

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 = "Cambodia"
```

Exposure files:
Exposure_Com_Cambodia.csv
Exposure_Ind_Cambodia.csv
Exposure_Res_Cambodia.csv

Sanity checks and formats

Cambodia
Exposure/Exposure/Exposure_Com_Cambodia.csv
Exposure/Exposure/Exposure_Ind_Cambodia.csv
Exposure/Exposure/Exposure_Res_Cambodia.csv
Occupants / Dwellings = 4.6
Reference avg household size (2019) = 4.61
Population (exposure / UN_2021) = 0.92
WARNING: ADM_1 with empty values:
OCCUPANCY Com Ind Res
ID_1
AREA # KH23 Kep Kep NaN
Exposure models OK

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	15.6M	3,136.8K	\$55,169.8M	97.98%	92.08%
Ind	0.0M	6.5K	\$1,234.5M	0.20%	2.06%
Com	0.0M	58.2K	\$3,509.6M	1.82%	5.86%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	251,815.4K	\$45,320.9M	79	\$238
Res	242,931.9K	\$42,378.0M	77	\$227
Ind	1,683.8K	\$659.6M	259	\$733
Com	7,199.7K	\$2,283.3M	124	\$487

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Phnom Penh	\$13,618.7M	278,540	1,897.0K	22.73%	8.70%	12.14%
Kampong Cham	\$4,525.9M	290,851	1,391.1K	7.55%	9.08%	8.90%
Prey Veng	\$4,332.5M	273,662	1,251.6K	7.23%	8.55%	8.01%
Kandal	\$4,136.6M	248,080	1,176.9K	6.90%	7.75%	7.53%
Battambang	\$3,806.8M	241,484	1,130.1K	6.35%	7.54%	7.23%
Siemreap	\$3,291.8M	201,985	961.4K	5.49%	6.31%	6.15%
Takeo	\$3,169.3M	203,637	931.9K	5.29%	6.36%	5.96%
Banteay Meanchey	\$2,642.1M	162,887	742.2K	4.41%	5.09%	4.75%
Kampong Speu	\$2,609.4M	167,567	803.7K	4.36%	5.23%	5.14%
Kampong Thom	\$2,411.1M	158,780	786.7K	4.02%	4.96%	5.03%
Kampot	\$2,285.9M	146,819	741.9K	3.82%	4.59%	4.75%
Tboung Khmum	\$2,041.5M	127,445	578.0K	3.41%	3.98%	3.70%
Svay Rieng	\$1,928.4M	122,589	588.7K	3.22%	3.83%	3.77%
Kampong Chhnang	\$1,900.4M	119,462	501.1K	3.17%	3.73%	3.21%
Pursat	\$1,375.6M	91,654	379.3K	2.30%	2.86%	2.43%
Kratie	\$1,267.2M	86,477	387.1K	2.12%	2.70%	2.48%
Preah Sihanouk	\$1,093.0M	58,995	312.5K	1.82%	1.84%	2.00%
Preah Vihear	\$1,078.9M	73,547	341.0K	1.80%	2.30%	2.18%
Oddar Meanchey	\$675.0M	45,217	199.4K	1.13%	1.41%	1.28%
Stung Treng	\$543.5M	33,874	172.1K	0.91%	1.06%	1.10%
Koh Kong	\$449.3M	24,734	155.1K	0.75%	0.77%	0.99%
Ratanak Kiri	\$262.9M	16,357	65.3K	0.44%	0.51%	0.42%
Pailin	\$250.1M	13,709	75.7K	0.42%	0.43%	0.48%
Mondul Kiri	\$195.5M	12,874	56.5K	0.33%	0.40%	0.36%
Kep	\$22.1M	258	0.0K	0.04%	0.01%	0.00%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column						
	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
W	\$29,619.4M	2,158,710	9,691.9K	49.44%	67.43%	62.02%
RC	\$16,267.8M	128,786	1,351.1K	27.15%	4.02%	8.65%
MUR	\$6,928.9M	491,853	2,210.2K	11.56%	15.36%	14.14%
OT	\$6,672.8M	418,470	2,365.3K	11.14%	13.07%	15.14%
S	\$400.3M	1,751	0.0K	0.67%	0.05%	0.00%
ADO/E	\$24.5M	1,914	7.9K	0.04%	0.06%	0.05%

Exposure by taxonomy

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

	COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MACRO_TAXO	TAXONOMY			
W	W+WO/LN/H:1/RES	\$18,043.2M	1,409,628	33.64%
RC	CR/LFINF+DUL/H:4/RES	\$5,307.8M	7,077	9.90%
W	W+WBB/LPB+DNO/H:1/RES	\$5,075.5M	396,521	9.46%
OT	MATO/LN/HBET:1-2/EWME/RES	\$3,974.2M	206,990	7.41%
W	W/H:2/RES	\$3,562.8M	160,820	6.64%
RC	CR/LFINF+DUL/H:5/RES	\$3,210.9M	2,740	5.99%
MUR	MUR/LWAL+DNO/H:2/RES	\$3,077.1M	192,321	5.74%
OT	MATO/LN/H:1/EWME/RES	\$2,657.1M	207,586	4.95%
W	W/H:1/RES	\$2,381.9M	161,273	4.44%
MUR	MUR/LWAL+DNO/H:1/RES	\$2,072.5M	194,299	3.86%
	CR/LFINF+DUL/H:3/RES	\$1,415.1M	26,955	2.64%
	CR/LFINF+DUL/H:2/RES	\$1,089.2M	41,492	2.03%
RC	CR/LDUAL+DUL/HBET:6-12/RES	\$924.8M	274	1.72%
	CR/LDUAL+DUL/HBET:6-12/COM12	\$836.5M	725	1.56%