FRONTIER DATA NETWORK | unicef for every child

The «State of the World's Children»

From SDMX to Report

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The State of the World's Children (SOWC)

UNICEF's flagship annual report on global challenges and opportunities for children.

- 23 **Tables** of data
- ~200 **Indicators**
- >200 **Countries** and **regions**

A lot of data!

https://data.unicef.org/resources/sowc-2024/

The process in the past

Indicators manually extracted from different sources.

Copied and pasted in Excel tables

Copied and pasted in inDesign by designers

Each step can introduce errors!

Hard to track mistakes

TABLE 1. DEMOGRAPHICS

Countries and areas	Population (thousands) 2023			Annual population growth rate (%)		Annual number of births (thousands) 2023	Total fertility (live births per woman) 2023
	Total	Under 18	Under 5	2000	2023 (A)		
Afghanistan	41'455	20'783	6'656	-1.2	2.8	1'469	4.8
Albania	2'812	579	145	-0.7	-0.7	29	1.3
Algeria	46'164	16'342	4'753	1.4	1.4	906	2.8
Andorra	81	12	2	-0.2	1.4	1	1.1
Angola	36'750	18'792	6'219	3.3	3.1	1'381	5.1
Anguilla	14	3	1	3.1	1.6	0	1.4
Antigua and Barbuda	93	21	5	1.7	0.5	1	1.6
Argentina	45'538	12'232	2'751	1.1	0.3	504	1.5
Armenia	2'943	687	177	-1.3	2.8	35	1.7
Australia	26'451	5'739	1'526	1.2	1.0	304	1.6
Austria	9'130	1'567	426	0.2	-0.1	77	1.3
Azerbaijan	10'318	2'761	675	1.0	-0.3	125	1.7
Bahamas	399	90	22	1.3	0.5	4	1.4
Bahrain	1'570	349	95	2.2	2.3	20	1.8
Bangladesh	171'467	58'955	16'505	1.8	1.2	3'490	2.2
Barbados	282	60	16	-0.4	0.0	3	1.7
Belarus	9'116	1'812	399	-0.5	-0.7	65	1.2
Belgium	11'713	2'315	583	0.2	0.3	102	1.4
Belize	411	134	36	3.2	1.5	7	2.0
Benin	14'111	6'832	2'176	3.1	2.5	478	4.6

The role of SDMX

- SDMX Registry
  - Always up-to-date
  - Authoritative
  - **Single source of truth** for data

SOWC is only one of many many possible output formats.

The process now

- A configuration file maps the API call to the column in the report
- The data is pulled from the SDMX APIs
- The output is already in PDF format, no designers involved

Fully automated →reduces manual work and errors

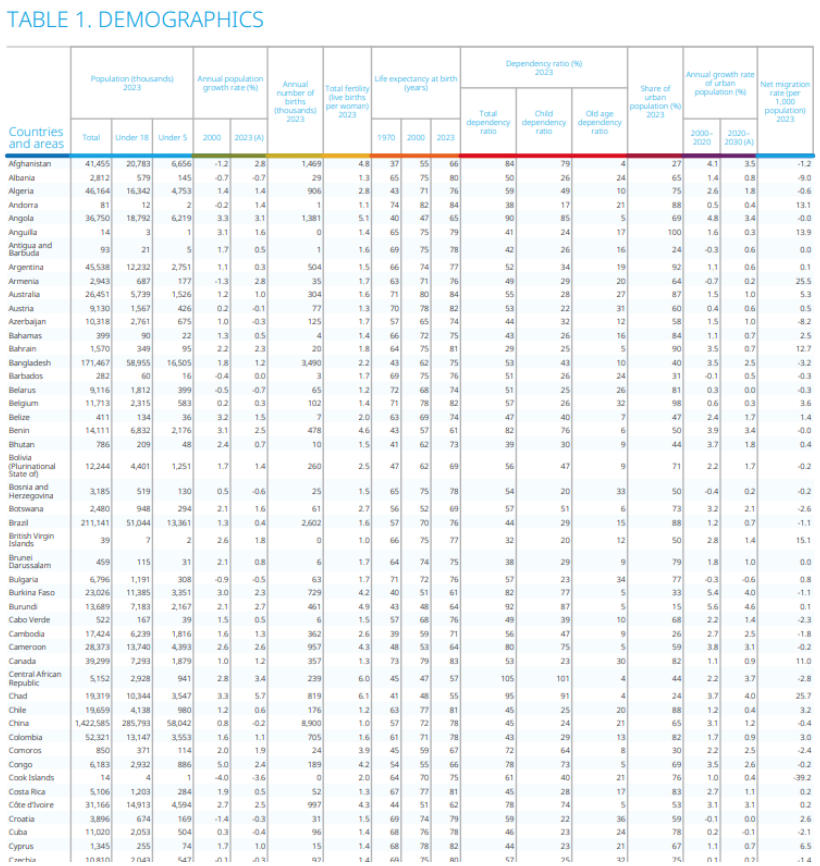

TABLE 1. DEMOGRAPHICS

Countries and areas	Population (thousands) 2023			Annual population growth rate (%)		Annual number of births (thousands) 2023	Total fertility (live births per woman) 2023	Life expectancy at birth (years)			Dependency ratio (%) 2023			Share of urban population (%) 2023	Annual growth rate of urban population (%)		Net migration rate (per 1,000 population) 2023
	Total	Under 18	Under 5	2000	2023 (A)			1970	2000	2023	Total dependency ratio	Child dependency ratio	Old age dependency ratio		2000–2020	2020–2030 (A)	
Afghanistan	41,455	20,783	6,656	-1.2	2.8	1,469	4.8	37	55	66	84	79	4	27	4.1	3.5	-1.2
Albania	2,812	579	145	-0.7	-0.7	29	1.3	65	75	80	50	26	24	65	1.4	0.8	-9.0
Algeria	46,164	16,342	4,753	1.4	1.4	906	2.8	43	71	76	59	49	10	75	2.6	1.8	-0.6
Andorra	81	12	2	-0.2	1.4	1	1.1	74	82	84	38	17	21	88	0.5	0.4	13.1
Angola	36,750	18,792	6,219	3.3	3.1	1,381	5.1	40	47	65	90	85	5	69	4.8	3.4	-0.0
Anguilla	14	3	1	3.1	1.6	0	1.4	65	75	79	41	24	17	100	1.6	0.3	13.9
Antigua and Barbuda	93	21	5	1.7	0.5	1	1.6	69	75	78	42	26	16	24	-0.3	0.6	0.0
Argentina	45,538	12,232	2,751	1.1	0.3	504	1.5	66	74	77	52	34	19	92	1.1	0.6	0.1
Armenia	2,943	687	177	-1.3	2.8	35	1.7	63	71	76	49	29	20	64	-0.7	0.2	25.5
Australia	26,451	5,739	1,526	1.2	1.0	304	1.6	71	80	84	55	28	27	87	1.5	1.0	5.3
Austria	9,130	1,567	426	0.2	-0.1	77	1.3	70	78	82	53	22	31	60	0.4	0.6	0.5
Azerbaijan	10,318	2,761	675	1.0	-0.3	125	1.7	57	65	74	44	32	12	58	1.5	1.0	-8.2
Bahamas	399	90	22	1.3	0.5	4	1.4	66	72	75	43	26	16	84	1.1	0.7	2.5
Bahrain	1,570	349	95	2.2	2.3	20	1.8	64	75	81	29	25	5	90	3.5	0.7	12.7
Bangladesh	171,467	58,955	16,505	1.8	1.2	3,490	2.2	43	62	75	53	43	10	40	3.5	2.5	-3.2
Barbados	282	60	16	-0.4	0.0	3	1.7	69	75	76	51	26	24	31	-0.1	0.5	-0.3
Belarus	9,116	1,812	399	-0.5	-0.7	65	1.2	72	68	74	51	25	26	81	0.3	0.0	-0.3
Belgium	11,713	2,315	583	0.2	0.3	102	1.4	71	78	82	57	26	32	98	0.6	0.3	3.6
Belize	411	134	36	3.2	1.5	7	2.0	63	69	74	47	40	7	47	2.4	1.7	1.4
Benin	14,111	6,832	2,176	3.1	2.5	478	4.6	43	57	61	82	76	6	50	3.9	3.4	-0.0
Bhutan	786	209	48	2.4	0.7	10	1.5	41	62	73	39	30	9	44	3.7	1.8	0.4
Bolivia (Plurinational State of)	12,244	4,401	1,251	1.7	1.4	260	2.5	47	62	69	56	47	9	71	2.2	1.7	-0.2
Bosnia and Herzegovina	3,185	519	130	0.5	-0.6	25	1.5	65	75	78	54	20	33	50	-0.4	0.2	-0.2
Botswana	2,480	948	294	2.1	1.6	61	2.7	56	52	69	57	51	6	73	3.2	2.1	-2.6
Brazil	211,141	51,044	13,361	1.3	0.4	2,602	1.6	57	70	76	44	29	15	88	1.2	0.7	-1.1
British Virgin Islands	39	7	2	2.6	1.8	0	1.0	66	75	77	32	20	12	50	2.8	1.4	15.1
Brunei Darussalam	459	115	31	2.1	0.8	6	1.7	64	74	75	38	29	9	79	1.8	1.0	0.0
Bulgaria	6,796	1,191	308	-0.9	-0.5	63	1.7	71	72	76	57	23	34	77	-0.3	-0.6	0.8
Burkina Faso	23,026	11,385	3,351	3.0	2.3	729	4.2	40	51	61	82	77	5	33	5.4	4.0	-1.1
Burundi	13,689	7,183	2,167	2.1	2.7	461	4.9	43	48	64	92	87	5	15	5.6	4.6	0.1
Cabo Verde	522	167	39	1.5	0.5	6	1.5	57	68	76	49	39	10	68	2.2	1.4	-2.3
Cambodia	17,424	6,239	1,816	1.6	1.3	362	2.6	39	59	71	56	47	9	26	2.7	2.5	-1.8
Cameroon	28,373	13,740	4,393	2.6	2.6	957	4.3	48	53	64	80	75	5	59	3.8	3.1	-0.2
Canada	39,299	7,293	1,879	1.0	1.2	357	1.3	73	79	83	53	23	30	82	1.1	0.9	11.0
Central African Republic	5,152	2,928	941	2.8	3.4	239	6.0	45	47	57	105	101	4	44	2.2	3.7	-2.8
Chad	19,319	10,344	3,547	3.3	5.7	819	6.1	41	48	55	95	91	4	24	3.7	4.0	25.7
Chile	19,659	4,138	980	1.2	0.6	176	1.2	63	77	81	45	25	20	88	1.2	0.4	3.2
China	1,422,585	285,793	58,042	0.8	-0.2	8,900	1.0	57	72	78	45	24	21	65	3.1	1.2	-0.4
Colombia	52,321	13,147	3,553	1.6	1.1	705	1.6	61	71	78	43	29	13	82	1.7	0.9	3.0
Comoros	850	371	114	2.0	1.9	24	3.9	45	59	67	72	64	8	30	2.2	2.5	-2.4
Congo	6,183	2,932	886	5.0	2.4	189	4.2	54	55	66	78	73	5	69	3.5	2.6	-0.2
Cook Islands	14	4	1	-4.0	-3.6	0	2.0	64	70	75	61	40	21	76	1.0	0.4	-39.2
Costa Rica	5,106	1,203	284	1.9	0.5	52	1.3	67	77	81	45	28	17	83	2.7	1.1	0.2
Côte d'Ivoire	31,166	14,913	4,594	2.7	2.5	997	4.3	44	51	62	78	74	5	53	3.1	3.1	0.2
Croatia	3,896	674	169	-1.4	-0.3	31	1.5	69	74	79	59	22	36	59	-0.1	0.0	2.6
Cuba	11,020	2,053	504	0.3	-0.4	96	1.4	68	76	78	46	23	24	78	0.2	-0.1	-2.1
Cyprus	1,345	255	74	1.7	1.0	15	1.4	68	78	82	44	23	21	67	1.1	0.7	6.5
Czechia	10,810	2,043	547	-0.1	-0.3	92	1.4	69	75	80	52	25	27	75	0.1	0.2	-1.4

Dataflows directly into publication-ready

The API call

https://sdmx.data.unicef.org/ws/public/sdmxapi/rest/data/UNICEF,CME,1.0/.CME_MRY0T4.M._T

The returned data

DATAFLOW	REF_AREA	INDICATOR	SEX	WEALTH_QUINTILE	TIME_PERIOD	OBS_VALUE
UNICEF:CME(1.0)	AFG	CME_MRY0T4	M	_T	2022	61.07903326

TABLE 2. CHILD MORTALITY

Countries and areas	Under-five mortality rate			Annual rate of reduction in under-five mortality rate	Under-five mortality rate 2022		Infant mortality rate	
	1990	2000	2022	2010–2022	Male	Female	1990	2022
Afghanistan	181	132	58	3.6	61	54	123	45
Albania	41	27	9	2.8	10	9	35	8
Algeria	51	42	22	2.1	23	20	43	19
Andorra	13	8	3	4.5	3	2	9	3
Angola	224	203	67	4.8	72	61	132	46
Anguilla	19	12	6	3.1	6	6	16	5
Antigua and Barbuda	13	15	10	1.9	10	9	11	8
Argentina	29	19	9	3.6	10	9	25	8
Armenia	49	31	10	4.9	11	9	42	9
Australia	9	6	4	2.0	4	3	8	3
Austria	10	5	3	2.5	3	3	8	3
Azerbaijan	95	75	18	6.1	20	16	76	16
Bahamas	24	16	13	1.5	14	12	20	11
Bahrain	23	12	7	2.4	7	6	20	6
Bangladesh	146	86	29	4.5	31	27	101	24
Barbados	18	15	11	2.4	12	10	16	10
Belarus	15	13	3	6.5	3	2	12	2
Belgium	10	6	4	1.6	4	3	8	3
Belize	39	24	11	4.5	12	10	32	9
Benin	172	136	81	2.5	87	75	104	54
Bhutan	129	79	24	4.4	26	21	90	20
Bolivia (Plurinational State of)	122	76	24	4.7	26	21	84	20

The State of African Children 2025

We can produce other reports with minimal effort

Change:

- Images
- Narrative
- Configurations

Summary

- **One source of truth**: SDMX registry
- **COPE principle**: Create once, publish everywhere
- **Automation**: Reduces errors, improves reproducibility
- **Efficiency**: From data to publication in one click
- **Reusability**: We can reuse the process for other reports
- **Multilinguality**: Easy to output multiple languages

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Thank you