COUNTRY EXPOSURE MODEL

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

```
# Parameters
country = "Eritrea"
```

```
Exposure files:
  Exposure_Com_Eritrea.csv
  Exposure_Ind_Eritrea.csv
  Exposure_Res_Eritrea.csv
```

Sanity checks and formats

```
Eritrea
  Exposure/Exposure/Exposure_Com_Eritrea.csv
  Exposure/Exposure/Exposure_Ind_Eritrea.csv
  Exposure/Exposure/Exposure_Res_Eritrea.csv
  Occupants / Dwellings = 4.8
  Reference avg household size (2019) = 4.8
  Population (exposure / UN_2021) = 0.98
  Exposure models  OK
```

Exposure at National level

Summary by occupancy type

OCCUPANCY	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
Res	3,542.8K	703,324	$9,838.5M	96.78%	88.20%
Ind	0.0K	4,305	$305.8M	0.59%	2.74%
Com	0.0K	19,108	$1,010.0M	2.63%	9.05%

Other metrics to consider

OCCUPANCY	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
Total	60,376.2K	$9,405.6M	83	$185
Res	55,684.6K	$8,455.7M	79	$177
Ind	1,223.1K	$201.6M	284	$250
Com	3,468.5K	$748.3M	182	$291

Exposure summary at Admin level 1

NAME_1	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
Northen Red Sea Region	$2,859.3M	187.9K	914.6K	25.63%	25.85%	25.81%
Debub Region	$2,437.9M	160.2K	779.8K	21.86%	22.04%	22.01%
Gash-Barka Region	$2,382.7M	156.6K	762.2K	21.36%	21.55%	21.51%
Maekel Region	$1,750.3M	108.5K	533.5K	15.69%	14.93%	15.06%
Anseba Region	$1,444.8M	95.0K	462.5K	12.95%	13.07%	13.06%
Southern Red Sea Region	$279.2M	18.5K	90.2K	2.50%	2.55%	2.55%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column

MACRO_TAXO	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MUR	$7,623.8M	453,014	2,213.8K	68.35%	62.34%	62.49%
W	$1,677.0M	132,718	636.7K	15.03%	18.26%	17.97%
MCF	$807.9M	27,635	137.2K	7.24%	3.80%	3.87%
OT	$345.0M	78,711	384.5K	3.09%	10.83%	10.85%
ADO/E	$338.7M	27,764	134.8K	3.04%	3.82%	3.81%
RC	$252.8M	5,817	35.8K	2.27%	0.80%	1.01%
S	$109.2M	1,078	0.0K	0.98%	0.15%	0.00%

Exposure by taxonomy

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

MACRO_TAXO	TAXONOMY	COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MUR	MUR+CB/LWAL+CDN/H:2/RES	$1,497.0M	75,837	14.96%	10.94%
	MUR+STRUB+MOM/LWAL+CDN/H:2/RES	$1,282.8M	81,231	12.82%	11.72%
	MUR+CB/LWAL+CDN/H:1/RES	$909.0M	77,782	9.08%	11.22%
	MUR+STRUB+MOM/LWAL+CDN/H:1/RES	$778.9M	83,314	7.78%	12.02%
W	W+WWD/LWAL+CDN/H:1/RES	$407.4M	46,482	4.07%	6.71%
MCF	MCF+CB/LWAL+CDL/H:2/RES	$336.9M	11,380	3.37%	1.64%
OT	MATO/RES	$312.5M	71,318	3.12%	10.29%
W	W+WLI/LWAL+CDL/H:1/RES	$300.1M	24,967	3.00%	3.60%
MUR	MUR+STDRE+MOM/LWAL+CDN/H:2/RES	$295.8M	14,982	2.96%	2.16%
W	W+WMD/LWAL+CDN/H:2/RES	$287.6M	19,423	2.87%	2.80%
	W+WBB/LN+CDN/H:1/RES	$221.7M	22,135	2.22%	3.19%
MCF	MCF+CB/LWAL+CDL/H:1/RES	$204.6M	11,671	2.04%	1.68%
	MUR+CB/LWAL+CDN/HBET:3-6/RES	$197.9M	1,022	1.98%	0.15%
MUR	MUR+STDRE+MOM/LWAL+CDN/H:1/RES	$179.6M	15,369	1.79%	2.22%
	MUR+STRUB+MOM/LWAL+CDN/HBET:3-6/RES	$169.6M	1,098	1.69%	0.16%
W	W+WLI/LWAL+CDL/H:2/RES	$164.8M	8,115	1.65%	1.17%
MUR	MUR+STDRE+MOC/LWAL+CDN/H:2/RES	$159.5M	8,078	1.59%	1.17%
	MUR+STDRE+MOL/LWAL+CDN/H:2/RES	$159.5M	8,078	1.59%	1.17%
ADO/E	MUR+ADO/LWAL+CDN/H:2/RES	$156.8M	8,823	1.57%	1.27%
	MUR+CL/LWAL+CDN/H:2/RES	$145.3M	7,358	1.45%	1.06%
	MUR+CB/LWAL+CDN/H:2/COM	$145.0M	1,762	1.45%	0.25%
	MUR+CB/LWAL+CDN/H:1/COM	$141.3M	3,530	1.41%	0.51%
	MUR+STRUB+MOM/LWAL+CDN/H:2/COM	$140.9M	2,143	1.41%	0.31%
MUR	MUR+STRUB+MOM/LWAL+CDN/H:1/COM	$137.2M	4,283	1.37%	0.62%
	MUR+STRUB+MOC/LWAL+CDN/H:2/RES	$137.2M	8,690	1.37%	1.25%
	MUR+STRUB+MOL/LWAL+CDN/H:2/RES	$137.2M	8,690	1.37%	1.25%
	MUR+STDRE+MOC/LWAL+CDN/H:1/RES	$96.8M	8,286	0.97%	1.20%
	MUR+STDRE+MOL/LWAL+CDN/H:1/RES	$96.8M	8,286	0.97%	1.20%
W	W/LWAL+CDL/H:2/RES	$96.0M	4,053	0.96%	0.58%
ADO/E	MUR+ADO/LWAL+CDN/H:1/RES	$95.2M	9,051	0.95%	1.31%
MCF	MCF+CB/LWAL+CDL/HBET:3-6/RES	$94.0M	324	0.94%	0.05%
MUR	MUR+CL/LWAL+CDN/H:2/RES	$88.2M	7,549	0.88%	1.09%
RC	CR/LFINF+CDL/H:3/RES	$83.5M	1,950	0.83%	0.28%
MUR	MUR+STRUB+MOC/LWAL+CDN/H:1/RES	$83.3M	8,912	0.83%	1.29%
	MUR+STRUB+MOL/LWAL+CDN/H:1/RES	$83.3M	8,912	0.83%	1.29%
RC	CR/LFINF+CDL/H:2/RES	$68.0M	2,438	0.68%	0.35%
W	W/LWAL+CDL/H:3/RES	$58.9M	1,623	0.59%	0.23%
	W/LWAL+CDL/H:1/RES	$58.3M	4,155	0.58%	0.60%