

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 S
hapely GEOS version (3.9.1-CAPI-1.14.2) is incompatible with the GEOS version PyGEOS was compil
ed with (3.10.1-CAPI-1.16.0). Conversions between both will be slow.
  warnings.warn(
```

```
# Parameters
country = "Central_African_Republic"
```

Exposure files:
Exposure_Com_Central_African_Republic.csv
Exposure_Ind_Central_African_Republic.csv
Exposure_Res_Central_African_Republic.csv

Sanity checks and formats

Central African Republic
Exposure/Exposure/Exposure_Com_Central_African_Republic.csv
Exposure/Exposure/Exposure_Ind_Central_African_Republic.csv
Exposure/Exposure/Exposure_Res_Central_African_Republic.csv
Occupants / Dwellings = 4.9
Reference avg household size (2019) = 4.9
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	4,820.6K	936,514	\$7,515.0M	97.71%	91.85%
Ind	0.0K	4,205	\$167.8M	0.44%	2.05%
Com	0.0K	17,741	\$499.2M	1.85%	6.10%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	79,470.4K	\$6,551.1M	83	\$103
Res	75,015.9K	\$6,074.8M	80	\$100
Ind	1,170.9K	\$110.6M	278	\$143
Com	3,283.5K	\$365.7M	185	\$152

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Bangui	\$1,400.5M	163.7K	823.6K	17.12%	17.08%	17.08%
Ouham-Pendé	\$906.2M	106.0K	533.1K	11.08%	11.06%	11.06%
Ouham	\$768.2M	89.9K	452.1K	9.39%	9.38%	9.38%
Mambéré-Kadé	\$758.9M	88.8K	446.6K	9.28%	9.26%	9.26%
Ombella M'Poko	\$706.2M	82.6K	415.7K	8.63%	8.62%	8.62%
Ouaka	\$580.7M	68.0K	341.8K	7.10%	7.09%	7.09%
Basse-Kotto	\$524.3M	61.4K	308.8K	6.41%	6.41%	6.41%
Lobaye	\$518.4M	60.7K	305.3K	6.34%	6.33%	6.33%
Nana-Mambéré	\$480.3M	56.3K	282.9K	5.87%	5.87%	5.87%
Mbomou	\$338.7M	39.8K	200.0K	4.14%	4.15%	4.15%
Nana-Grébizi	\$248.5M	29.2K	146.9K	3.04%	3.05%	3.05%
Kémo	\$245.0M	28.8K	144.9K	2.99%	3.00%	3.01%
Sangha-Mbaéré	\$211.3M	24.9K	125.0K	2.58%	2.59%	2.59%
Haute-Kotto	\$185.8M	21.9K	110.0K	2.27%	2.28%	2.28%
Haut-Mbomou	\$118.7M	14.0K	70.6K	1.45%	1.47%	1.46%
Vakaga	\$103.7M	12.3K	61.7K	1.27%	1.28%	1.28%
Bamingui-Bangoran	\$86.6M	10.3K	51.8K	1.06%	1.07%	1.07%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
ADO/E	\$2,999.9M	388,436	1,924.4K	36.67%	40.53%	39.92%
W	\$2,525.8M	305,784	1,516.0K	30.87%	31.90%	31.45%
MUR	\$2,121.0M	216,603	1,116.1K	25.92%	22.60%	23.15%
RC	\$297.1M	12,939	93.3K	3.63%	1.35%	1.94%
MCF	\$121.4M	8,014	46.6K	1.48%	0.84%	0.97%
OT	\$60.5M	25,615	124.3K	0.74%	2.67%	2.58%
S	\$56.3M	1,069	0.0K	0.69%	0.11%	0.00%

Exposure by taxonomy

Showing only taxonomies that represent 90% of the total `COST_USD`

		COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MACRO_TAXO	TAXONOMY				
ADO/E	MUR+ADO/LWAL+CDN/H:2/RES	\$1,309.6M	136,744	17.90%	15.31%
	MUR+ADO/LWAL+CDN/H:1/RES	\$795.2M	140,247	10.87%	15.70%
W	W/LWAL+CDL/H:2/RES	\$630.3M	49,361	8.61%	5.53%
	W+WWD/LWAL+CDN/H:1/RES	\$612.8M	129,697	8.38%	14.52%
MUR	MUR+CL/LWAL+CDN/H:2/RES	\$584.6M	54,937	7.99%	6.15%
	MUR+CB/LWAL+CDN/H:2/RES	\$459.8M	43,217	6.28%	4.84%
ADO/E	E+ETO/LWAL+CDN/H:1/RES	\$437.7M	92,640	5.98%	10.37%
	W+WWD/LWAL+CDN/H:2/RES	\$432.5M	54,196	5.91%	6.07%
W	W/LWAL+CDL/H:3/RES	\$387.2M	19,720	5.29%	2.21%
	W/LWAL+CDL/H:1/RES	\$382.7M	50,629	5.23%	5.67%
MUR	MUR+CL/LWAL+CDN/H:1/RES	\$355.0M	56,342	4.85%	6.31%
	MUR+CB/LWAL+CDN/H:1/RES	\$279.2M	44,317	3.82%	4.96%
ADO/E	MUR+ADO/LWAL+CDN/HBET:3-6/RES	\$173.1M	1,846	2.37%	0.21%
	MUR+ADO/LWAL+CDN/H:2/COM	\$127.5M	3,595	1.74%	0.40%
	MUR+ADO/LWAL+CDN/H:1/COM	\$124.2M	7,190	1.70%	0.80%
RC	CR/LFINF+CDL/H:3/RES	\$81.7M	3,536	1.12%	0.40%
MUR	MUR+CL/LWAL+CDN/HBET:3-6/RES	\$77.3M	746	1.06%	0.08%
RC	CR/LFINF+CDL/H:2/RES	\$66.5M	4,427	0.91%	0.50%

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