

# THE IMPORTANCE OF DATA VISUALIZATION

Candice Heberer

**SUSTAINABLE  
ENGINEERING  
LAB**



**SEL**


**“We engineer software solutions to help make development planning smarter and to improve the delivery of critical services like health and energy in the developing world.”**

Home

nmis-dev.mvpafrica.org/~

Reader

GitHub\_modilabsModiLabs TwitterForbesGreenTechHuffPost GreenModi BlogBasecamp-ModiModi-WPDashboardWordPressAdd to Delicious




# Nigeria MDG Information System

[Explore Facilities](#)[Planning Tools](#)[About](#)[Download Data](#)[MDGs in Nigeria](#)[2012 Baseline Data](#)


COMMISSIONED BY THE OFFICE OF THE SENIOR SPECIAL ASSISTANT TO THE PRESIDENT ON MDGS

## Nigeria's health, education and water facility inventory


Explore data collected to inform policy and planning for poverty reduction.



26,000+  
Health Facilities



73,000+  
Education Facilities




132,000+  
Water Facilities

[EXPLORE FACILITIES](#)

*or learn more more about the process*

Augie, Kebbi



**NIGERIA**  
Millenium Development Goals  
(Office of The Senior Special Assistant to The President on MDGs)

THE EARTH INSTITUTE  
COLUMBIA UNIVERSITY

**DFID** Department for  
International  
Development



# OPEN DATA

**OPEN DATA**  
**+**  
**CONSIDER THE**  
**END USER**

	A	B	C	D	E	F	G	H	I
1	lga_id	facilities_em	facilities_del	num_health	proportion_f	proportion_c	num_level_1	health_facilities	
2	2	3	1	1	0.6	0.82352941	1		
3	3	0	10	1	0.75	NA	2		
4	4	7	18	10	0.66666667	NA	2		
5	5	4	6	1	1	NA	2		
6	6	10	16	7	0.81818182	NA	2		
7	7	11	62	7	0.67692308	NA	1		
8	8	11	47	20	0.63934426	NA	5		
9	9	10	24	1	0.73809524	NA	27		
10	10	11	31	16	0.57142857	NA	2		
11	11	4	7	2	0.77777778	NA	3		
12	12	3	17	4	0.58333333	NA	1		
13	13	5	20	11	0.52941176	NA	0		
14	14	5	52	13	0.8245614	NA	5		
15	15	3	25	5	0.85714286	NA	0		
16	16	0	6	0	0.16666667	NA	1		
17	17	1	0	0	0.26086957	0.85714286	8		
18	18	3	23	2	0.4375	NA	15		
19	19	1	38	1	0.56818182	NA	15		
20	20	1	27	2	0.71875	NA	5		
21	21	28	36	25	0.79487179	NA	2		
22	22	8	31	15	0.45833333	NA	10		
23	23	5	32	10	0.47222222	NA	1		
24	24	1	8	0	0.7	NA	1		
25	25	2	12	1	0.78571429	NA	0		
26	26	2	0	0	0.55555556	0.875	1		
27	27	29	36	24	0.825	NA	1		
28	28	3	2	1	0.125	NA	20		
29	29	1	21	1	0.75	NA	8		
30	30	4	30	5	0.775	NA	4		
31	31	8	0	0	0.68	0.95652174	11		
32	32	5	30	4	0.90909091	NA	0		
33	33	10	0	0	0.76470588	0.87096774	1		
34	34	8	7	0	1	0.92307692	0		
35	35	2	25	1	0.4375	NA	0		
36	36	1	11	1	0.625	NA	0		
37	37	2	15	1	1	NA	9		
38	38	0	0	0	0.75	0.85714286	0		
39	39	2	17	2	0.68	NA	1		
40	40	6	31	7	0.75675676	NA	1		
41	41	3	0	0	0.91304348	0.86363636	0		
42	42	1	2	3	0.16666667	NA	20		
43	43	2	12	1	0.63157895	NA	7		
44	44	33	31	18	0.88	NA	6		
45	45	3	20	3	0.66666667	NA	16		
46	46	32	35	24	0.86046512	NA	0		
47	47	1	5	0	0.71428571	NA	1		
48	48	0	0	0	0.33333333	0.73684211	2		
49	49	3	22	8	0.63636364	NA	0		
50	50	3	15	2	0.64285714	NA	1		
51	51	2	0	0	0.38461538	1	2		
52	52	7	26	10	0.8	NA	0		
53	53	4	27	7	0.81481481	NA	0		
54	54	2	11	2	0.47058824	NA	23		
55	55	2	44	5	0.50847458	NA	0		
56	56	0	34	2	0.55319149	NA	7		
57	57	18	18	11	0.65625	NA	5		
58	58	0	0	0	0.32432432	0.85714286	19		

	A	B	C	D	E	F	G	H	I	J	K
1	lga_id	pop_2006	lga	state	zone	area_sq_km	surveying_ef	pop_density	unique_lga	longitude	latitude
2	1	100180	Abadam	Borno	Northeast	3967.05423	Others	25.2529948	borno_abada	13.3256741	13.4282932
3	2	58444	Abaji	FC	North-Centre	992.361242	113	58.8938761	fc_abaji	6.85341375	8.87756561
4	3	139090	Abak	Akwai Ibom	South-South	189.984563	Others	732.112113	akwai_ibom	7.7722792	5.01988684
5	4	151723	Abakaliki	Ebonyi	Southeast	584.055167	Others	259.775118	ebonyi_abak	8.21988187	6.2586811
6	5	107488	Abia North	Abia	Southeast	22.7750611	Others	4719.54826	abia_aba_no	7.37164362	5.10690037
7	6	423852	Abia South	Abia	Southeast	49.1665418	Others	8620.74053	abia_aba_so	7.35065009	5.08134569
8	7	201329	Abeokuta Nc	Ogun	Southwest	808.831493	Others	248.913404	ogun_abeoki	3.1735877	7.22300486
9	8	250278	Abeokuta So	Ogun	Southwest	71.4715348	Others	3501.78572	ogun_abeoki	3.35694358	7.15311807
10	9	144802	Abi	Cross River	South-South	281.772825	Others	513.896257	cross_river_i	8.0266891	5.89308847
11	10	195652	Abioh Mbaise	Imo	Southeast	184.48387	Others	1060.53716	imo_abioh_m	7.25224758	5.43261623
12	11	282988	Abua Odual	Rivers	South-South	704.338115	Others	401.778626	rivers_abua_o	6.56209631	4.83853956
13	12	202194	Adavi	Kogi	North-Centre	718.503598	Others	281.409864	kogi_adavi	6.44459043	7.67423257
14	13	308621	Ado-Ekiti	Ekiti	Southwest	293.6513	Others	1050.97781	ekiti_ado_ek	5.27997457	7.61042627
15	14	526565	Ado-Odo/Oti	Ogun	Southwest	878.916456	148	599.106998	ogun_ado_o	3.08462514	6.61884102
16	15	134173	Afijio	Oyo	Southwest	722.693666	Others	185.656809	oyo_afijio	3.90125509	7.74211826
17	16	156611	Afikpo North	Ebonyi	Southeast	240.157467	Others	652.117972	ebonyi_afikp	7.9233965	5.87842851
18	17	157072	Afikpo South	Ebonyi	Southeast	377.675196	113	415.891755	ebonyi_afikp	7.81363734	5.83719147
19	18	132907	Agale	Niger	North-Centre	1904.35471	Others	69.7910949	niger_agale	6.44045921	8.94623535
20	19	115523	Agatu	Benue	North-Centre	1014.60843	Others	113.859689	benue_agatu	7.88215837	7.86983845
21	20	57413	Agwara	Niger	North-Centre	1539.669	148	37.2891837	niger_agwara	4.52764087	10.7410218
22	21	459939	Agege	Lagos	Southwest	11.214557	Others	41012.6765	lagos_agege	3.31600267	6.62357986
23	22	370172	Agwata	Anambra	Southeast	195.102574	Others	1897.31992	anambra_ag	7.0880433	5.98862094
24	23	170902	Ahiazu-Mbali	Imo	Southeast	113.716283	Others	1502.88063	imo_ahiazu	7.26418199	5.56020001
25	24	166747	Ahoada East	Rivers	South-South	341.173834	Others	488.744984	rivers_ahoad	6.6410198	5.06535919
26	25	249425	Ahoada Wes	Rivers	South-South	403.45939	Others	618.215875	rivers_ahoad	6.51660569	5.05176308
27	26	122321	Ajaokuta	Kogi	North-Centre	1362.39948	113	89.7835045	kogi_ajaokut	6.5963902	7.51474121
28	27	684105	Ajeromi-Ifelc	Lagos	Southwest	12.3493909	148	55395.8493	lagos_ajeron	3.3374815	6.45356193
29	28	174137	Ajingi	Kano	Northwest	713.799255	Others	243.957946	kano_ajingi	9.06909277	11.9731133
30	29	151125	Akamkpa	Cross River	South-South	5001.71991	Others	30.2146067	cross_river_i	8.53339801	5.40945643
31	30	211359	Akinyele	Oyo	Southwest	518.870311	Others	407.344563	oyo_akinyele	3.93139439	7.56243229
32	31	337853	Akko	Gombe	Northeast	2624.32438	113	128.73904	gombe_akko	11.0455626	10.1083634
33	32	262110	Akoko-Edo	Edo	South-South	1371.71971	148	191.081311	edo_akoko_e	6.1341956	7.36289273
34	33	175409	Akoko North	Ondo	Southwest	372.539955	113	470.84614	edo_akoko_n	5.81842668	7.53863609
35	34	213792	Akoko North	Ondo	Southwest	512.778111	Pilot	416.928873	ondo_akoko	5.79453024	7.64269262
36	35	229486	Akoko South	Ondo	Southwest	530.374779	Others	432.686487	ondo_akoko	5.68756778	7.39835008
37	36	82426	Akoko South	Ondo	Southwest	225.699758	Others	365.201986	ondo_akoko	5.90876759	7.42970301
38	37	271395	Akpabuyo	Cross River	South-South	807.227215	Others	336.206455	cross_river_i	8.4919544	4.88998513
39	38	156006	Akuku Toru	Rivers	South-South	1443.84585	113	108.048931	rivers_akuku	6.67978357	4.53174484
40	39	131587	Akure North	Ondo	Southwest	660.587814	148	199.196832	ondo_akure_n	5.3142654	7.26673543
41	40	353211	Akure South	Ondo	Southwest	331.727376	Others	1064.76289	ondo_akure_s	5.20212133	7.21053259
42	41	113430	Akwanga	Nasarawa	North-Centre	995.931537	113	113.893371	nasarawa_ak	8.34090116	9.02016991
43	42	190153	Albasu	Kano	Northwest	398.132122	Others	477.612806	kano_albasu	9.12032518	11.6263907
44	43	65972	Aliero	Kebbi	Northwest	350.836564	Others	188.041974	kebbi_aliero	4.43115905	12.3094179
45	44	1277714	Alimosho	Lagos	Southwest	185.467045	Others	6889.17	lagos_alimos	3.25879097	5.57439577
46	45	329424	Alkaleri	Bauchi	Northeast	5913.76948	148	55.7045723	bauchi_alkal	10.4757846	9.88005841
47	46	318166	Amuwo-Odo	Lagos	Southwest	134.772879	Others	2360.75688	lagos_amuw	3.29025445	6.43351096
48	47	153331	Anambra East	Anambra	Southeast	250.754007	148	611.479761	anambra_an	6.88214783	6.31362189
49	48	167416	Anambra We	Anambra	Southeast	953.985643	113	175.491111	anambra_an	6.80967285	6.49862642
50	49	285002	Anaocha	Anambra	Southeast	104.381404	Others	2730.39057	anambra_an	7.0166073	6.08971761
51	50	211009	Andoni	Rivers	South-South	232.856664	148	906.175484	rivers_andon	7.39424233	4.50097347
52	51	133723	Aninri	Enugu	Southeast	363.620773	113	367.754017	enugu_aninr	7.60421034	6.05010365
53	52	104711	Aniocha Nori	Delta	South-South	406.454855	Others	257.620246	delta_anioch	6.84129713	6.36281219
54	53	140604	Aniocha Sout	Delta	South-South	868.35937	Others	161.919137	delta_anioch	6.48442863	6.13417217
55	54	142280	Anka	Zamfara	Northwest	2747.68562	148	51.781761	zamfara_ank	5.98127148	11.9318609
56	55	267353	Ankpa	Kogi	North-Centre	1199.64285	Others	222.860495	kogi_ankpa	7.6419241	7.43931394
57	56	96765	Apa	Benue	North-Centre	995.310556	Others	97.220912	benue_apa	7.87756935	7.62572395
58	57	217362	Apapa	Lagos	Southwest	26.6979823	148	814.51413	lagos_apapa	3.36377557	6.4409266
59	58	178882	Ardo	Benue	North-Centre	1220.34734	113	146.582857	benue_ardo	7.99371726	6.79823586
60	59	86921	Ardo-Kola	Taraba	Northeast	2259.67736	Others	38.4661109	taraba_ardo	11.1720614	8.81111659
61	60	184030	Arewa-Dandi	Kebbi	Northwest	3905.05302	148	47.1261207	kebbi_arewa	4.05150415	12.7538702
62	61	195484	Argungu	Kebbi	Northwest	1296.85237	Others	150.737281	kebbi_argun	4.4195977	12.6954335
63	62	170206	Arochukwu	Abia	Southeast	524.256723	148	324.66155	abia_arochu	7.80788493	5.51572904
64	63	126435	Asa	Kwara	North-Centre	1287.34761	113	98.2135665	kwara_asa	4.43622639	8.4038838
65	64	220100	Asari Toru	Rivers	South-South	112.652034	148	1953.80406	rivers_asari	6.85263751	4.7522784
66	65	138091	Askira-Uba	Borno	Northeast	2358.38106	Others	58.5533266	borno_askir	12.92288823	10.6401978
67	66	76197	Atakurumosa	Osun	Southwest	238.265017	113	319.79936	osun_atakun	4.78811089	7.46265167





## Nigeria MDG Information System

Select an LGA

Explore Facilities

MDGs in Nigeria

2012 Baseline Data

Download Data

About

### Doma, Nasarawa

All Sectors | **Health** | Education | Water

Overview

Map

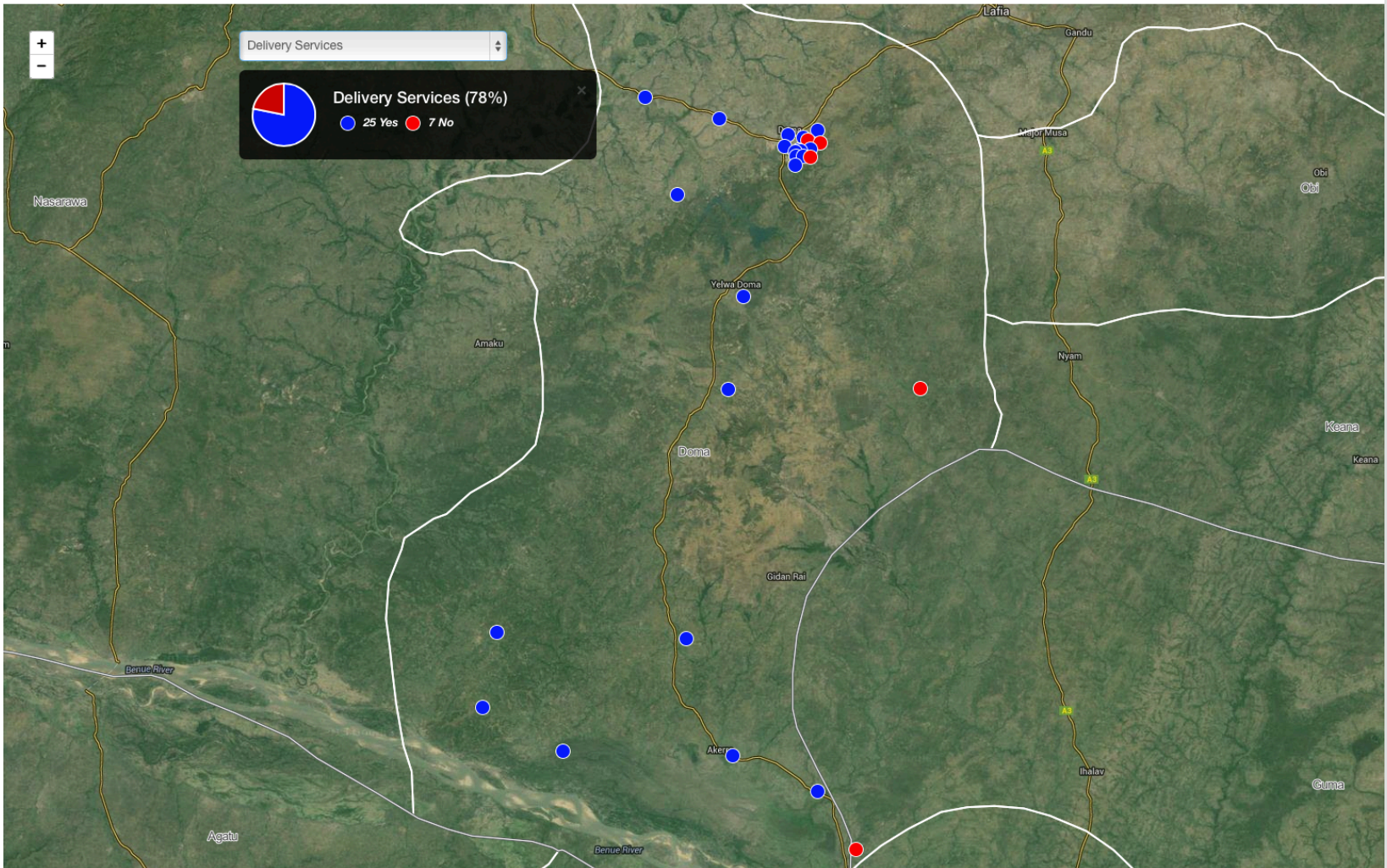
Facilities

Delivery Services





Delivery Services (78%)

25 Yes 7 No



**IT'S NOT ENOUGH TO JUST  
MAKE DATA PUBLIC, IT  
NEEDS TO BE DIGESTIBLE**

Nigeria MDG Information System

Select an LGA

Explore Facilities

MDGs in Nigeria

2012 Baseline Data

Download Data

About

Doma, Nasarawa

All Sectors | **Health** | Education | Water

Overview

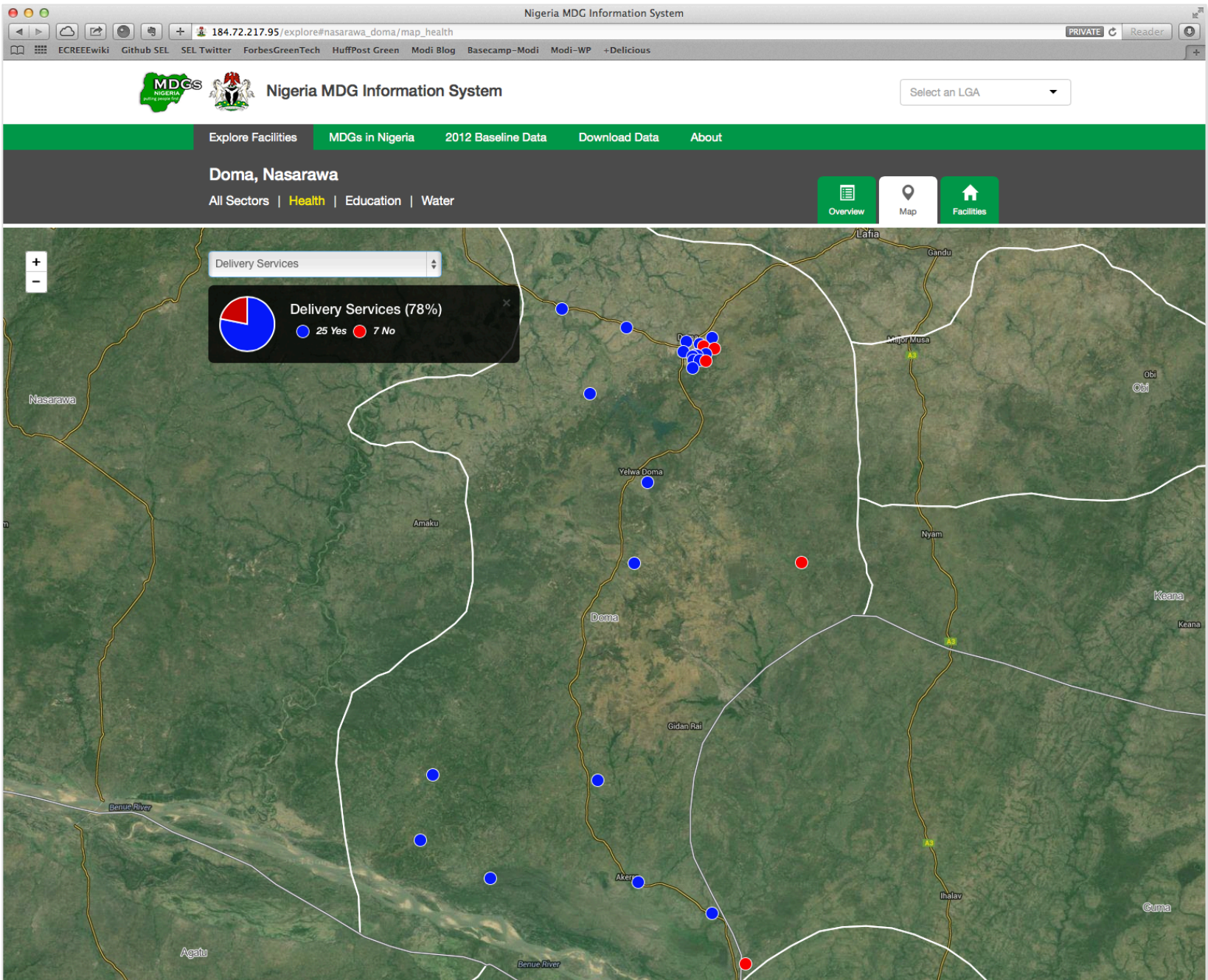
Map

Facilities

Snapshot

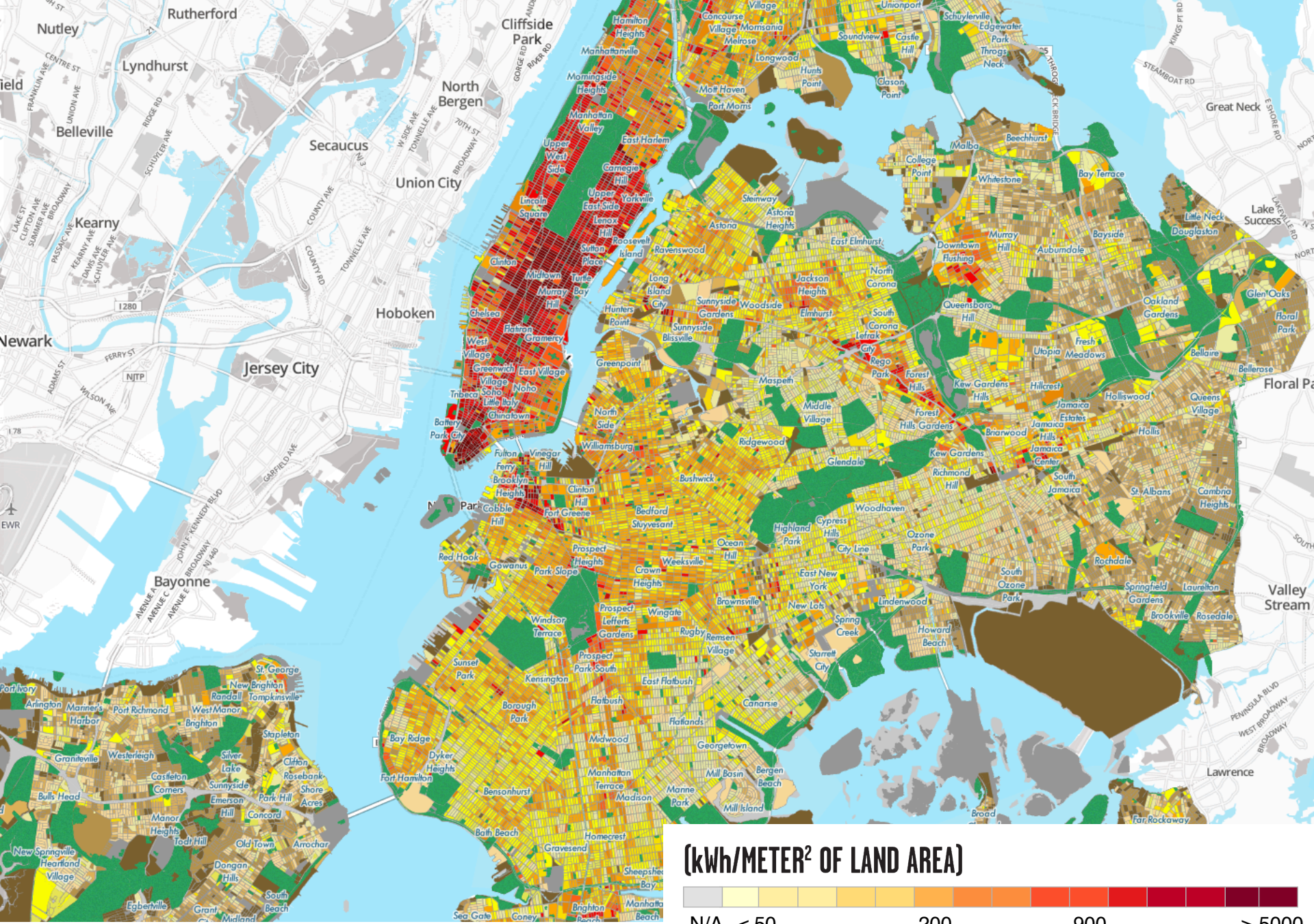
Name	Facility type	Delivery Services	Emergency Transport	Skilled birth attendant	CHEWS (full-time)	PHCN Electricity	C-sections	Measles Immunizations
Akawu Dispensary	Healthpostdispensary	No	No	No	0	NA	No	NA
Gakiya clinic	Primaryhealthclinic	No	No	Yes	5	NA	No	NA
PHC Achepe	Healthpostdispensary	No	No	No	0	No	No	No
PHC Doka	Primaryhealthclinic	No	No	No	0	No	No	No
PHC Doma	Healthpostdispensary	No	No	No	0	No	No	Yes
PHC Obendo	Healthpostdispensary	No	No	No	1	No	No	No
Xxx	Primaryhealthclinic	No	No	No	0	No	No	No
Dadu Royal Clinic	Primaryhealthclinic	Yes	No	No	5	NA	Yes	NA
Doma Town PHC	Primaryhealthcarecentre	Yes	No	No	7	Yes	No	No
General hospital	Generalhospital	Yes	Yes	Yes	2	No	Yes	No
MARTERNITY	Maternity	Yes	No	Yes	4	NA	Yes	NA
Model Primary Health Center	Primaryhealthclinic	Yes	No	Yes	5	No	Yes	Yes
Nakowa Clinic	Primaryhealthclinic	Yes	No	No	3	NA	No	NA
New Era Clinic	Primaryhealthclinic	Yes	No	Yes	9	NA	No	NA
PHC Agbashi	Cottagehospital	Yes	No	No	2	No	Yes	Yes
PHC Agyema	Primaryhealthcarecentre	Yes	No	No	3	No	Yes	Yes
PHC Akpanaja	Primaryhealthclinic	Yes	No	Yes	3	No	No	Yes
PHC Alagye	Primaryhealthcarecentre	Yes	No	No	5	No	No	Yes
PHC Andoma	Healthpostdispensary	Yes	No	No	2	NA	No	NA
PHC Arumangye	Primaryhealthcarecentre	Yes	No	Yes	11	No	No	Yes
PHC Burumburum	Primaryhealthcarecentre	Yes	No	No	2	No	No	Yes
PHC Igbabo	Primaryhealthcarecentre	Yes	No	No	4	No	No	Yes
PHC Oegabogya	Primaryhealthclinic	Yes	No	No	0	No	No	No
PHC Okpatta	Primaryhealthclinic	Yes	No	No	1	No	No	Yes
PHC Ondori	Primaryhealthcarecentre	Yes	No	No	2	No	No	Yes
PHC Rukubi	Primaryhealthcarecentre	Yes	No	Yes	4	No	No	Yes
PHC Buttu	Primaryhealthcarecentre	Yes	No	No	2	Yes	No	No



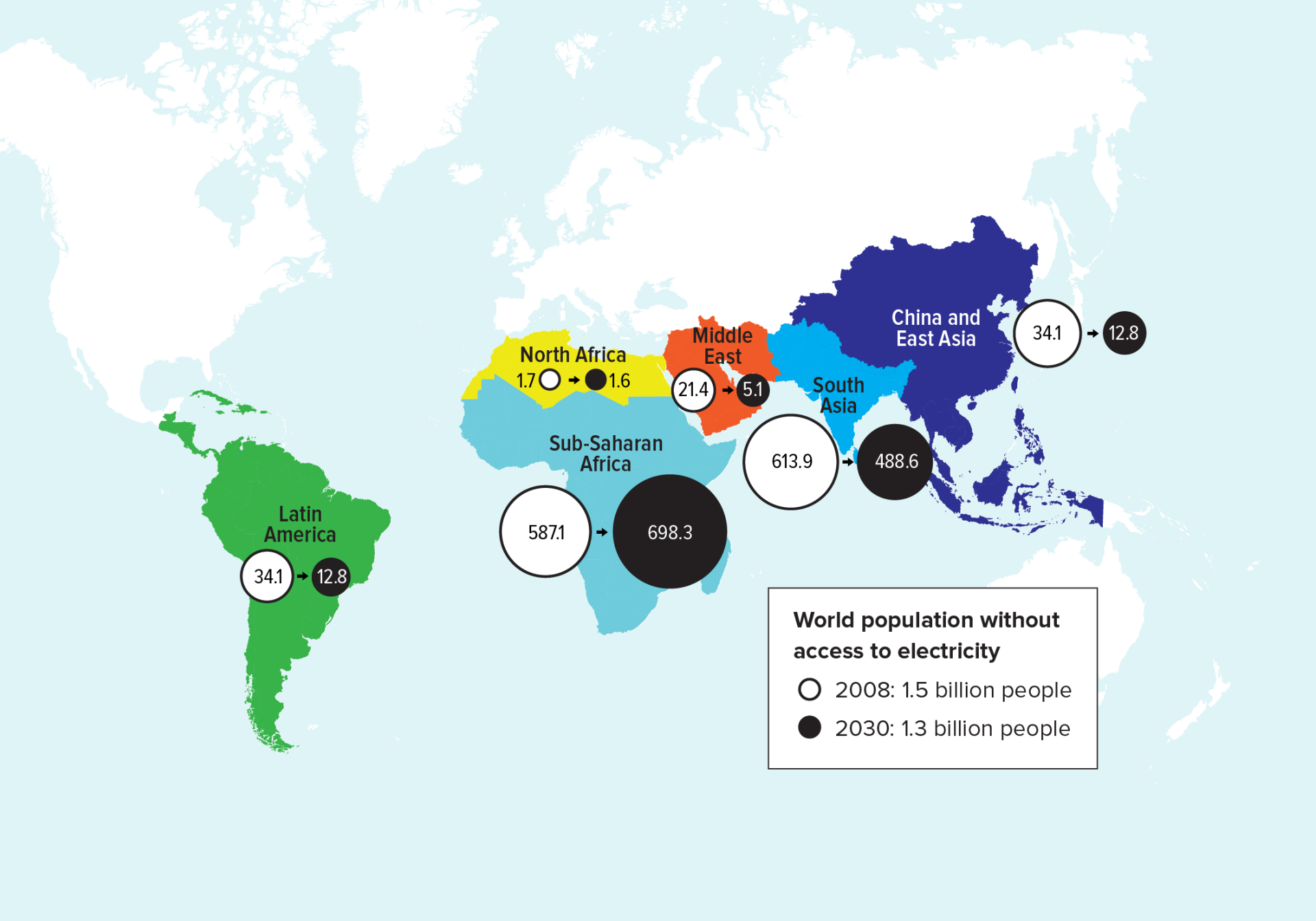




**VISUALIZATION ALLOWS  
INSIGHTS NOT  
OTHERWISE CONSIDERED**

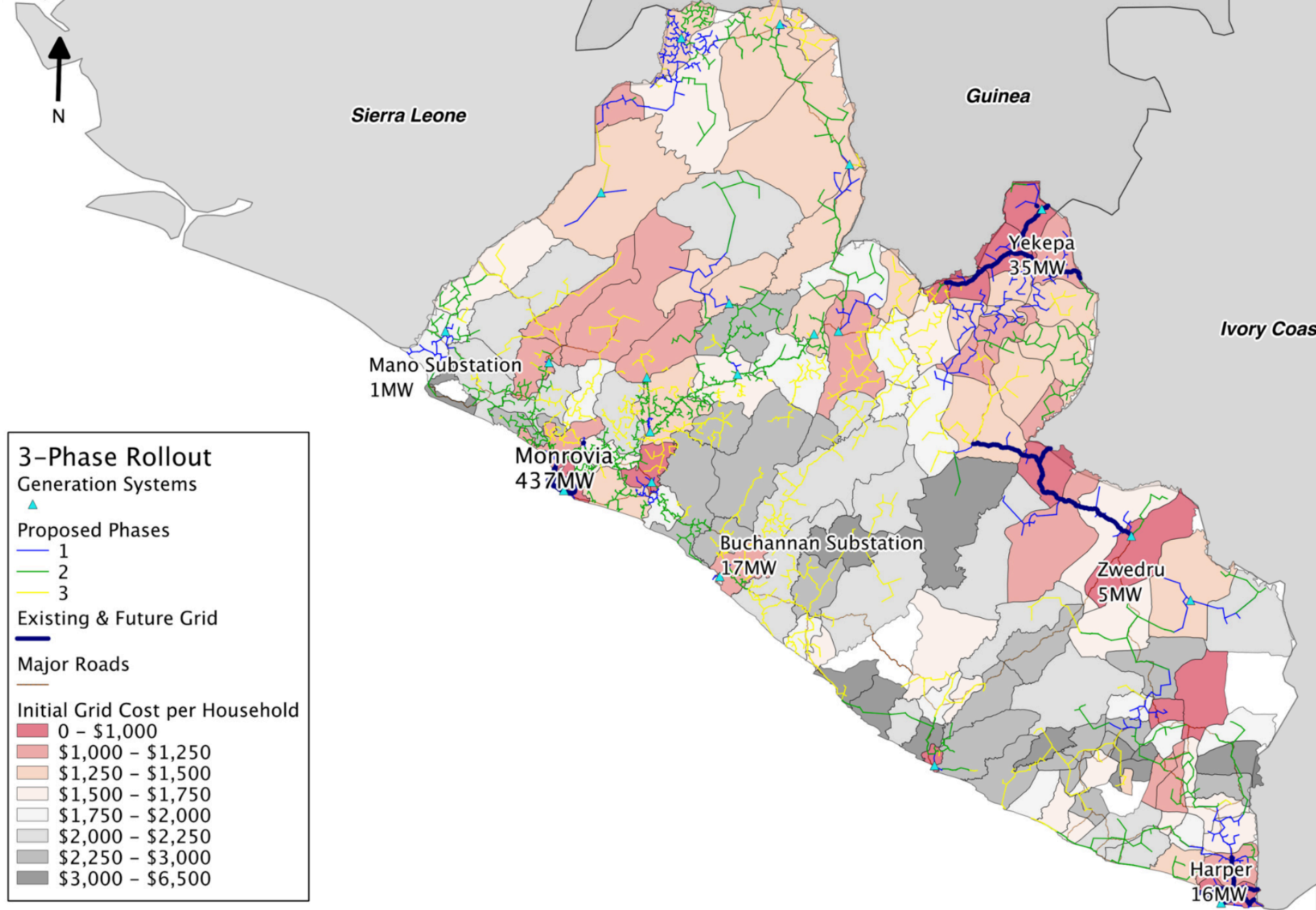


**NYC Energy Usage Map**



World population without access to electricity

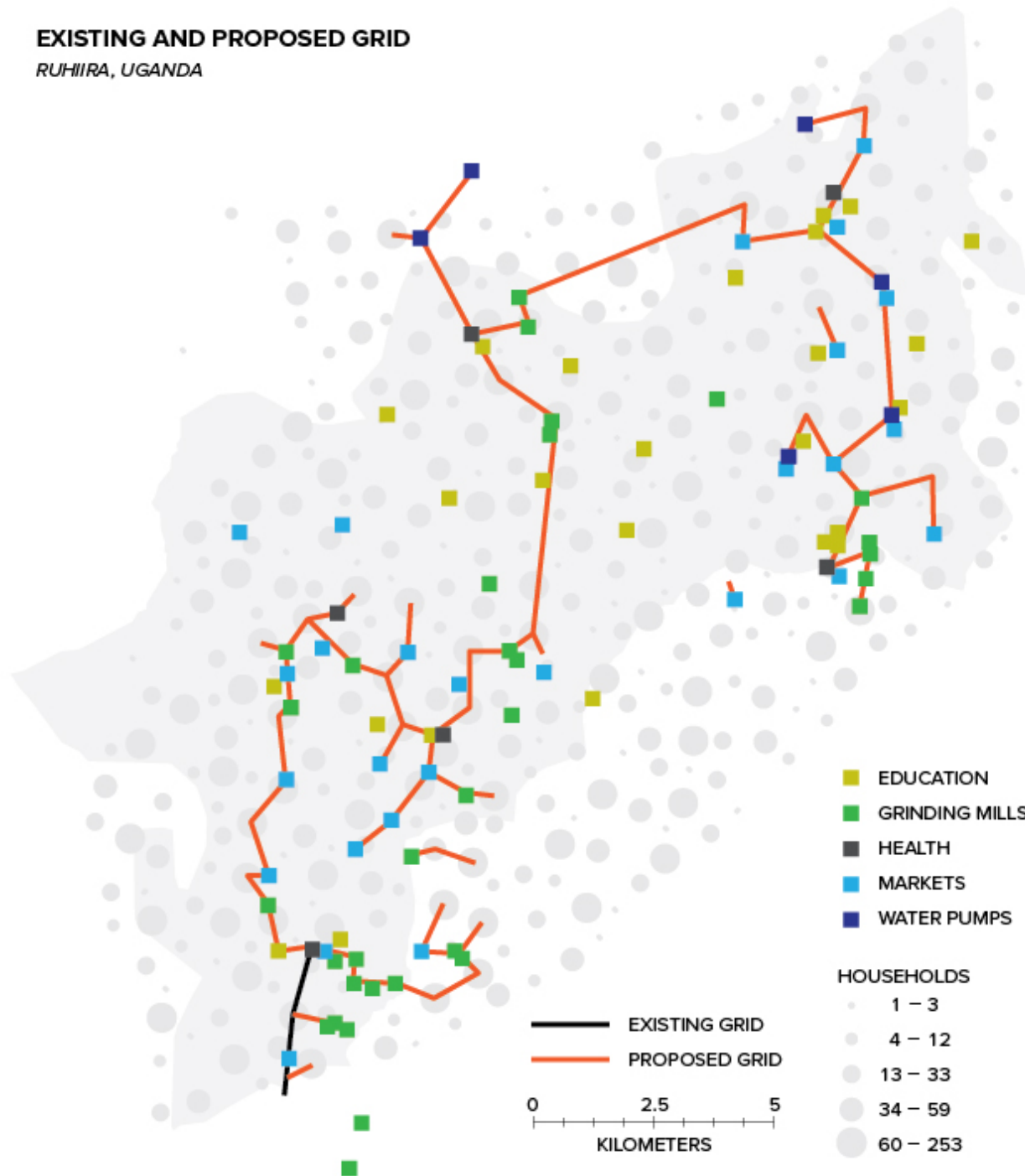


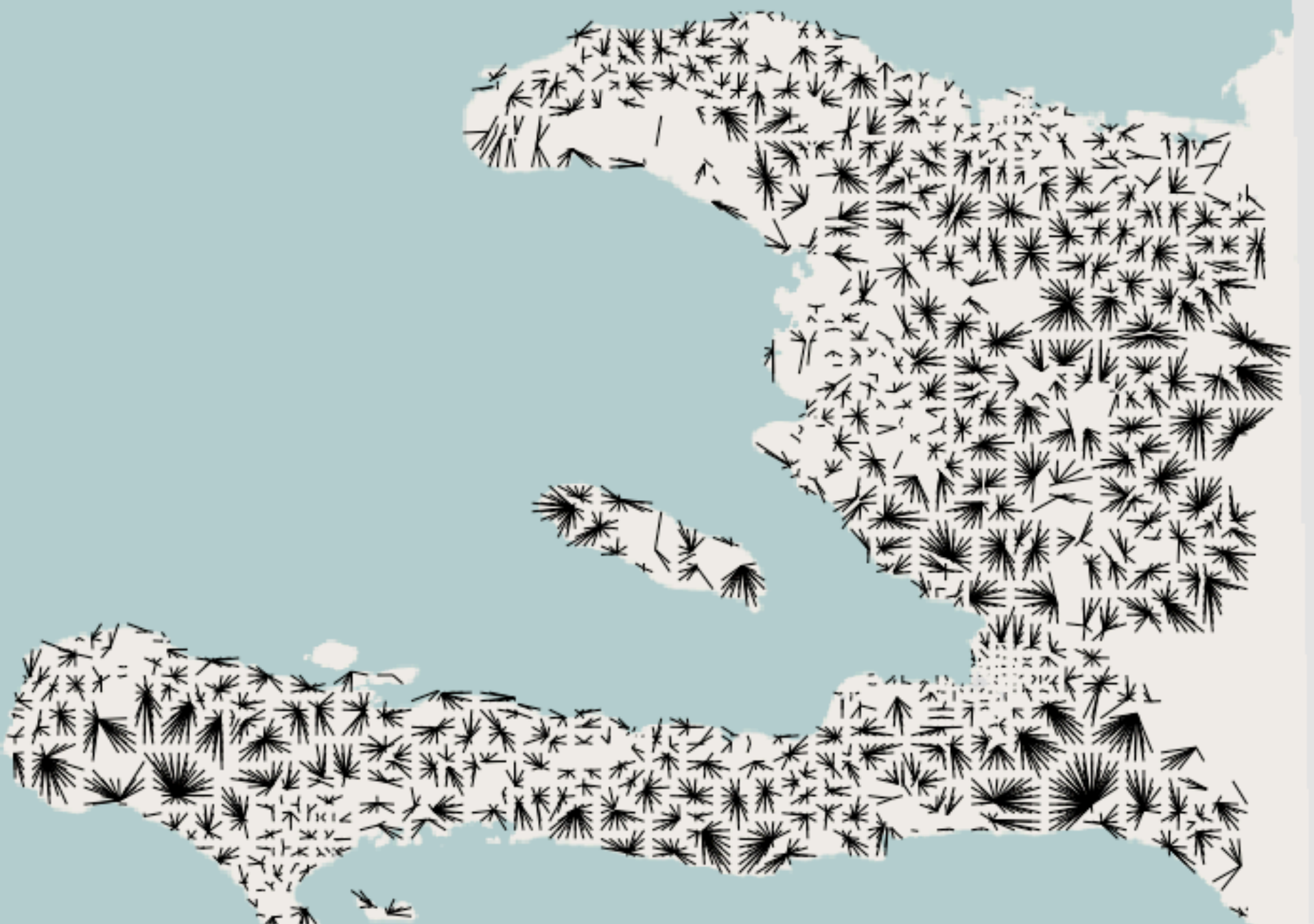


**Electrification plan for Liberia**

## EXISTING AND PROPOSED GRID

RUHIIRA, UGANDA





**Haiti: The longer the line, the farther people travel to the nearest health facility**

**INSPIRATION**



# 2001 | Afghanistan

## NATO Invasion; Taliban Deposed

## VIEWING



## WORLD REFUGEES

**12,031,996**

## POPULATION

6,195,665,261

## REFUGEES / POPULATION

1 of 515

## TOP 3 OF 162 ORIGINS

## AFGHANISTAN

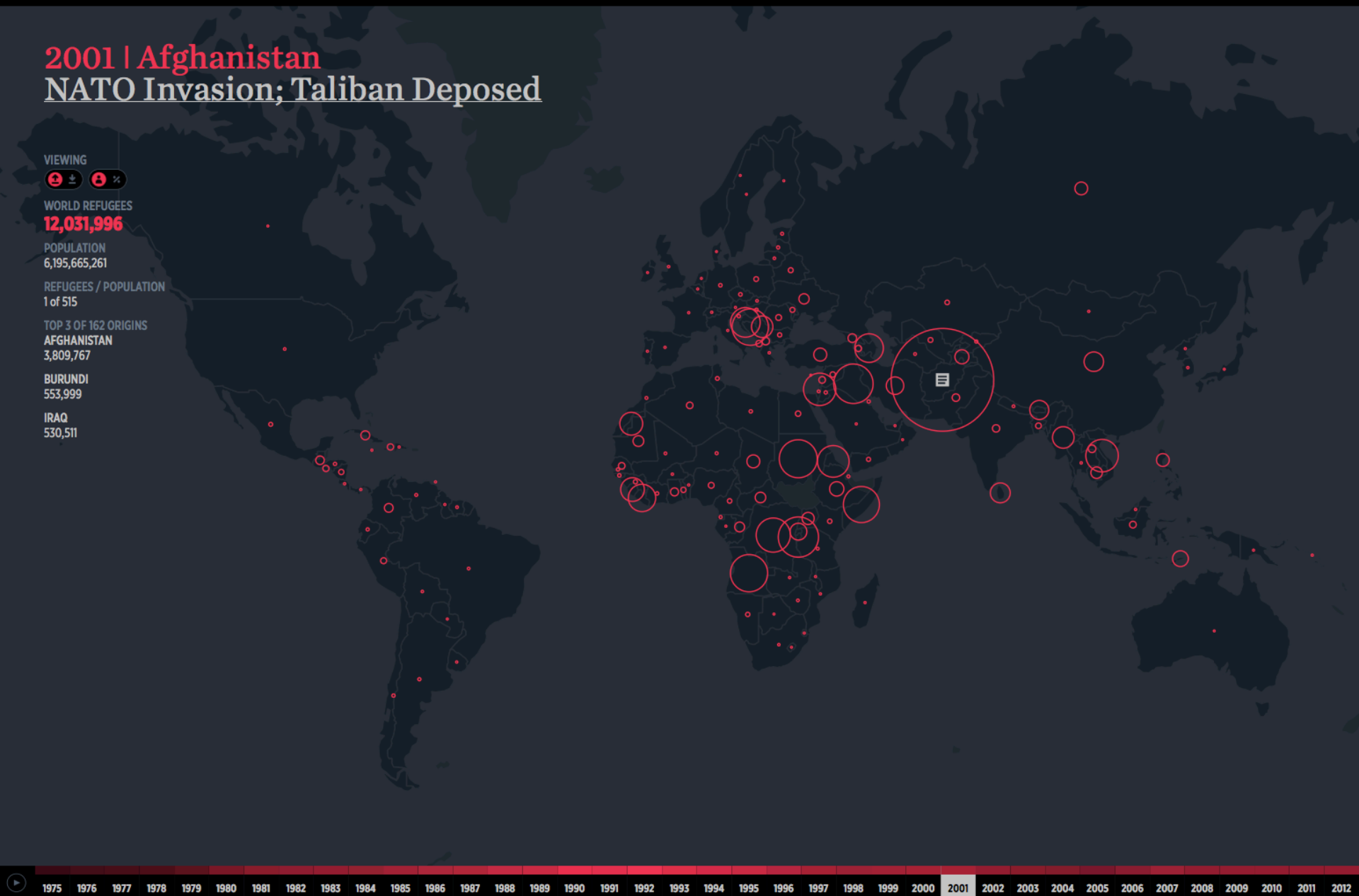
3,809,767

## BURUNDI

553,999

## IRAQ

530,511



# 2001 | Afghanistan

## NATO Invasion; Taliban Deposed

## VIEWING



## ORIGINATING FROM

## AFGHANISTAN

**3,809,767**

## POPULATION

26,697,430

## REFUGEES / POPULATION

1 of 7

## TOP 3 OF 75 ASYLUMS

## PAKISTAN

2,197,821

## ISLAMIC REP. OF IRAN

1,482,000

## NETHERLANDS

26,024

**3,809,767**refugees from Afghanistan  
(1st of 145 origins)

1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012

Tree Map ▾

Change Output ▾

Minas Gerais ▾

↺

📄

☆

↻

?

✂

⚙

Size

Total Employees

Total Monthly Wages

Total Establishments

Depth

Main Group

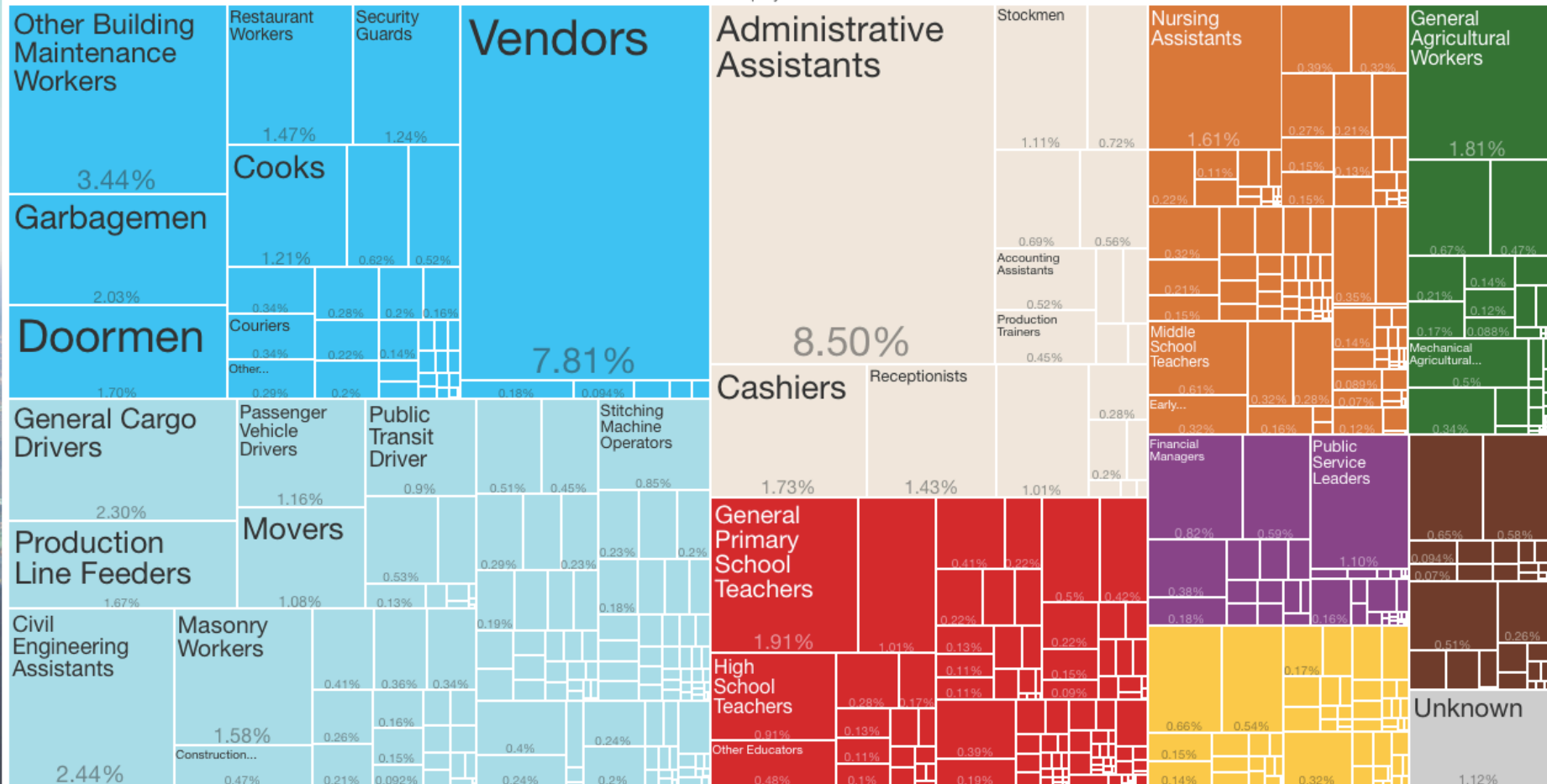
Family

Color

Sector ▾

## Occupations in Minas Gerais (2012)

Total Employees: 4.93 M



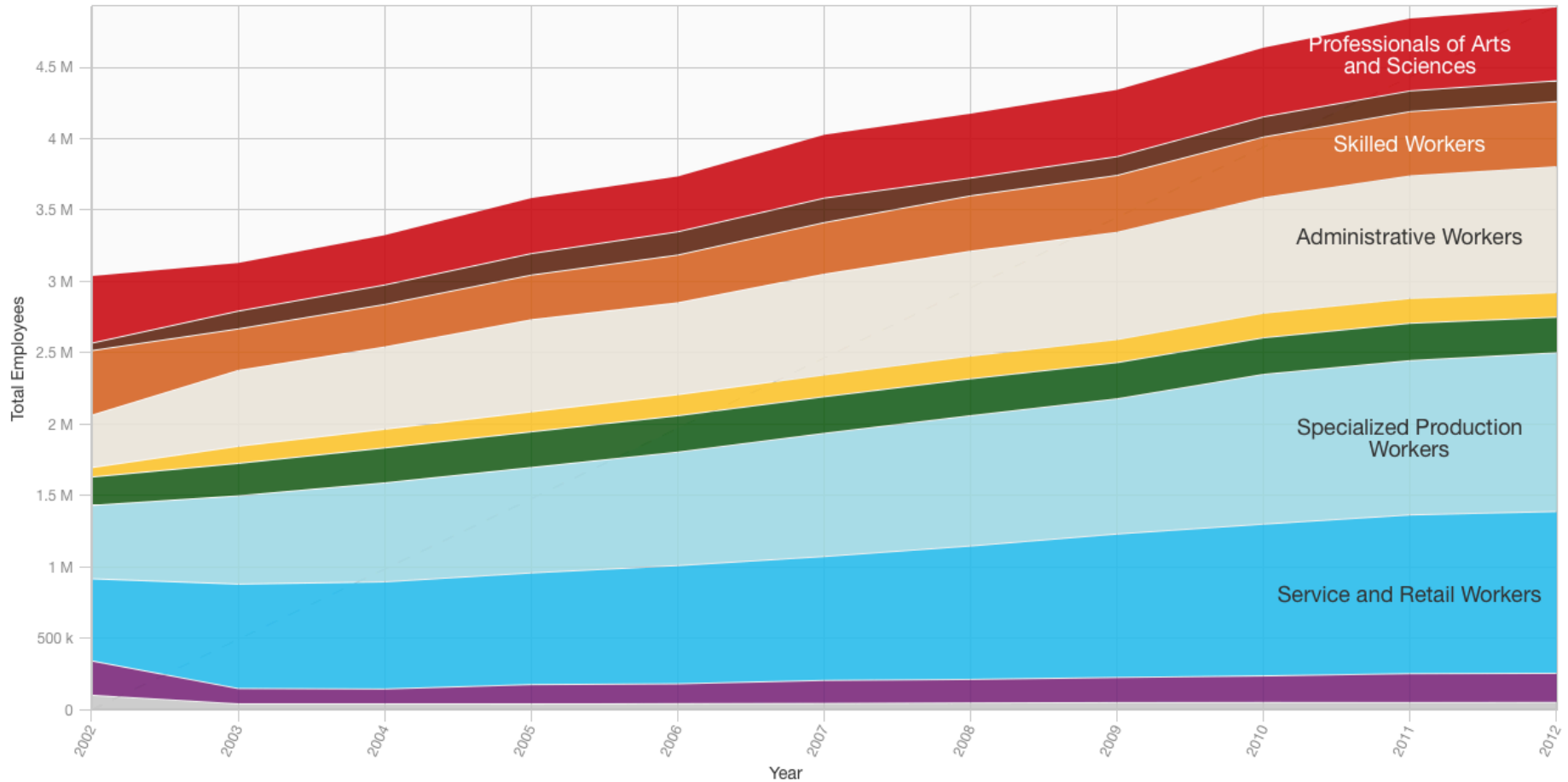
Data Provided by RAIS

CBO



Show All Years

## Occupations in Minas Gerais



Data Provided by RAIS

# QUESTIONS?

caheberer.ei@gmail.com  
sel.columbia.edu