

A newsletter from East View highlighting census data from around the world

HOW PEOPLE AROUND THE WORLD COPE WITH HEAT

Population and housing censuses can provide a surprisingly rich picture of how people are exposed to heat, what resources they have to cope with it, and which populations are most vulnerable. Their greatest value lies in connecting environmental conditions to detailed information about people, households, and housing, often at very small geographic scales.

As extreme heat becomes more frequent, population and housing census data can become an important source for studying the intersection of climate exposure, housing, inequality, urbanization, and human adaptation over time.

In its most basic form, housing census data includes the number of rooms and occupants in a household. In many cases, housing census questionnaires move beyond this basic data to include questions about building and roofing materials, access to water and sewage systems, and power and fuel sources. At a global level, censuses offer comparisons of housing conditions and household characteristics. And when analyzed historically, these documents allow researchers to investigate the ways populations have adapted to climate conditions.

3.4 Construction Materials of Housing Units

Good quality building materials translate to good housing structures. There are different materials used for construction of roofs, walls and floors of housing units.

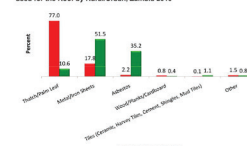
Material Used for Roof

Figure 3.3 presents information on the percent distribution of housing units by main construction materials used for the roof by rural and urban. In rural areas, Thatch/Palm leaf (77 percent) was the most common material used for the roof, followed by Iron sheet/Metal (17.8 percent) and Asbestos (2.2 percent). In urban areas, Iron sheet/Metal (51.5 percent) was the most common material used for the roof, followed by Asbestos (32.2 percent) and Thatch/Palm leaf (10.6 percent).

In Table 3.6, information on the number and percent distribution of housing units by material used for roofing is presented. At national level, thatched/palm leaf (50.5 percent) was the most common material used for the roof followed by Iron sheet/metal (31.3 percent) and Asbestos (15.4 percent). Except for Lusaka and Copperbelt provinces, Thatch/Palm Leaf is the main material used for roofing in all the provinces. In Lusaka Province, Asbestos (47.7 percent) is the main

material used for roofing followed by Metal/Iron sheets (44.2 percent), while in Copperbelt Province, the reverse is the case with Metal/Iron sheets (50.3 percent) being the most common material used for roofing followed by Asbestos (28.9 percent).

Figure 3.3: Percentage Distribution of Housing Units by Main Material used for the Roof by Rural/Urban, Zambia 2010



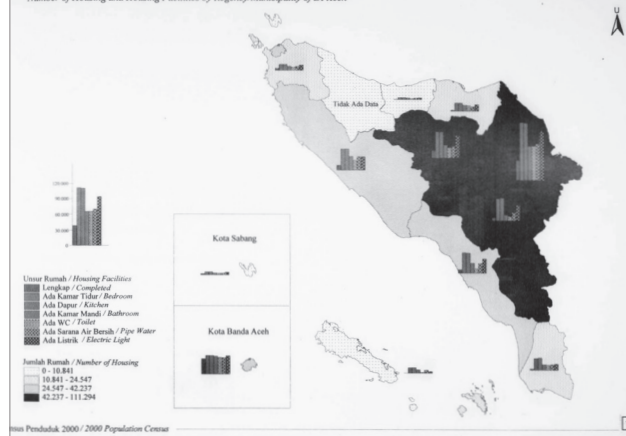
Source: 2010 Census of Population and Housing

Table 3.6: Number and Percentage Distribution of Housing Units by Type of Material used for the Roof and Province, Zambia 2010

Province and Percent	Number of Housing Units	Thatch/Palm Leaf	Metal/Iron Sheet	Asbestos	Rustic Mat/Palm/Bamboo	Wood/Plank/Corrugated	Tiles (Ceramic, Heavy Tiles, Cement, Shingles, Mud)	Other
Total	2,446,989	1,244,408	831,880	408,897	12,244	17,454	12,165	32,949
Percent	100.0	50.5	31.3	15.4	0.3	0.5	0.3	1.2
Copperbelt	222,000	47,566	79,241	22,010	1,139	2,850	362	4,820
Percent	100.0	21.4	35.7	9.9	0.5	1.3	0.2	2.2
Central	391,827	85,047	198,980	113,386	3,825	2,663	4,804	3,202
Percent	100.0	21.7	50.8	29.1	1.0	0.7	1.2	0.8
Eastern	324,807	216,287	95,448	7,172	1,608	1,887	179	2,298
Percent	100.0	66.6	29.4	2.2	0.5	0.6	0.1	0.7
Lusaka	331,425	200,769	22,667	3,605	1,114	1,176	97	1,775
Percent	100.0	60.9	6.8	1.0	0.3	0.3	0.0	0.5
Lusaka	444,017	26,897	204,945	221,518	569	935	6,898	2,555
Percent	100.0	6.0	45.9	49.7	0.1	0.2	1.5	0.6
Muchinga	144,943	112,740	26,195	3,084	848	1,489	98	2,067
Percent	100.0	77.8	18.1	2.1	0.6	1.0	0.1	1.4
North Western	134,211	88,810	41,494	2,736	422	897	40	1,572
Percent	100.0	66.2	30.9	2.0	0.3	0.7	0.0	1.1
Northern	232,909	196,975	27,875	4,376	733	1,315	78	1,541
Percent	100.0	84.6	12.0	1.9	0.3	0.6	0.0	0.7
Southern	295,915	180,538	108,133	27,422	1,107	2,233	333	6,149
Percent	100.0	61.0	36.9	9.3	0.4	0.8	0.1	2.1
Western	184,772	144,058	28,224	2,910	409	2,124	104	8,911
Percent	100.0	78.0	15.3	1.6	0.3	1.1	0.1	4.8

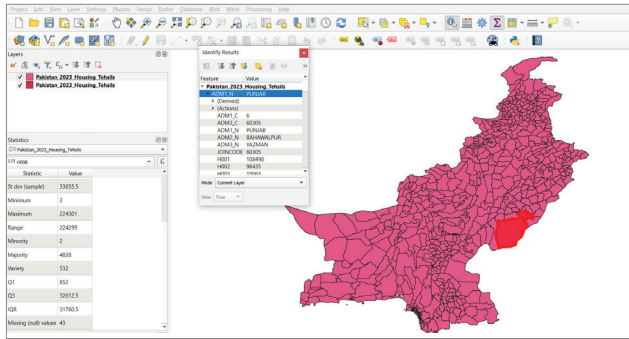
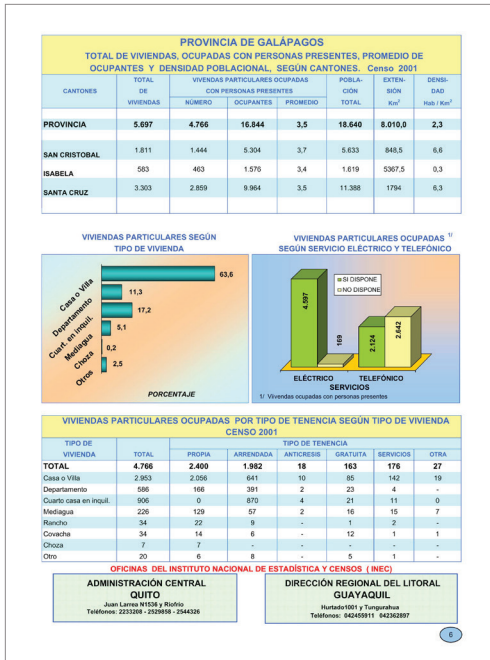
Source: 2010 Census of Population and Housing

1.1. Jumlah Rumah dan Unsur Rumah per Kabupaten/Kota di Provinsi DI Aceh (11)
Number of Housing and Housing Facilities by Regency/Municipality of DI Aceh



Top: Zambia, 2010. Household & Housing Characteristics, p. 23.
<https://gca.eastview.com/CENSUS-266606280.1.23>

Bottom: Indonesia, 2000. Housing Statistical Map, p. 29.
<https://gca.eastview.com/CENSUS-255523280.1.29>



Left: Ecuador, 2001. Provincial Census Results. Galápagos p. 6.
<https://gca.eastview.com/CENSUS-2373465B.1.6>

Right: Pakistan, 2023. Population Census. Housing, permanent construction, Yazman Tehsil. GCA-GIS census data.
<https://gca.eastview.com/pak>

Population censuses provide detailed demographic information that can be used to understand how heat affects different groups. Depending on the country and census, researchers can examine age, disability, employment status, and other living arrangements. This kind of data can help researchers understand who has the resources to cope with and adapt to heat. When demographic and socio-economic data are combined with temperature and climate data, vulnerable groups and at-risk geographic areas can be identified. For example, a census can help identify neighborhoods with large concentrations of older people living alone, or communities where many residents work outdoors.

Census GIS data offers an even richer picture of population groups and their living conditions. For example, the GIS datasets included in the Global Census Archive can be combined with heat and temperature data to create vulnerability maps. Simply put, censuses do not just tell us where people live but help us understand how they live in relation to their environments and material conditions.

Further reading on climate and population trends:

- Ansa Heyl, "Climate change impacts internal migration worldwide, census data analysis reveals": <https://phys.org/news/2024-10-climate-impacts-internal-migration-worldwide.html>
- "International Population Vulnerability and Resilience," U.S. Census Bureau: <https://www.census.gov/programs-surveys/international-programs/data/population-vulnerability.html>
- United Nations Statistics Division, "Global Set of Climate Change Statistics and Indicators": <https://unstats.un.org/unsd/envstats/climatechange.cshtml>



The East View **Global Census Archive®** (GCA) is an innovative program to collect official data and publications issued by the national census authorities of more than 200 countries, from the early 19th century to the present day, providing a key resource for scholars and analysts to find current and historical census data to support critical research into our changing world. GCA provides a single platform experience to explore the world's census publications: all countries and regions, the complete depth of published census materials, including original census publications in e-book form, as well as modern tabular data in Excel format and GIS files for advanced users.