

# 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 (3.10.0-CAPI-1.16.0). Conversions between both will be slow.
  warnings.warn(
```

```
# Parameters
country = "Mauritius"
```

Exposure files:  
Exposure\_Com\_Mauritius.csv  
Exposure\_Ind\_Mauritius.csv  
Exposure\_Res\_Mauritius.csv

## Sanity checks and formats

Mauritius  
../Exposure/Africa/Exposure\_Com\_Mauritius.csv  
../Exposure/Africa/Exposure\_Ind\_Mauritius.csv  
../Exposure/Africa/Exposure\_Res\_Mauritius.csv  
Occupants / Dwellings = 3.5  
Reference avg household size (2019) = 3.5  
Population (exposure / UN\_2021) = 1.0  
Exposure models OK

## Exposure at National level

### Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	1,269.9K	327,434	\$8,474.7M	95.59%	70.95%
Ind	0.0K	3,806	\$970.4M	1.11%	8.12%
Com	0.0K	11,306	\$2,499.5M	3.30%	20.93%

### Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	COST_PER_CAPITA	AVG_BUILDING_AREA_SQM	AVG_COST_PER_BLDG
OCCUPANCY					
Total	37,828.0K	\$8,914.5M	\$9,406	110	
Res	27,512.0K	\$6,533.4M	\$6,673	84	
Ind	3,771.4K	\$658.1M	\$764	991	
Com	6,544.6K	\$1,723.0M	\$1,968	579	

## Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Plaines Wilhems	\$3,399.9M	97.2K	360.2K	28.46%	28.37%	28.37%
Pamplemousses	\$1,374.4M	39.3K	145.9K	11.51%	11.49%	11.49%
Flacq	\$1,329.2M	38.0K	141.1K	11.13%	11.11%	11.11%
Grand Port	\$1,059.5M	30.4K	112.6K	8.87%	8.87%	8.87%
Rivière du Rempart	\$1,043.4M	29.9K	111.0K	8.74%	8.74%	8.74%
Port Louis	\$1,007.4M	28.9K	107.2K	8.43%	8.44%	8.44%
Black River	\$867.6M	25.0K	92.5K	7.26%	7.29%	7.28%
Moka	\$820.0M	23.6K	87.4K	6.87%	6.89%	6.88%
Savanne	\$636.3M	18.4K	68.1K	5.33%	5.36%	5.36%
Rodrigues	\$406.7M	11.8K	43.9K	3.40%	3.46%	3.45%

## Exposure by simplified taxonomy

Adding `MACRO\_TAXO` column

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
MUR	\$5,448.4M	162,483	568.5K	45.61%	47.43%	44.76%
RC	\$2,613.7M	10,989	91.2K	21.88%	3.21%	7.18%
W	\$1,309.3M	41,354	147.9K	10.96%	12.07%	11.64%
MCF	\$968.9M	12,467	54.7K	8.11%	3.64%	4.31%
ADO/E	\$892.4M	47,697	171.0K	7.47%	13.92%	13.47%
OT	\$383.5M	66,601	236.6K	3.21%	19.44%	18.63%
S	\$328.2M	955	0.0K	2.75%	0.28%	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				
MUR	MUR+CB/LWAL+CDN/H:2/RES	\$1,757.4M	56,677	16.42%	17.33%
	MUR+CB/LWAL+CDN/H:1/RES	\$1,067.1M	58,131	9.97%	17.78%
RC	CR/LFINF+CDL/HBET:4-7/RES	\$682.7M	897	6.38%	0.27%
W	W/LWAL+CDL/H:2/RES	\$471.7M	16,300	4.41%	4.99%
MUR	MUR+CB/LWAL+CDN/H:2/COM	\$433.7M	2,338	4.05%	0.72%
	MUR+CL/LWAL+CDN/H:2/RES	\$418.1M	13,483	3.91%	4.12%
RC	CR/LFINF+CDL/HBET:4-7/COM	\$383.7M	369	3.59%	0.11%
OT	MATO/RES	\$383.5M	66,601	3.58%	20.37%
ADO/E	MUR+ADO/LWAL+CDN/H:2/RES	\$367.2M	13,483	3.43%	4.12%
RC	CR/LFINF+CDL/HBET:8+/COM	\$314.2M	108	2.94%	0.03%
W	W/LWAL+CDL/H:3/RES	\$289.8M	6,514	2.71%	1.99%
	W/LWAL+CDL/H:1/RES	\$286.4M	16,716	2.68%	5.11%
MCF	MCF/LWAL+CDL/HBET:3-6/RES	\$280.1M	606	2.62%	0.19%
	MCF/LWAL+CDL/H:2/RES	\$260.2M	5,509	2.43%	1.68%
MUR	MUR+CL/LWAL+CDN/H:1/RES	\$253.9M	13,829	2.37%	4.23%
	MUR+CB/LWAL+CDN/HBET:3-6/RES	\$232.3M	762	2.17%	0.23%
	MUR+CB/LWAL+CDN/H:1/IND	\$227.4M	1,214	2.13%	0.37%
ADO/E	MUR+ADO/LWAL+CDN/H:1/RES	\$223.0M	13,829	2.08%	4.23%
RC	CR/LFINF+CDL/H:3/RES	\$196.7M	2,516	1.84%	0.77%
	CR/LFINF+CDL/HBET:8+/RES	\$192.0M	202	1.79%	0.06%
	CR/LWAL+CDL/HBET:4-7/RES	\$170.7M	225	1.60%	0.07%
MCF	MCF/LWAL+CDL/H:1/RES	\$158.0M	5,649	1.48%	1.73%
	MCF/LWAL+CDL/HBET:3-6/COM	\$143.9M	166	1.34%	0.05%
MUR	MUR+CB/LWAL+CDN/HBET:3-6/COM	\$126.8M	245	1.18%	0.07%
S	S+SL/LFM+CDL/H:1/IND	\$124.1M	397	1.16%	0.12%
W	W/LWAL+CDL/H:2/COM	\$118.6M	727	1.11%	0.22%
MUR	MUR+CL/LWAL+CDN/H:2/COM	\$116.4M	632	1.09%	0.19%
W	W/LWAL+CDL/H:3/COM	\$114.0M	364	1.07%	0.11%
MUR	MUR+CB/LWAL+CDN/H:2/IND	\$109.5M	409	1.02%	0.13%
ADO/E	EWV/LN+CDN/H:1/RES	\$108.7M	18,882	1.02%	5.77%
RC	CR/LFINF+CDL/H:2/RES	\$106.8M	2,101	1.00%	0.64%
MUR	MUR+CB/LWAL+CDN/H:1/COM	\$105.6M	2,338	0.99%	0.72%
S	S/LFM+CDL/H:1/IND	\$99.4M	319	0.93%	0.10%
MUR	MUR+CL/LWAL+CDN/H:1/IND	\$97.6M	521	0.91%	0.16%
ADO/E	MUR+ADO/LWAL+CDN/H:2/COM	\$95.8M	632	0.90%	0.19%
MUR	MUR+STRUB/LWAL+CDN/H:2/RES	\$92.4M	3,195	0.86%	0.98%
RC	CR/LWAL+CDL/HBET:4-7/COM	\$91.6M	92	0.86%	0.03%