

# **International Comparison Program (ICP)**

**TECHNICAL ADVISORY GROUP (TAG)**

**November 6-7, 2023**



# Opening Remarks

# **Update on the ICP 2021 Cycle**

## **International Comparison Program (ICP) Technical Advisory Group (TAG)**



International Comparison Program

**November 6-7, 2023  
Washington, DC**

# Outline

- ❖ **Timeline, survey and participation status**
- ❖ **Governance and coordination activities**
- ❖ **Data submission and quality assurance status**
- ❖ **Replicability and transparency of ICP results**
- ❖ **Risks and mitigation measures**
- ❖ **Knowledge, outreach, and recent uses**

# Introductory Notes [1]

## ❖ **The ICP 2021 cycle continues to be a challenging one**

- Cycle postponed from the original reference year 2020 to 2021
- Price survey period extended to (2020)-2021-2022
- Regions face different difficulties: COVID-19, Ukraine, and Middle-East
- Delays with data submissions, processing, quality assurance, and calculations
- The ICP IACG recommended postponing the release from end-2023 to Q1-2024 to allow sufficient time for quality assurance and other processes
  - *For reference:* ICP 2017 results were published in May 2020

# Introductory Notes [2]

## ❖ *...However*

- Thanks to the relentless work by the ICP national and regional implementing agencies, ICP 2021 participation is similar to ICP 2017
- Initial results showcase expected patterns between the ICP 2017 and 2021
- Agencies have established new ways to collect and validate data, and interact across different teams

## ❖ *... And also*

- ICP PPPs continue to be in very strong demand, with several key indicators and uses relying on PPPs, while new significant uses are on the horizon



# **Timeline, Survey and Participation Status**

# ICP 2021 Cycle Overall Timeline

ICP 2021 Cycle	2020				2021				2022				2023			2024		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Price surveys	█	█	█	█	█	█	█	█	█	█	█	█						
National accounts									█	█	█	█	█	█	█			
Governing Board <sup>1</sup>						█			█				█			?	Feb	
TAG						█		█				█				█	?	
IACG <sup>2</sup>		█		█		█		█	█	█		█		█				
Publication <sup>3</sup>																	!	

<sup>1</sup> Typically in conjunction with the UNSC session; <sup>2</sup> Biannual

<sup>3</sup> Revised 2017, 2021, 2018-2020 timeseries PPPs



# ICP 2021 Cycle Participation

**The total number of participating economies consistent across cycles**

[ **ICP 2011:** 199 | **ICP 2017:** 176 economies | **ICP 2021:** 175 economies ]

- **AFR [52]:** +2 Somalia and South Sudan experimental participation
- **ASI [21]:** -1 Myanmar
- **CIS [9]:** +1 Uzbekistan
- **EUO [48+2]:** -1 Russia (as a dual-participating country) | Georgia and Ukraine
- **LAT [13]:** +1 Guatemala, -1 Haiti
- **CAR [19]:** -4 The Bahamas, Barbados, Sint Maarten, Turks and Caicos
- **WAS [16]:** +2 Syria and Lebanon, +2 Tunisia, Mauritania (as dual-participating countries)

# Governance: United Nations Statistical Commission



- **2023 ICP report for information: Agenda item 5(C)**
  - **Arabic | Chinese | English | Español | Français | Russian**
- Outlined ICP activities undertaken in 2022 at the global, regional, and national levels.
  - The Commission was invited to take note of the progress made in carrying out the current cycle and related risks, challenges, and mitigation measures, and the call to ICP stakeholders to ensure their **timely completion of the ICP 2021 cycle activities, to prepare for the next ICP 2024 cycle**, and to continue to incorporate the ICP into their regular statistical work programmes.
  - **The 2023 report will be submitted for discussion (due by November 27, 2023)**

# Governance: Governing Board Meeting

- **Recent meeting in February 2023**
- **The Board noted**
  - Progress made with the ICP 2021 cycle, despite the COVID-19 pandemic and the war in Ukraine;
  - need to identify a new approach to link the CIS region;
  - Need to approach the NSOs on completing the ICP 2021 cycle activities in a timely manner and to begin preparations for the ICP 2024 cycle;
  - Need to identify sustained funding for the program and to strengthen advocacy effort; and
  - Current and anticipated uses of PPPs.
- **Next meeting *was* planned for end-2023 in anticipation of the release**
  - Communication outlining the progress and subsequent meeting in conjunction with the UNSC in 2024

# Governance: Technical Advisory Group Meeting

- **Recent meeting held in December 2022**
  - **Impact of COVID-19** on Eurostat-OECD data collection
  - **Implications of the war in Ukraine** on the ICP 2021 cycle
  - Reviewed progress with the **ICP Research Agenda**
    - Compilation of PPP Time Series | Compiling housing PPPs and real expenditures | Fine-tuning global linking procedures | Exploring innovations in technology and data sources for PPP measurement
- Discussed **new uses of PPPs and ICP data**, e.g., WB income classification
- **In addition to the current meeting, another (virtual?) meeting would likely be required in early 2024 for ICP 2021 cycle results review**

# Governance Activities: Inter-Agency Coordination Group

- The **previous meeting** held on **May 15-18, 2023**
- The most **recent meeting** held on **October 31 - November 3, 2023**
  - Regional and Global updates on the ICP 2021 cycle implementation
  - Data reviews: Prices, expenditures, and other data
  - Planning for the 2023/4 governance activities and ICP 2021 cycle release
  - Planning for the ICP 2024 cycle
- **Continuous interaction among the IACG agencies**
- **Data submission from the regions to the Global Office on “rolling basis”**



# **Data Submission and Quality Assurance Status**

# ICP 2021 HHC Data Submission Status

Region	# and %	As of	Annual 2021	EXP 2021 <sup>c</sup>	regPPP 2021	regPPP rev2017
AFR [52]	52 [100%]	Oct	No <sup>a</sup>	52 [100%]	No <sup>d</sup>	No
ASI [21]	21 [100%]	Oct	Yes	21 [100%]	Yes	Yes
CIS [9]	9 [100%]	Oct	Yes	9 [100%]	Yes	Yes
LAT [13]	13 [100%]	Oct	Yes	13 [100%]	No <sup>d</sup>	No
CAR [19]	19 [100%]	Oct	Yes	19 [100%]	No <sup>d</sup>	No
WAS [17]	17 [100%]	Oct	Yes	17 [100%]	No <sup>d</sup>	No
EUO [48]	48 [100%]	Oct	Yes	48 [100%]	Yes	Yes
SPP [2] <sup>b</sup>	-	Oct	-	2 [100%]	Yes	Yes

<sup>a</sup> Covered quarters vary between the countries    <sup>d</sup> GO estimate

<sup>b</sup> Georgia and Ukraine (Eurostat)

<sup>c</sup> N. of countries reporting BH-level expenditures; number of BHs varies

# ICP 2021 Non-HHC Data Submission Status

Region	REN	HOV	EDU	GOV	MEQ	CON
AFR [52]	50 [96%]	32 [67%]	50 [96%]	50 [96%]	50 [96%]	50 [96%]
ASI [21]	20 [95%]	21 [100%]	21 [100%]	21 [100%]	21 [100%]	21 [100%]
CIS [9]	-	9 [100%]	9 [100%]	9 [100%]	9 [100%]	9 [100%]
LAT [13]	13 [100%]	12 [92%]	12 [92%]	10 [77%]	8 [61%]	8 [61%]
CAR [19]	11 [58%]	1 [5%]	10 [52%]	12 [63%]	6 [31%]	6 [31%]
WAS [17]	17 [100%]	No (2017)	17 [100%]	17 [100%]	17 [100%]	17 [100%]
EUO [48]	-	-	-	48 [100%]	48 [100%]	12 [100%]
SPP [2] <sup>a</sup>	-	-	-	-	-	1 [50%] <sup>b</sup>

<sup>a</sup> Georgia and Ukraine (Eurostat) | <sup>b</sup> Not used for linking



# Household Consumption: GCL<sup>a</sup> Overlap Overview

Total # of GCL items	# of priced GCL items
636	636 (100%) (!)

	# of items priced by all <u>6</u> regions <sup>b</sup>	# of items priced by at least <u>2</u> regions*
May 2023	197 (31%)	633 (99%) (!)
October 2023	216 (34%)	634 (99.7%) (!)

2 (0.3%) (!) items priced by 1 region only

<sup>a</sup> GCL = Global Core List

<sup>b</sup> Including CIS

# Household Consumption: GCL Overlap for Regions

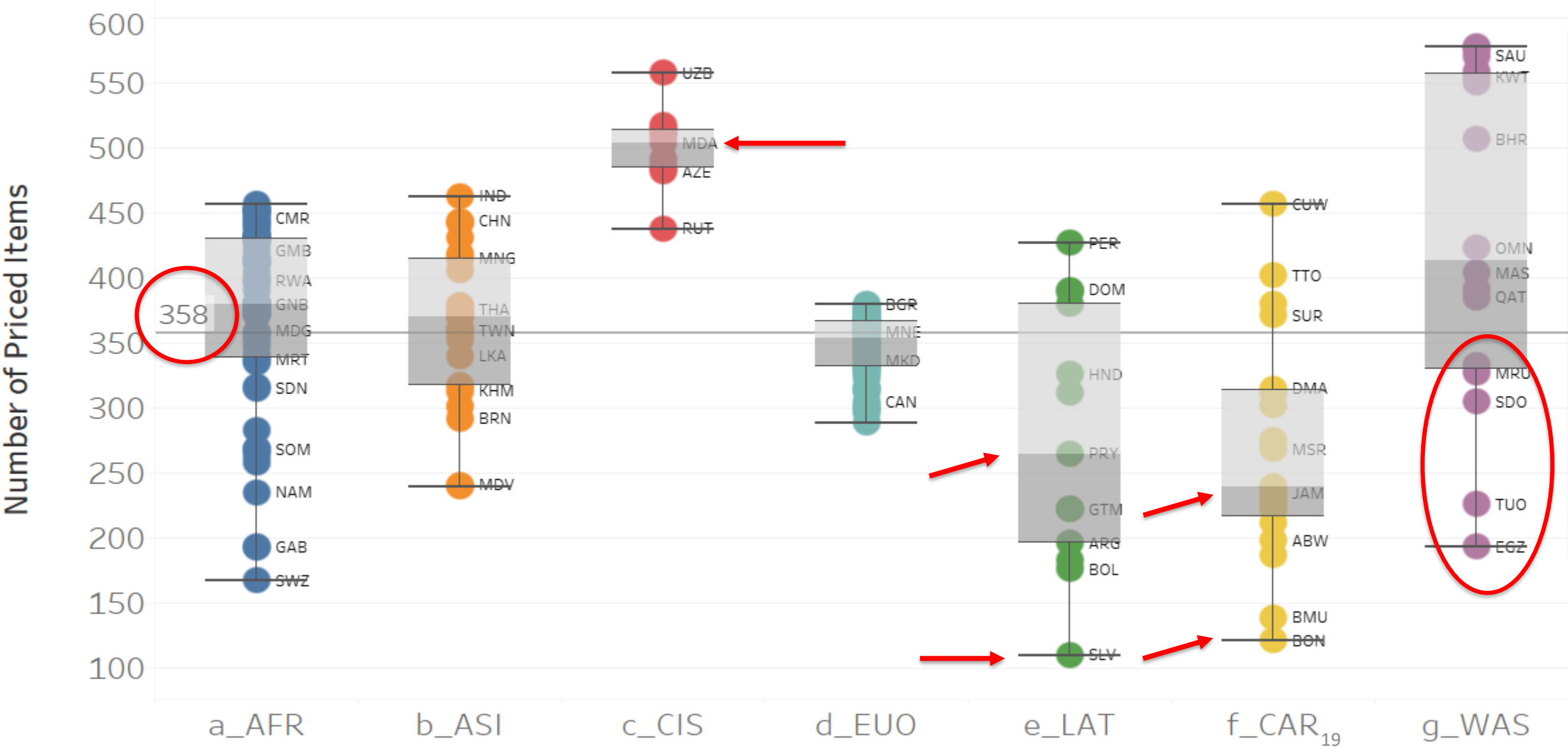
...priced by at least 1 country within the region; (%) of all 636 GCL items

...priced by at least 1 another region

Region	# of priced items <sup>a</sup>	# of “common” items	# of “stand-alone” items
AFR	460 (73%)	460	0
ASI	480 (76%)	480	0
CIS	589 (92%) -1	588	1
EUO	390 (62%) +6	390	0
LAC	487 (77%)	487	0
WAS	586 (92%) -1	585	1

<sup>a</sup> May vs. October IACG

# Household Consumption: Number of Priced GCL Items [out of 636]



# Household Consumption: GCL BH<sup>a</sup> and Item CVs<sup>b</sup>

Total # of priced HHC BHs		Total # of priced HHC GCL items
87		636
↓		↓
Counts for 6 regions	# of BHs with CV > 40	# of items with CV > 40
May 2023 <sup>c</sup>	49 (56%)	303 (48%)
October 2023 <sup>c</sup>	32 (37%)	246 (39%)

<sup>a</sup> BH = Basic Heading | <sup>b</sup> CV = Coefficient of Variation | <sup>c</sup> Inter-Agency Coordination Group meeting

# Household Consumption: 32 Problematic BHs (BH CV>40)

199 Mineral waters, soft drinks, fruit and vegetable juices	86 Other medical products	67 Domestic services	55 Jewellery, clocks and watches	52	51 Garden and pets	49 Carpets and other floor	49
	80 Passenger transport by road	64 Appliances, articles and	47 Therapeutic appliances and	44 Fresh or chilled	44	43	43
144 Non-durable household goods	69 Telephone and telefax services	62 Other fuels	46 Fresh or chilled fruit	42 Other	41 Shoes and other	41 Cultural	
	69 Pharmaceutical products	56 Repair of audio-visual,	45 Recording media	42 Glassware,			
104 Fresh or chilled vegetables, other than potatoes and other tuber vegetables	68 Postal services	55 Other services in respect of	45 Confectionery, chocolate and	42 Food products	41 Preserved or		

# Household Consumption: 246 Problematic Items (CV>40)

1,117 Garlic, white	349 Taxi	146 Ranitidine, 150 mg,	85	77	69	63	61	61	61	60	60	60	59	59	58	58	58	57	56	56			
			83	77	69	63																	
		140 Baby sitter, not	83	76	68	63	56	54	54	54	54	53	53	53	53	53	53	53	53	52	52	52	
							56																
	323 Dishwashing detergent, WKB	123 Postage of a	83	75	68	63	56	52	50	50	50	50	50	50	50	50	50	49	49	49	49	48	
		116 Wedding	82	74	67	63	56	52	48	47	47	47	47	46	46	46	46	46	46	46	46	46	
		196 Aciclovir/Acyclovir, 200 mg,	111 Respirator	82	73	67	63	55	52	48	46	45	45	45	45	45	45	45	45	45	45	45	45
184 Surgical masks, WKB	108	82	73	67	62	55	52	48	46	45	44	44	44	44	44	44	44	43	43	43	43		
636 Water, still, large bottle, WKB	181 Absorbent cotton wool, BL	107	79	71	66	62	55	51	48	46	45	43	43	43	43	43	43	42	42	42	42		
	170 Metformin, 500	104	79	71	66	62	54	51	48	46	45	43	42	42	42	42	41	41	41	41	41		
		97	79	70	65	62	54	50	47	46	44	43	42	41	41	41	41	41	41	41	41	41	
619 Water, still, large bottle, BL	169 Deodorant, roll-on,	96	78	70	64	61	54	50	47	46	44	43	42	41	41	41	40	40	40	40	40		
	169 Mobile prepaid	88	78	69	64	61	54	50	47	46	44	43	42	41	40	40	22						

# Household Consumption: Shares of Problematic Items

- **Definition of “a problematic item”**
  - PPP-Indices  $50 < \text{or} > 200$  | CPD-residuals  $-0.7 < \text{or} > 3.0$
  - Interpretation: divergence from “expected” relative prices
- **May IACG 2023 meeting**
  - World average share 9%
  - Regional average shares: 4 – 14%
- **October IACG meeting**
  - World average shares 7%
  - Regional average shares: 4 – 11%
- **Continuous quality assurance efforts based on the IACG meeting**



# **Replicability and Transparency of ICP Results**

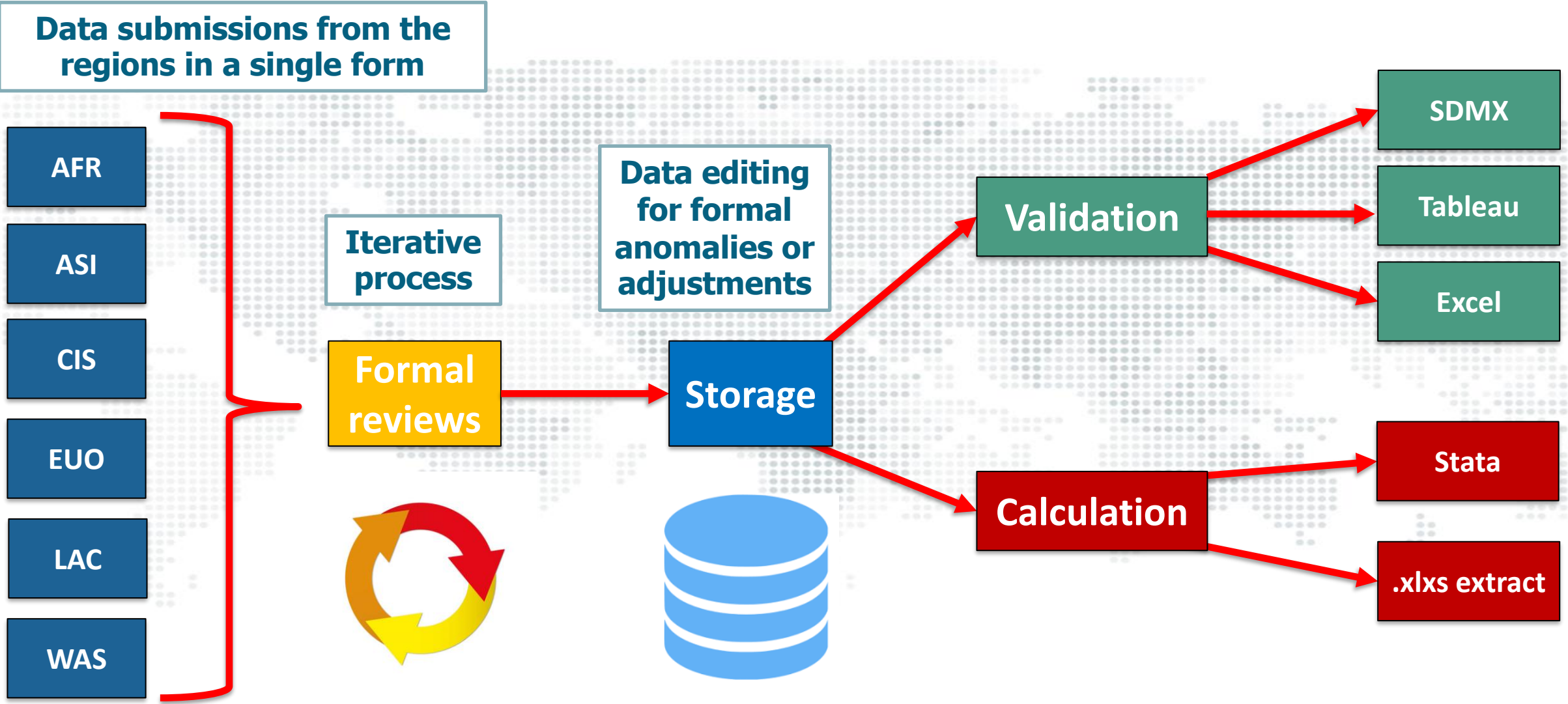


# Replicability and Transparency of ICP Results [1]

## Background: ICP 2017 cycle strived to improve replicability and transparency of ICP results

- Detailed review and documentation of the full PPP estimation process
- Enhanced and streamlined data processing
- Full parallel global PPP estimation by the Computation Task Team
- **ICP 2021 cycle: efforts to further improve replicability and transparency of ICP results**
  - Benefitting greatly from ICP 2017 investment
  - Continuous use of enhanced and streamlined data processing
  - “Independent” PPP estimation (G. Tonutti | S. Sergeev | Y. Dikhanov)
    - Robert Inklaar advising the (Stata) calculations

# Replicability and Transparency of ICP Results [2]



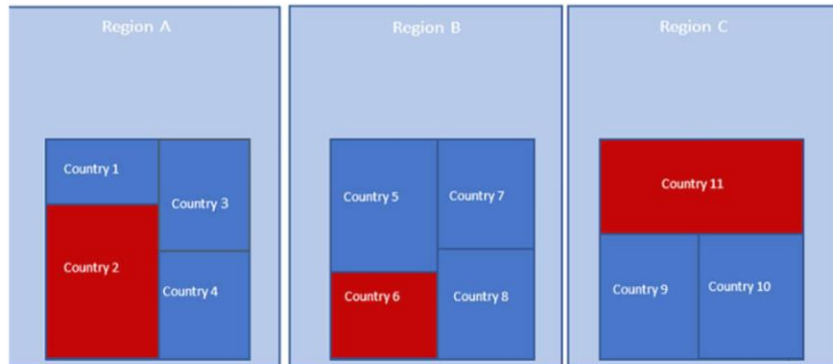
# Replicability and Transparency of ICP Results [3]

## Load input price and regional PPP data

```
#Load price data
data="price_data.csv"
prices=pd.read_csv(data)
#Load regional PPPs data
datappp="ppp_reg.csv"
ppp_reg=pd.read_csv(datappp)
```

Frequent users of ICP data will recall that the ICP Classification of Expenditures breaks down expenditure on final goods and services into different levels, and defines 155 basic headings as the lowest level at which participating economies can estimate explicit expenditures. Each basic heading consists of a group of similar well-defined goods or services and is the lowest level for which PPPs are calculated. As in our previous blog, we focus on three basic headings ("bh") as examples for our computation: garments, rice, and pork.

Furthermore, we use 11 countries in our example, each belonging to one of three different regions. Within the ICP framework, regions represent the first building block in the process of cross-country comparisons. The Regional Implementing Agencies are responsible for calculating regional PPPs based on the prices and national accounts expenditures provided by participating economies. Each region designates one country within their region as numeraire and regional PPPs are calculated in relation to this regional numeraire. In our example illustrated below, Country 2 is the numeraire for region A, Country 6 for region B and Country 11 for region C.



Regional numeraire countries shown in red. The different shape sizes reflect the relative size of each country's economy in the regional comparisons.

- [Demystifying ICP purchasing power parity Calculations using Python: Global results](#) (March 23, 2023)
- Showcases detailed methodological steps for linking regional PPPs into a global set of PPPs using Python software. Mock average price and expenditure data are used to illustrate the calculations.
- A follow up to an [earlier piece](#), which focused on the steps for estimating PPPs for countries within a single region.

A world map composed of a grid of small dots, with the text 'Risk Assessment' centered over it.

# Risk Assessment

# Risk Assessment [1]

- **QUALITY: (...additional efforts needed)** ICP 2021 - additional quality challenges resulting from COVID-19 (varying price survey schedules and quality of expenditure weights)
  - **Mitigation:** Continued validation efforts at national, regional, and global levels, as well as TAG technical guidance and assessment of results
- **TIMELINESS: (...partially realized)** Publication of the ICP 2021 results was scheduled for end-2023, but several regions/countries faced delays in survey implementation and additional quality assurance measures require time
  - **Mitigation:** Close cooperation between the regional and global implementing agencies to actively monitor the production schedule, and advocacy by the Governing Board and UNSC

# Risk Assessment [2]

- **PARTICIPATION: (...additional efforts needed)** Participation risks persist in some regions (including “partial” participation concerns)
  - **Mitigation:** Continued monitoring and advocacy efforts by the implementing agencies, Governing Board, and UNSC
- **COMPARABILITY: (...work ongoing)** Standard PPP estimation methodology maintained to the extent possible; however,
  - The CIS region would be linked directly into the global set of results, instead of via Russia as a bridge country between CIS and OECD
  - Treatment of housing in Asia and the Pacific may change
  - **Mitigation:** TAG technical guidance on linking the CIS region, and assessment of the impact on ICP 2021 results

A world map composed of a grid of small dots, with the text "Outreach and Uses" centered over it.

# Outreach and Uses

# Reminder | PPP Uses and Applications: Administrative Uses



Country group aggregates and growth rates in the IMF World Economic Outlook

World and G20 output and growth rates in OECD Economic Outlook



Allocation of the European Union structural and cohesion funds



World Bank and IMF Shareholding and Drawing Rights

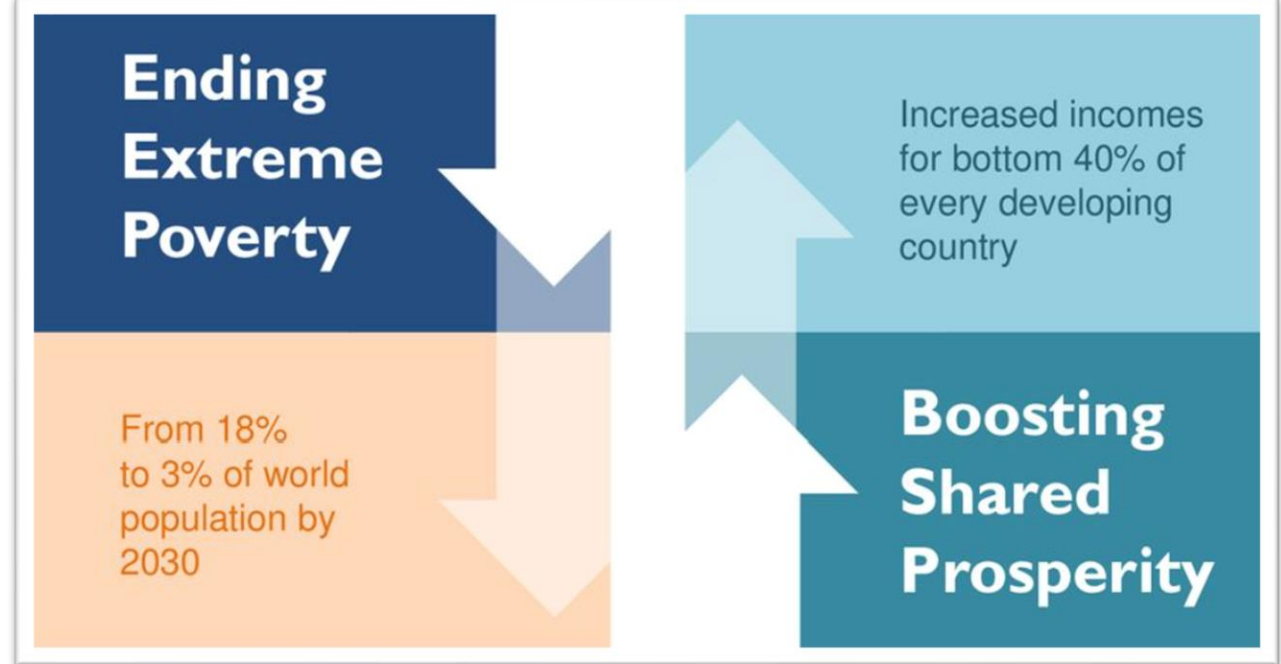


# Reminder | PPP Uses and Applications: SDGs, WBG Goals, WDI

## PPP-based indicators are used in 8 of 17 SDGs



## PPP-based indicators used in WB Twin Goals



## PPP-based indicators in the *World Development Indicators*: 43+ indicators on

Poverty | Social protection & Labor | Economy & Growth | Climate and energy | Environment | Health

# Potential New Uses

- **World Bank Income Classifications**

- Currently market exchange rate-based, discussion ongoing for a move to PPP-based classifications
- Update to be provided for the ICP Technical Advisory Group (TAG) meeting

- **A proposed new indicator World Bank to monitor shared prosperity: The prosperity gap**

- The prosperity gap is the factor by which each person's income must be multiplied to reach the prosperity standard of \$25 per day in PPP terms
- Refer to the [blog](#) and [paper](#)
- 2 poverty indicators (PPP-based) | 2 new indicators of shared prosperity | 2 environment indicators

# Outreach: ICP Blogs

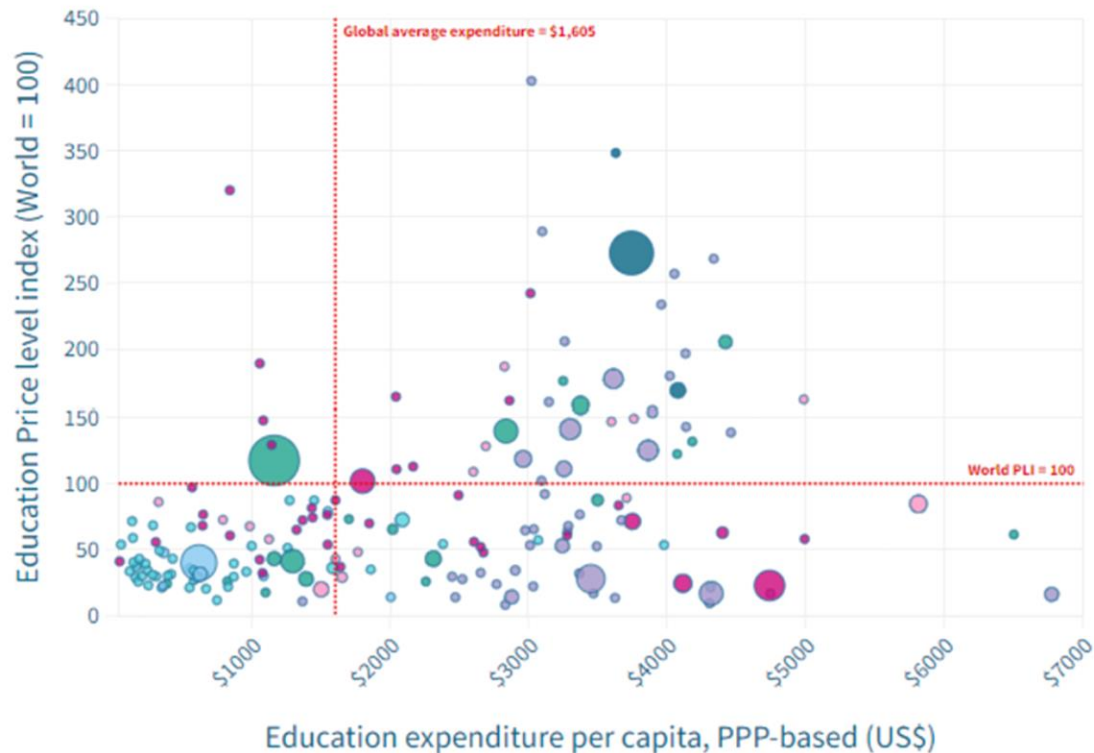
## Expenditure and relative cost: Actual Education

2017

Filter your view by **income group** in the dropdown menu, or by **region** in the legend. Hover over economy to see full data.

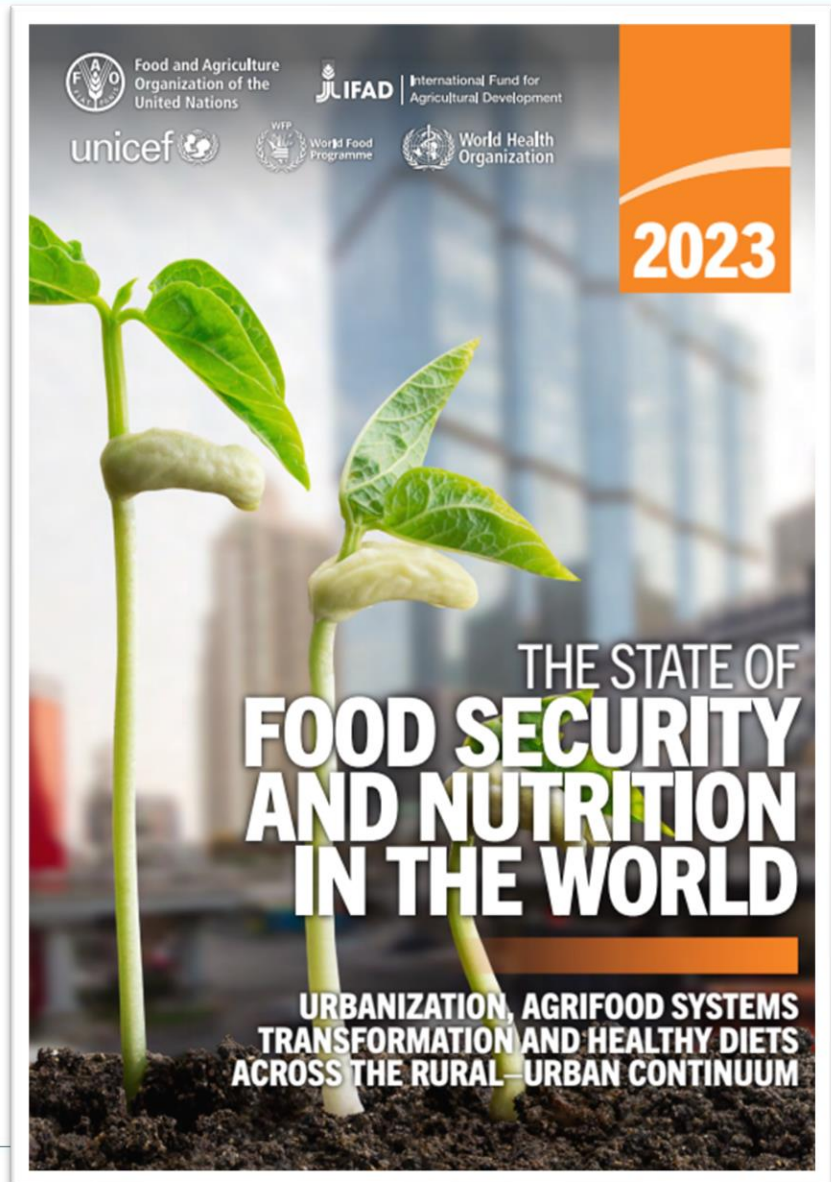
All income groups

**Region** ● East Asia & Pacific ● Europe & Central Asia ● Latin America & Caribbean  
● Middle East & North Africa ● North America ● South Asia ● Sub-Saharan Africa



- How much do countries spend on education, and how do the price levels of education compare? Three charts from the ICP
- Published on International Education Day (January 24, 2023)
- Uses an interactive story of charts to lead users through the ICP data available on the **expenditure by households and governments on education** in countries around the world, and how the relative costs of education differ.

# Uses: FAO – IFAD – UNICEF – WHO – WFP



- The multi-agency report “The State of Food Security and Nutrition in the World 2023” published in July 2023, **uses ICP data for its Cost and Affordability of a Healthy Diet** to report on food security and the number of people for whom nutritious diets are inaccessible.

# New eLearning Course: Cost and Affordability of A Healthy Diet



- A new **course** on diet cost and affordability indicators trains users in the methodology used by **Food Prices for Nutrition** to monitor people's access to healthy diets and inform relevant policy interventions focused on achieving food and nutrition security.
- These indicators rely on data from the ICP and are produced in partnership with Tufts University, IFPRI, and FAO.

# Food Price for Nutrition Blog

The **Cost of a Healthy Diet** rose by nearly **9%** in **Asia** and **8%** in **Latin America and the Caribbean** between **2019 (pre-pandemic)** and **2021**.

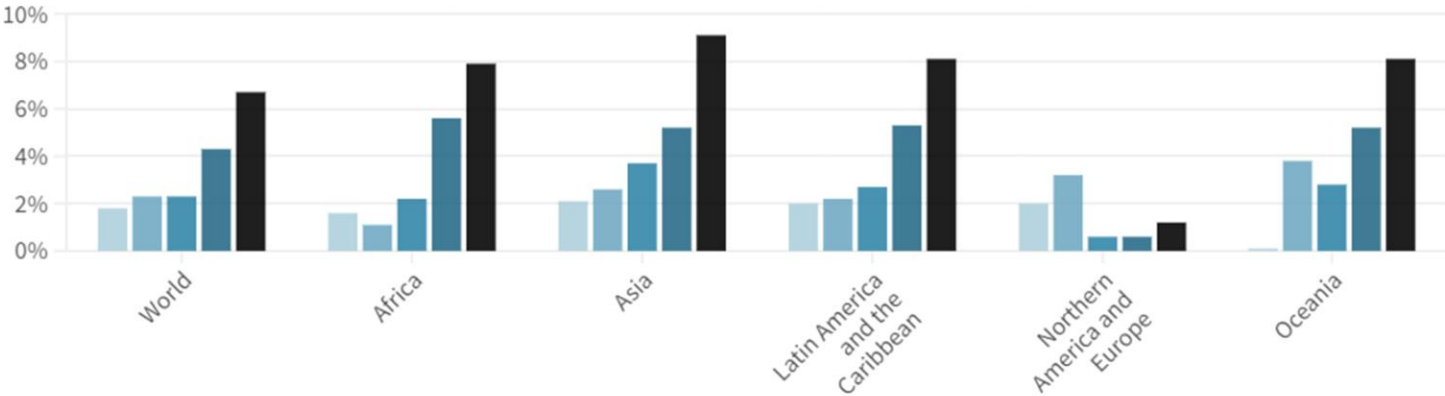
Use filters to choose view of region and period.

Hover over columns to see data.

**All regions** **All periods**

■ 2017 to 2018 
 ■ 2018 to 2019 
 ■ 2019 to 2020 
 ■ 2020 to 2021 
 ■ 2019 to 2021 (pre-Covid to 2021)

Change in cost of a healthy diet



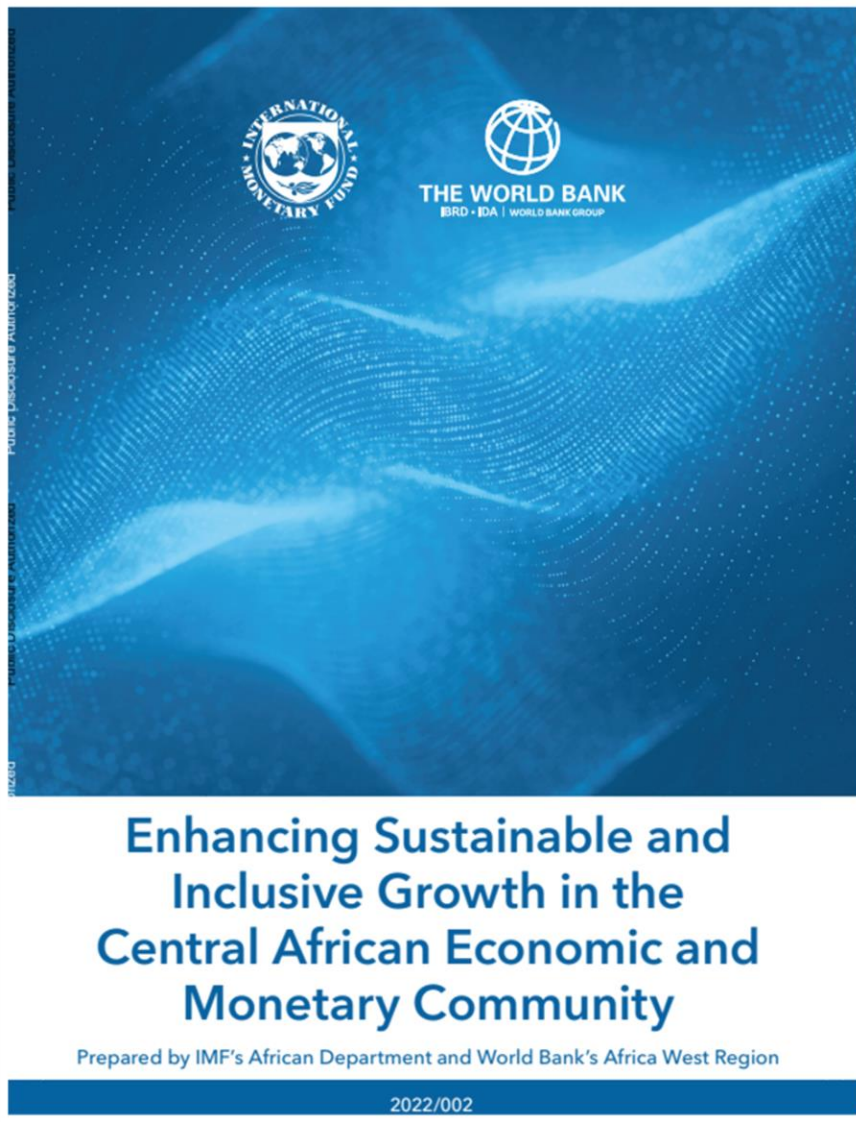
Sources: [State of Food Security and Nutrition in the World \(SOFI\) 2023](#), [FAOSTAT](#), [Food Prices for Nutrition 2.0](#) • The cost of a healthy diet is the cost of purchasing the least expensive locally available foods to meet requirements for energy and food-based dietary guidelines in current PPP\$/person/day, for a representative person within energy balance at 2330 kcal/day. PPP = purchasing power parities. UN geographic regions.



Over 3.1 billion people could not afford a healthy diet in 2021 - an increase of 134 million since the start of COVID-19

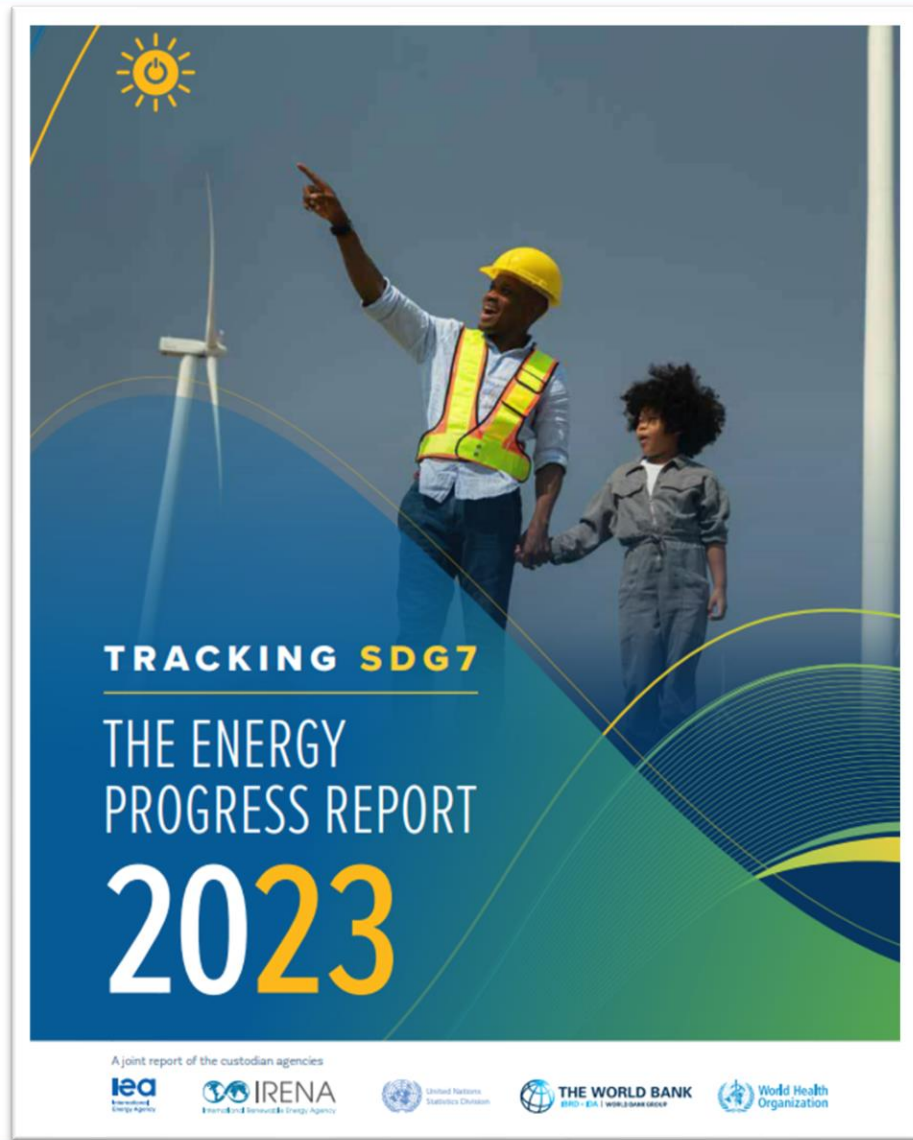
**(July 17, 2023)**

# Uses: IMF – World Bank



The joint International Monetary Fund - World Bank December 2022 report **“Enhancing Sustainable and Inclusive Growth in the Central African Economic and Monetary Community”** uses PPP-based GDP per capita to compare countries' economic growth over a thirty-year period.

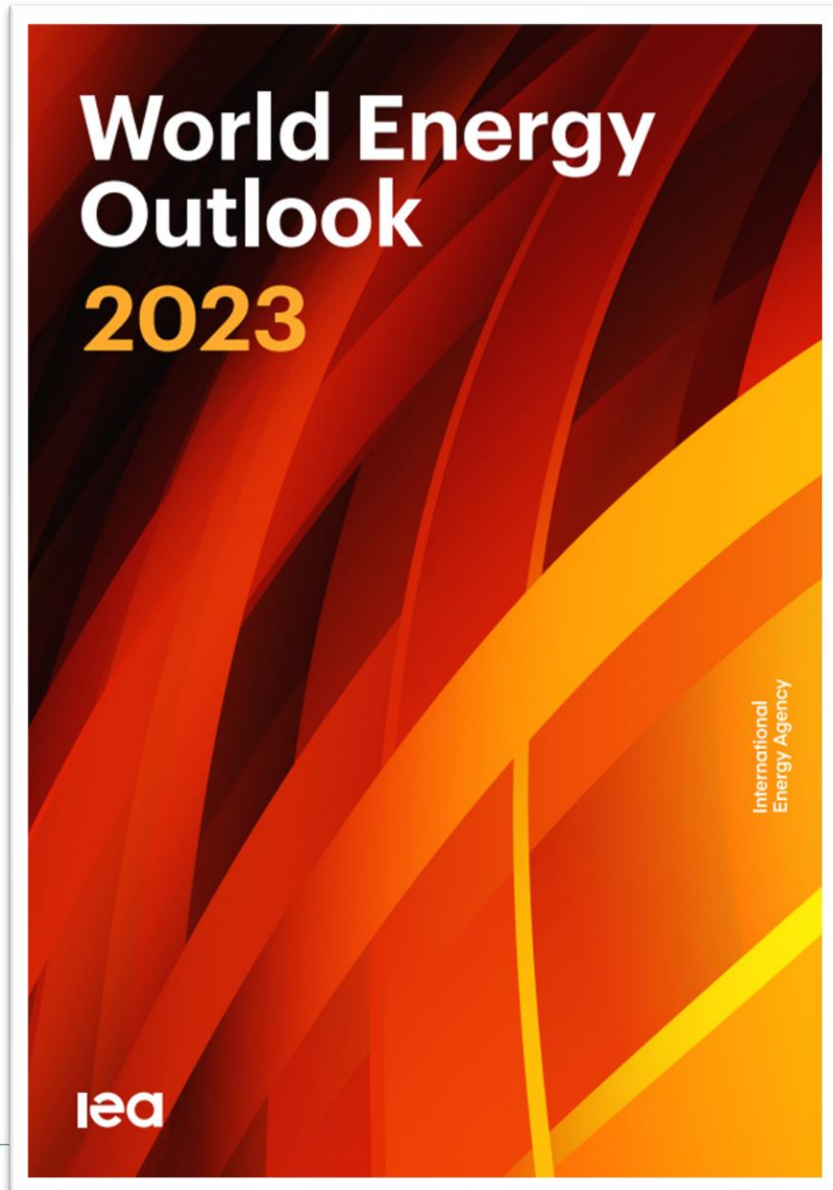
# Uses: IEA–IRENA–UNSD–World Bank–WHO



The multi-agency report “**Tracking SDG 7: The Energy Progress Report 2023**” published in June 2023 uses an indicator on the energy used per unit of economic output – measured in PPP terms – to track improvements in energy efficiency.

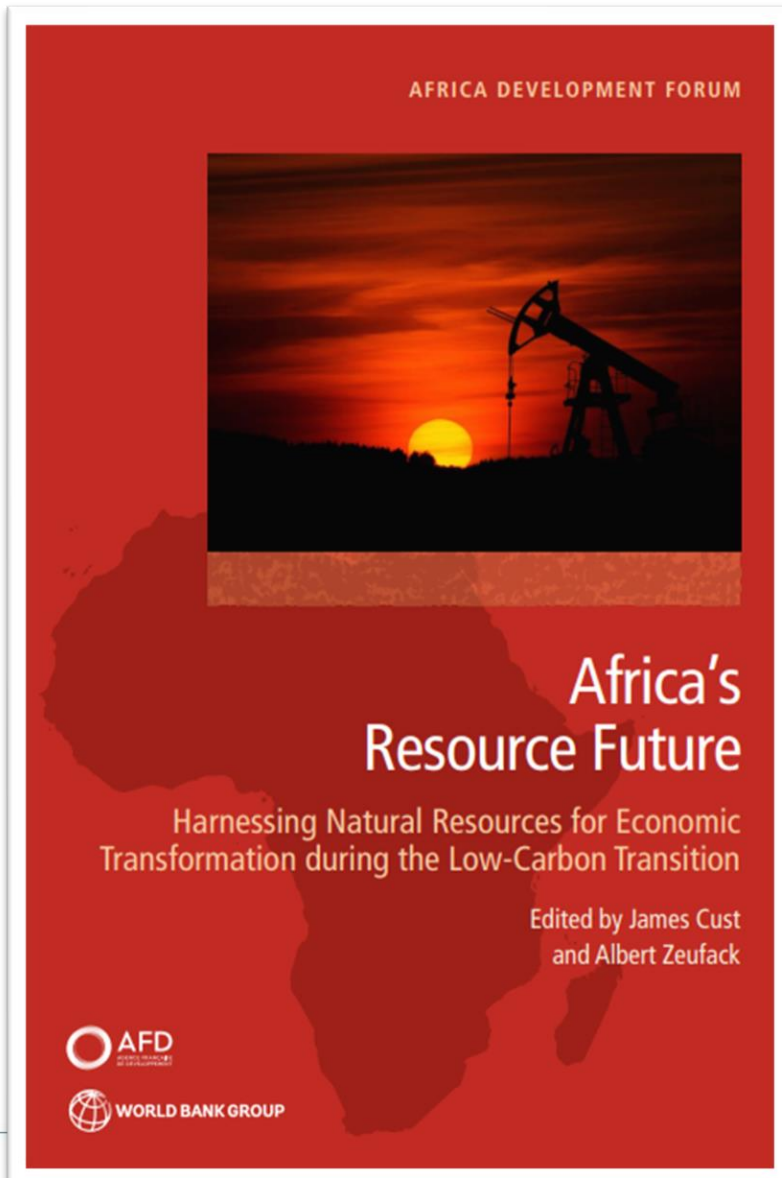


## Uses: IEA



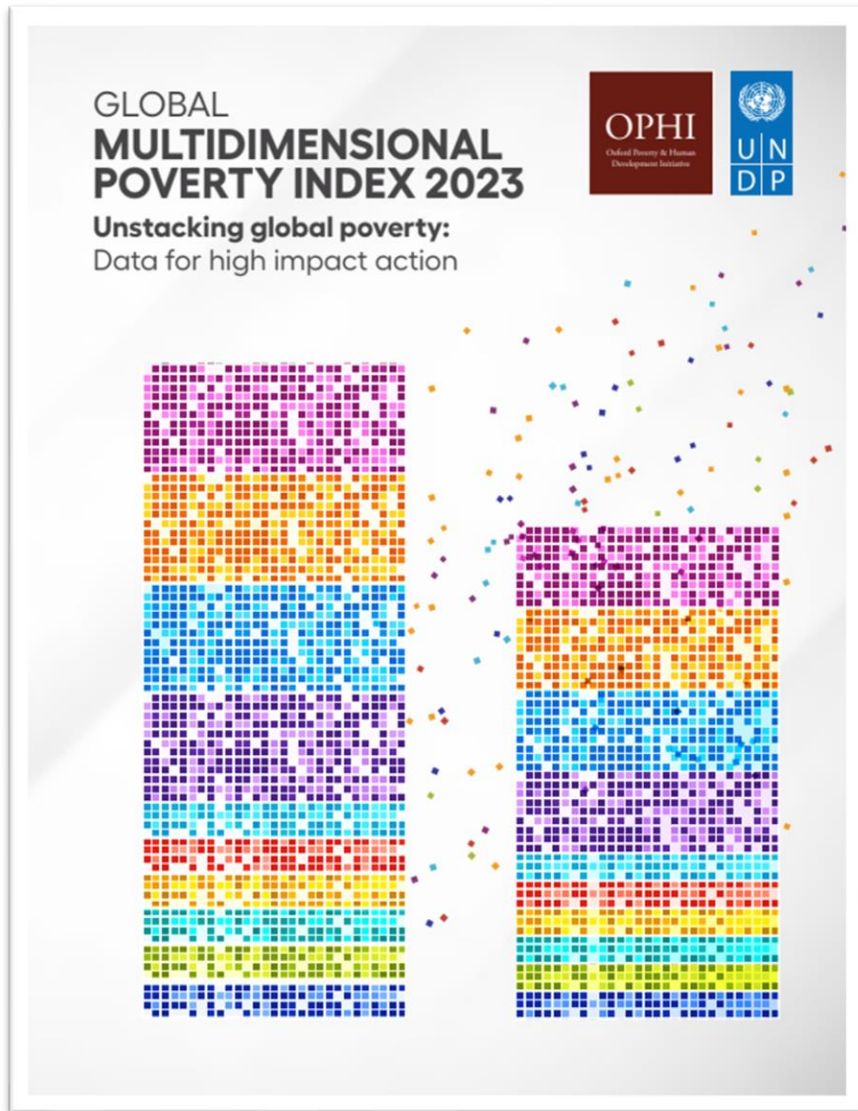
In the International Energy Agency's latest [World Energy Outlook](#), published in October 2023, PPP-based GDP is used to measure both fossil fuel and carbon dioxide emission intensity, while PPP-based GDP per capita is used to analyze countries' current and future energy demands.

# Uses: World Bank



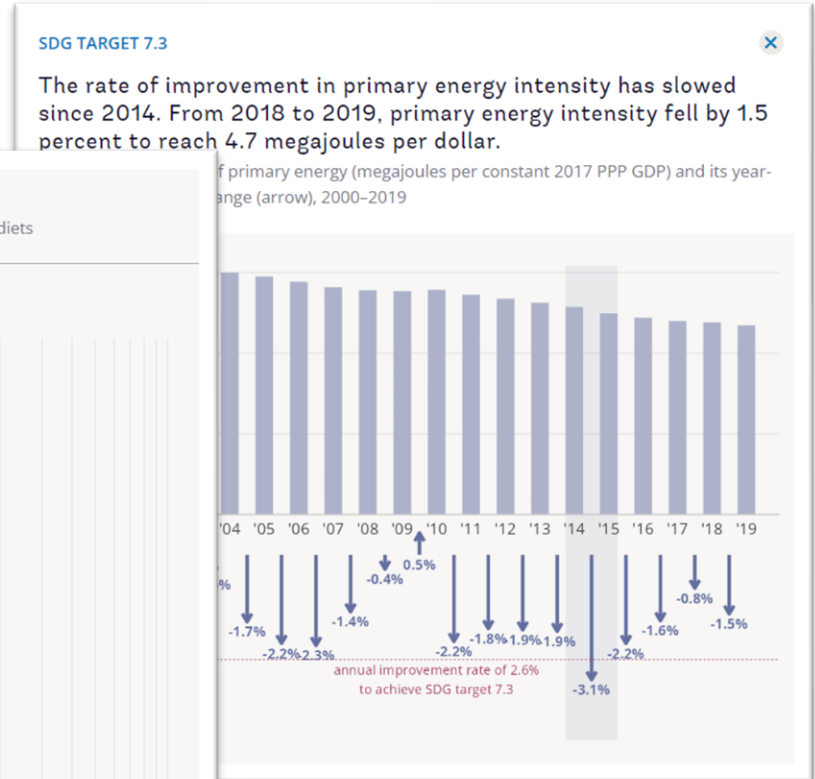
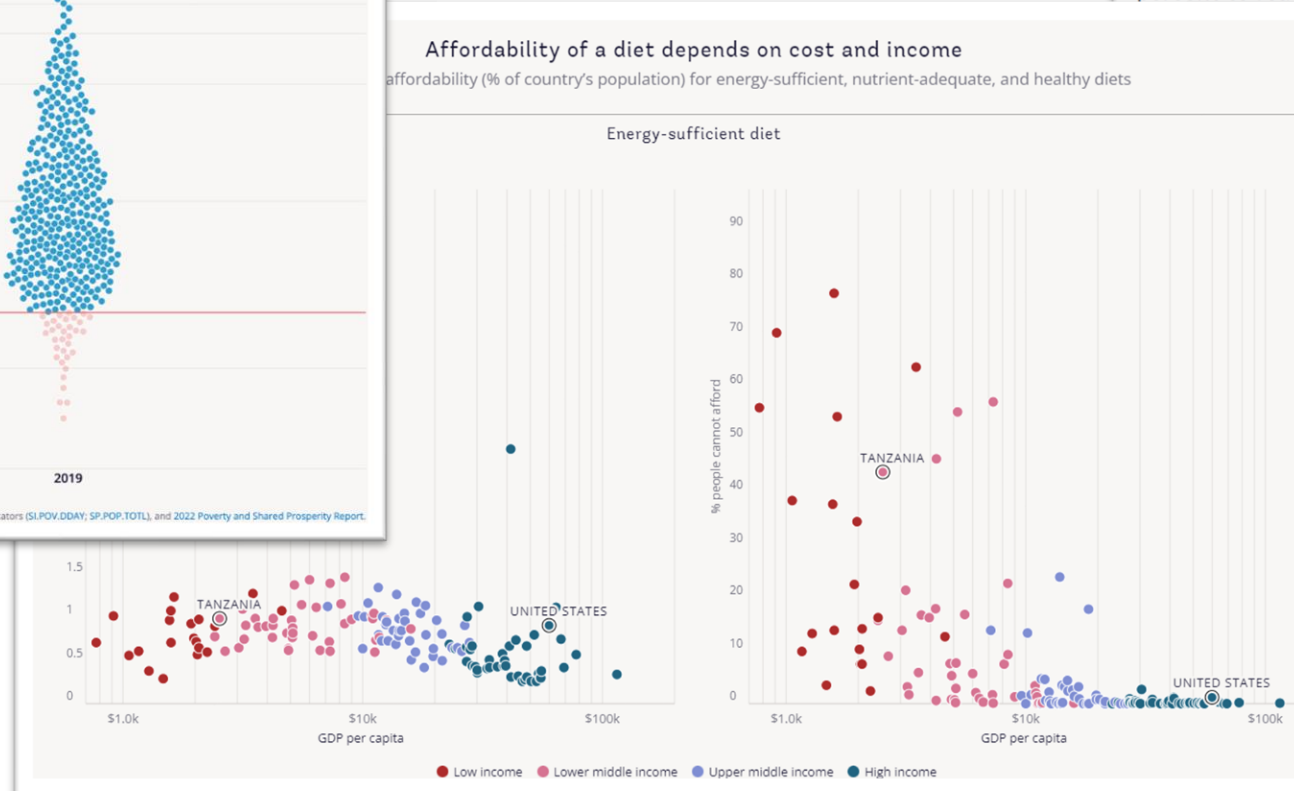
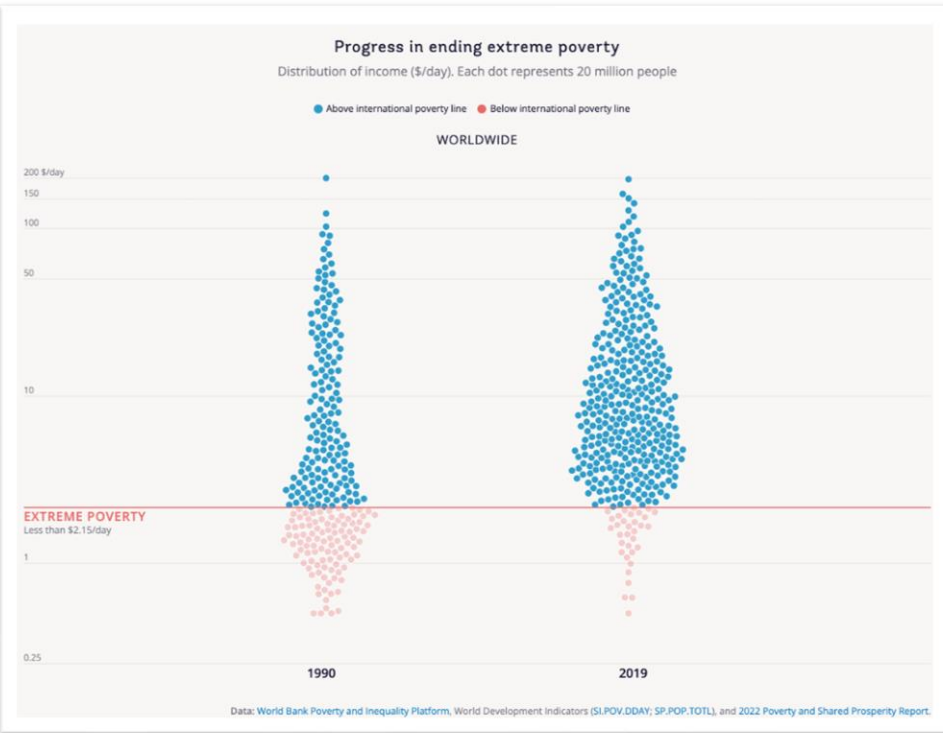
The Agence française de développement and World Bank publication "**Africa's Resource Future Harnessing Natural Resources for Economic Transformation during the Low-Carbon Transition**", published in April 2023, uses PPP-based poverty data in its examination of how natural resource wealth is driving Africa's economic transformation and the implications of the low-carbon transition for resource-rich economies.

# Uses: UNDP - OPHI



The UNDP and OPHI publication “[Global Multidimensional Poverty Index 2023 - Unstacking Poverty: Data for high impact action](#)”, published in June 2023, compares the PPP-based international poverty line of \$2.15 a day with an index that combines deprivations across health, education, and standard of living parameters to **examine how multidimensional data can be used to track progress towards SDG 1.**

# Uses: Atlas of Sustainable Development Goals 2023



The World Bank June 2023 [ATLAS of Sustainable Development Goals 2023](#) highlights PPP-based indicators used for SDG tracking

# Uses: UN Sustainable Development Goals



The UN's "[The Sustainable Development Goals Report 2023: Special Edition](#)", published in July 2023, includes an analysis of the effect of COVID-19 on **global poverty using the extreme poverty line of \$2.15 at 2017 PPPs**. It also reviews changes in energy intensity over recent years, defined as the amount of energy used per unit of PPP-based wealth created.

# Uses: ILO



- ILO's flagship annual report **World Employment and Social Outlook Trends 2023** (January 2023)
- Uses **PPP-based income levels** under which employed people are considered to be the "working poor" or living in extreme poverty. It also expresses **output per worker in PPP terms** in comparing labor productivity across countries.

# More Uses on the Global ICP Website



The screenshot shows the homepage of the International Comparison Program (ICP) website. The background is a dark blue world map composed of small white dots. In the center, the letters 'ICP' are displayed in a large, white, sans-serif font, with a small globe icon integrated into the letter 'I'. Below the logo, the text 'International Comparison Program' is written in a white, sans-serif font. Underneath that, a white text box contains the description: 'A worldwide statistical initiative to collect comparative price data and detailed GDP expenditures to produce purchasing power parities (PPPs) for the world's economies'. At the bottom of the page, there is a dark blue navigation bar with white text links: 'Home', 'Data', 'Uses', 'Knowledge and Outreach', 'Methodology', 'Research', 'Governance', 'History', and 'FAQ'. Below the navigation bar, the heading 'About the International Comparison Program (ICP)' is followed by the introductory sentence: 'The International Comparison Program (ICP) is one of the largest, and most enduring, statistical initiatives in the'.

**ICP**

**International Comparison Program**

A worldwide statistical initiative to collect comparative price data and detailed GDP expenditures to produce purchasing power parities (PPPs) for the world's economies

[Home](#) [Data](#) [Uses](#) [Knowledge and Outreach](#) [Methodology](#) [Research](#) [Governance](#) [History](#) [FAQ](#)

## About the International Comparison Program (ICP)

The International Comparison Program (ICP) is one of the largest, and most enduring, statistical initiatives in the

A globe composed of numerous small, square images, each depicting a different scene or object, such as a car, a cup of coffee, a bicycle, a person, and various food items. The globe is positioned in the center of the slide, set against a background of a world map rendered in a dotted, halftone style. The overall color palette is light and airy, with a teal accent at the top right.

**THANK YOU**