

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 = "Sri_Lanka"
```

Exposure files:
Exposure_Com_Sri_Lanka.csv
Exposure_Ind_Sri_Lanka.csv
Exposure_Res_Sri_Lanka.csv

Sanity checks and formats

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	20.4M	4,873.2K	\$84,392.4M	98.35%	88.62%
Ind	0.0M	25.8K	\$3,896.1M	0.52%	4.09%
Com	0.0M	56.2K	\$6,945.6M	1.13%	7.29%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	347.7M	\$81,576.8M	70	\$274
Res	333.4M	\$74,362.0M	68	\$253
Ind	6.4M	\$2,279.0M	249	\$605
Com	7.9M	\$4,935.9M	140	\$883

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Gampaha	\$13,095.4M	571.3K	2,304.8K	13.75%	11.53%	11.29%
Colombo	\$7,454.1M	381.5K	2,324.4K	7.83%	7.70%	11.39%
Kurunegala	\$7,442.8M	443.7K	1,618.5K	7.82%	8.96%	7.93%
Kandy	\$6,834.5M	332.9K	1,375.4K	7.18%	6.72%	6.74%
Kalutara	\$6,336.3M	290.7K	1,222.0K	6.65%	5.87%	5.99%
Ratnapura	\$5,010.2M	282.3K	1,088.0K	5.26%	5.70%	5.33%
Galle	\$4,787.5M	269.0K	1,063.3K	5.03%	5.43%	5.21%
Kegalle	\$3,930.2M	217.0K	840.7K	4.13%	4.38%	4.12%
Anuradhapura	\$3,851.3M	231.0K	860.6K	4.04%	4.66%	4.22%
Badulla	\$3,739.3M	209.0K	815.4K	3.93%	4.22%	4.00%
Matara	\$3,716.6M	204.2K	814.1K	3.90%	4.12%	3.99%
Puttalam	\$3,472.4M	200.8K	762.4K	3.65%	4.05%	3.74%
Nuwara Eliya	\$3,445.3M	172.1K	711.6K	3.62%	3.47%	3.49%
Ampara	\$3,232.5M	159.1K	649.4K	3.39%	3.21%	3.18%
Hambantota	\$2,831.7M	155.5K	599.9K	2.97%	3.14%	2.94%
Jaffna	\$2,716.2M	146.2K	630.3K	2.85%	2.95%	3.09%
Batticaloa	\$2,682.5M	128.3K	526.6K	2.82%	2.59%	2.58%
Matale	\$2,577.0M	124.9K	484.5K	2.71%	2.52%	2.37%
Moneragala	\$2,168.3M	118.2K	451.1K	2.28%	2.39%	2.21%
Trincomalee	\$1,918.9M	92.2K	379.5K	2.01%	1.86%	1.86%
Polonnaruwa	\$1,863.5M	111.3K	406.1K	1.96%	2.25%	1.99%
Vavuniya	\$738.0M	40.3K	172.1K	0.77%	0.81%	0.84%
Kilinochchi	\$522.0M	27.6K	113.5K	0.55%	0.56%	0.56%
Mullaitivu	\$434.3M	23.1K	92.2K	0.46%	0.47%	0.45%
Mannar	\$433.2M	22.9K	99.6K	0.45%	0.46%	0.49%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column						
	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
MUR	\$64,437.0M	4,345.3K	17,319.2K	67.66%	87.69%	84.87%
RC	\$20,991.3M	66.2K	796.1K	22.04%	1.34%	3.90%
ADO/E	\$6,148.7M	409.5K	1,636.1K	6.46%	8.26%	8.02%
OT	\$1,573.2M	77.8K	456.8K	1.65%	1.57%	2.24%
S	\$1,189.7M	5.3K	0.0K	1.25%	0.11%	0.00%
W	\$894.2M	51.1K	197.8K	0.94%	1.03%	0.97%

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/LWAL+DNO/H:1/RES	\$37,068.9M	2,876,036	43.67%	60.88%
	MUR/LWAL+DNO/H:2/RES	\$17,709.8M	916,024	20.86%	19.39%
RC	CR/LFINF+DUL/H:4/RES	\$10,431.8M	10,556	12.29%	0.22%
MUR	MUR+ST/LWAL+DNO/H:1/RES	\$4,660.1M	361,562	5.49%	7.65%
ADO/E	EU/LWAL+DNO/H:1/RES	\$3,820.6M	263,490	4.50%	5.58%
RC	CR/LFINF+DUL/H:3/RES	\$3,189.1M	28,237	3.76%	0.60%
MUR	MUR+ST/LWAL+DNO/H:2/RES	\$2,834.4M	146,605	3.34%	3.10%
RC	CR/LFM+DUL/HBET:1-2/IND1	\$1,964.7M	4,288	2.31%	0.09%
ADO/E	MUR+ADO/LWAL+DNO/H:1/RES	\$1,695.8M	116,949	2.00%	2.48%
RC	CR/LDUAL+DUL/HBET:13-/COM12	\$1,506.9M	293	1.78%	0.01%

--