LFM+CDL/H:1/IND	\$74.4M	652	0.60%	0.11%
MUR	MUR+CB/LWAL+CDN/H:2/IND	\$69.2M	434	0.56%	0.08%
	MUR+STRUB/LWAL+CDN/H:2/COM	\$68.3M	722	0.55%	0.13%
RC	CR/LFINF+CDL/H:1/RES	\$67.2M	2,862	0.54%	0.50%
MUR	MUR+STRUB/LWAL+CDN/H:1/COM	\$66.6M	1,448	0.53%	0.25%
RC	CR/LWAL+CDL/H:3/RES	\$65.8M	1,083	0.53%	0.19%

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