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Food poverty: global, regional and national

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Key facts

Global trends in food poverty

- The global share of people in food poverty has decreased overall since 1990, and year-on-year since the start of 1999 – falling from 22% to 6% in 2015. However, over 460 million people are still unable to afford enough food to live a healthy life.
- The rate of people moving out of food poverty has remained consistent throughout the Millennium Development Goals (MDG) period (2000–2015) – around 5.5% annually – whereas the rate of reduction in extreme poverty accelerated – from 4% to over 7.5% annually.¹

Regional trends in food poverty

- Since 1990, the number of people living in food poverty has increased by almost 20% in Middle East and North Africa, and over 25% in sub-Saharan Africa. These regions now represent 62% of all people in food poverty.²
- Of all regions, East Asia and Pacific has seen the largest decreases in both the number and global share of people living in food poverty since 1990, with more than 685 million people moving out of food poverty by 2015.

Food poverty at a national level

- Three economies – Democratic Republic of Congo (DRC), India and Nigeria – are together home to more than 100 million people living in food poverty.
- Just six economies – Angola, Burundi, Central African Republic (CAR), DRC, Madagascar and Togo – have more than half of their population living in food poverty. All are situated in sub-Saharan Africa.

Introduction

What does it mean to live in food poverty?

Food poverty is lacking the means to obtain enough food to live a healthy life. People living in food poverty have an income or expenditure that is less than the amount needed to consistently afford a basket of food with minimum recommended nutritional intake. The cost of this basket is called a **food poverty line (FPL)** – people living below the FPL are not able to afford the cost of food necessary for good health and are in danger of malnutrition, disease or ill health.

The monetary value of a FPL is most often based on the cost of affording a minimum energy intake using locally available goods – this is known as the food energy intake (FEI) method. A global standard for the threshold of food poverty is **2,100kcal per adult per day**, which is the Food and Agriculture Organization's (FAO) recommended daily energy intake to enable an adult to live a healthy and moderately active life.³

As the cost of non-food essentials are not included, the FPL is often considered the most extreme measurement of monetary deprivation. Higher poverty measures, such as national poverty lines, consider the cost of a combination of both food and non-food essentials (for example, housing, clothing, education and access to water, sanitation and electricity). People living in food poverty are forced to prioritise between food and non-food essentials on a daily basis.

How is food poverty measured?

Food poverty is measured using data from national household surveys which capture household income and/or expenditure data.⁴ If a household's average per person income or expenditure is less than the FPL, all individuals in the household are considered to be in food poverty.⁵

FPLs themselves are created from household surveys which measure food consumption patterns and the prices of local foodstuffs. FPLs are then set by national statistical offices, such that they reflect the local cost of food. FPLs may be created for subnational regions, reflecting different prices or consumption patterns of food. Many economies use differing thresholds of food poverty in urban and rural areas.

Tracking the number of people living in food poverty globally is not straightforward. Unlike extreme poverty – which has a universally fixed poverty line of \$1.90 per adult per day⁶ – the threshold of food poverty varies depending on the local cost of food and consumption behaviours. Based on national sources, Development Initiatives (DI) has calculated the rate of food poverty across 121 economies, with data available for over three quarters of the world population.

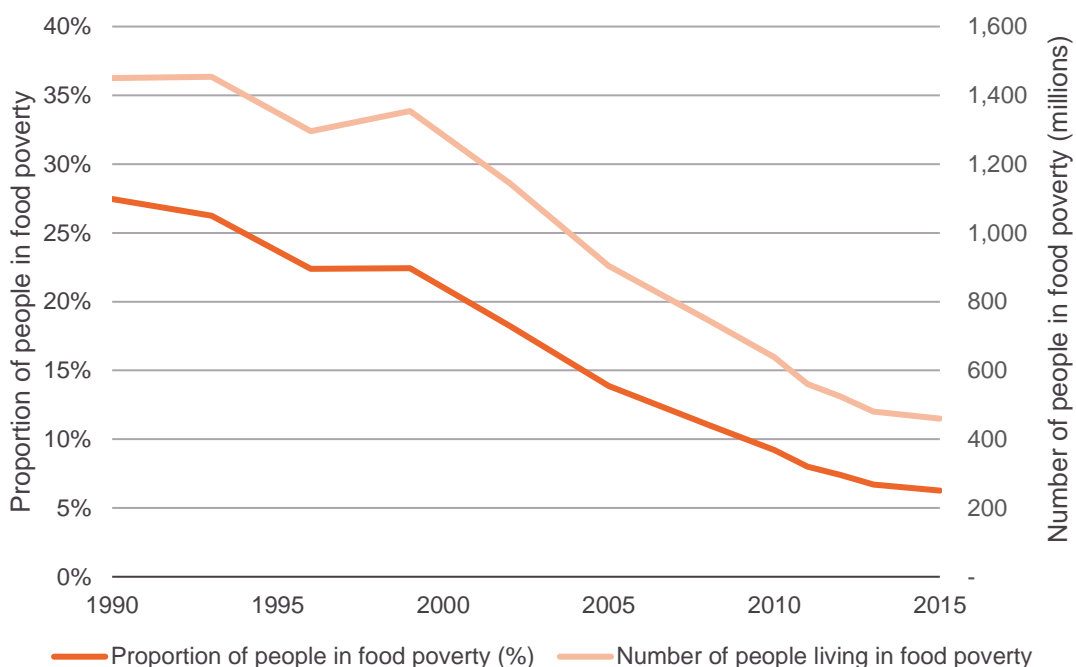
Global trends in food poverty

Established in 2000, the MDGs placed **'eradicate extreme poverty and hunger'** as a key aim, with 1990 set as the benchmark year for measuring progress against. In 2015, the Sustainable Development Goals (SDGs) enshrined the target of **'ending poverty in all its forms everywhere'** as its first goal. Ending food poverty is an intrinsic requirement of the SDGs. Food poverty is the most extreme form of destitution – people living in food poverty cannot afford necessary food to live a healthy life and are forced to forgo food to afford non-food essentials. By ending poverty in all its forms, no one should remain living in food poverty by 2030.

The global share of people living in food poverty has been decreasing year-on-year since the start of the MDG era

Based on economies with available data, in 1990 over one quarter (27%) of the world's population lived in food poverty; in 1999, the last year before the start of the MDGs, this had fallen to just over a fifth (22%). Throughout the MDG era, the share of people living in food poverty has consistently fallen year-on-year – in 2015, the latest year for which data is available, an estimated 6.3% of the world's population lived in food poverty – approximately 460 million people.⁷ For comparison, it is estimated that 10% of the global population, 732 million people, lived in extreme poverty.

Figure 1: The number of people living in food poverty has dropped by two thirds since 1999, but over 460 million people still live below the food poverty threshold

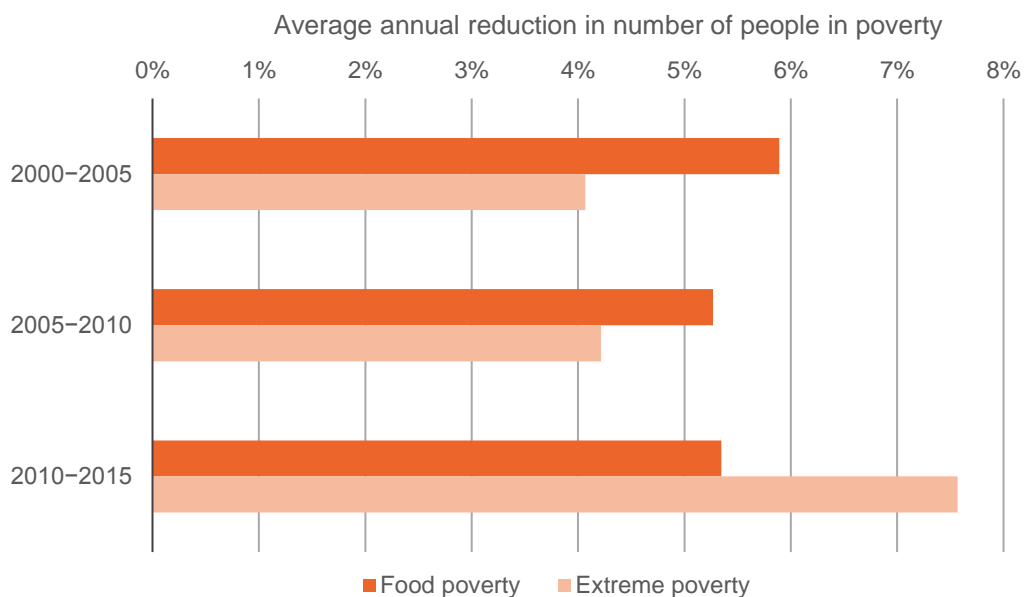


Source: Development Initiatives based on national sources, World Bank, Food and Agriculture Organization and PovcalNet.

The rate of food poverty reduction remained consistent throughout the MDG period, whereas reductions in extreme poverty accelerated

The rate of reduction of food poverty, as measured by the percentage of people moving out of food poverty year-on-year, demonstrates that food poverty has consistently reduced over the entire MDG period. Over 5-year increments, the number of people living in food poverty has consistently reduced by 5–6% annually. This is in contrast to rates of reduction in extreme poverty which have accelerated from 4% in 2000–2005 to over 7.5% annually in 2010–2015.

Figure 2: The number of people living in food poverty has reduced consistently annually since 2000, but reductions in extreme poverty have increased over this period



Source: Development Initiatives based on national sources, World Bank, Food and Agriculture Organization and PovcalNet.

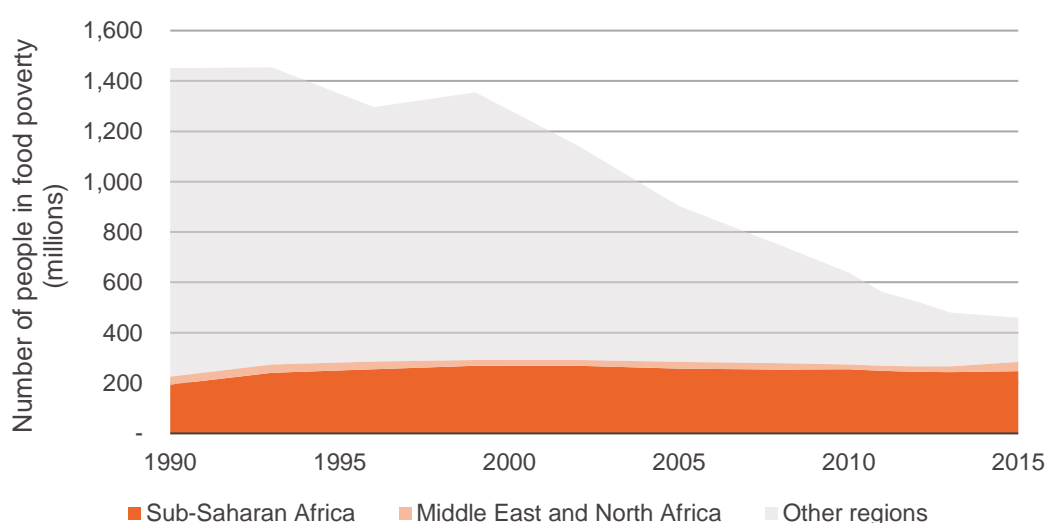
Regional trends in food poverty

At a global level, food poverty has declined consistently since the start of the MDG era. However, this trend is not the same across every region. Tracking the changes in poverty rates at a regional level reveals the changing geographical makeup of people living in food poverty and illuminates where future efforts to eliminate food poverty should be more greatly focused.

Since 1990, the number of people in food poverty has increased in Middle East and North Africa and sub-Saharan Africa

Between 1990 and 2015, all regions saw a decrease in the proportion of people living in food poverty. However, in Middle East and North Africa and sub-Saharan Africa, the number of people living in food poverty increased by 5.5 and 53 million respectively to a combined total of over 280 million people in 2015. Whereas in 1990 these regions represented just 16% of the global share of food poverty, in 2015 they made up over 60%.

Figure 3: The number of people living in food poverty in the regions of sub-Saharan Africa and Middle East and North Africa has increased from 225 million in 1990 to 284 million in 2015

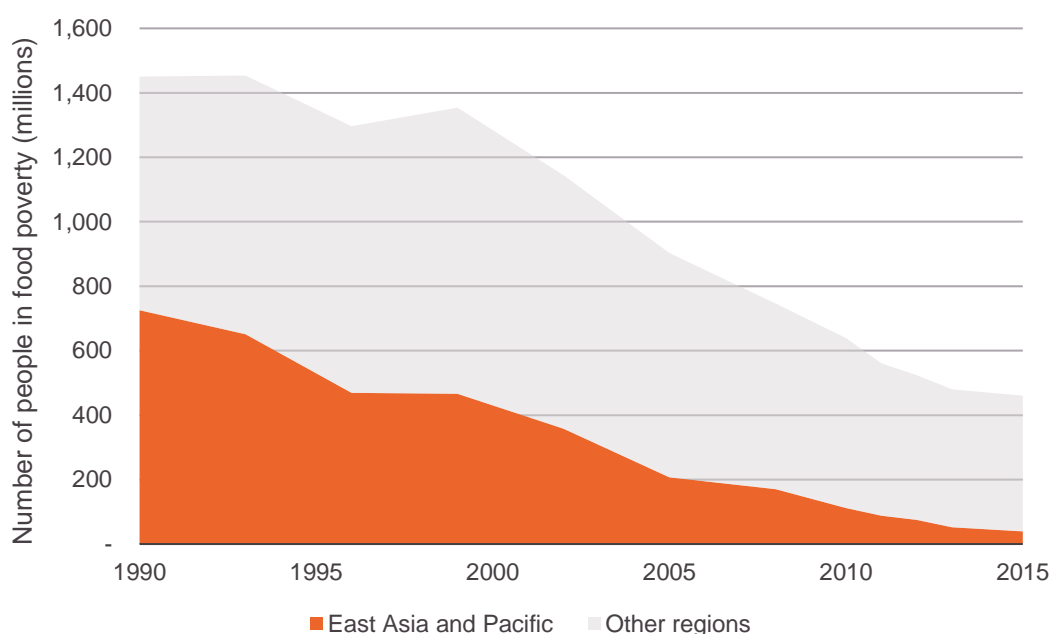


Source: Development Initiatives based on national sources, World Bank, Food and Agriculture Organization and PovcalNet.

East Asia and Pacific has seen the largest decreases in both the number and share of people living in food poverty

Even prior to the start of the MDGs, the strongest reductions in food poverty occurred in East Asia and Pacific. In 1990, 40% of people in the region were living below the food poverty threshold – equivalent to over half of all people living in food poverty at the time (725 million). By 1999, more than 250 million people had moved out of food poverty, and as of 2015 a further 426 million moved above the food poverty threshold. As of 2015, less than 5% of people in the region were considered to be in food poverty – a global share of less than 10%.

Figure 4: The global share of people living in food poverty in East Asia and Pacific has decreased from 50% in 1990 to less than 10% in 2015

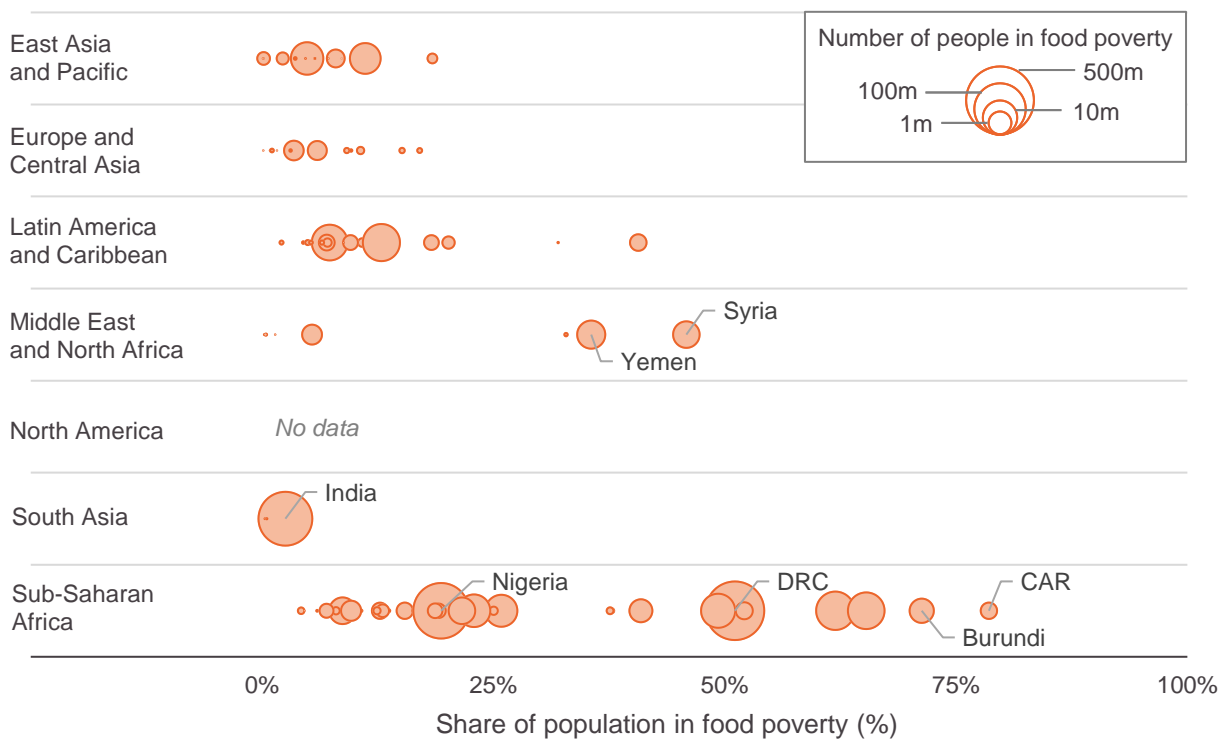


Source: Development Initiatives based on national sources, World Bank, Food and Agriculture Organization and PovcalNet.

Food poverty at a national level

Over the MDG period, food poverty became increasingly concentrated in the region of sub-Saharan Africa, but wider regional trends hide differences in national burdens of food poverty both within and outside of sub-Saharan Africa. The SDGs' primary aim of "ending poverty in all its forms **everywhere**" requires that food poverty be assessed and tracked at least at national level.

Figure 5: India, Nigeria and the Democratic Republic of Congo were home to the largest food poor populations in 2015, but the Central African Republic and Burundi had the largest shares of national populations living in food poverty



Source: Development Initiatives based on national sources, World Bank, Food and Agriculture Organization and PovcalNet.

Notes: CAR: Central African Republic; DRC: Democratic Republic of Congo

Democratic Republic of Congo, India and Nigeria are home to more than 100 million people in food poverty

At the start of the SDG era, almost a quarter of all people living in food poverty were situated in just three economies – DRC, India and Nigeria. Each of these economies is separately home to more than 30 million people in food poverty, in no small part due to their large overall populations. However, while just over half of DRC's population lived in food poverty, the proportion of Nigeria's population who were food poor was 19%, and India's was less than 5%.

Six economies have more than half of their population in food poverty – all in sub-Saharan Africa

As of 2015, the most food impoverished economies in the world were Burundi and CAR, which both had more than 70% of their population living in food poverty. More than half of the populations of four more economies – Angola, DRC, Madagascar and Togo – all lived below the FPL. These six economies together represented 87 million people living in food poverty – close to one fifth of the global total.

Appendix

Methodology

DI examined national source documents to establish the threshold of food poverty on an economy-by-economy basis. Food poverty lines (FPLs) were identified as national or subnational thresholds representing a minimum cost of living based solely on the energy intake of local foodstuffs. Where possible, FPLs produced using a nationally relevant food energy intake (FEI) methodology were taken. FPLs which were presented with a different or missing methodology were taken where no FEI alternative was available.⁸ In several cases, national sources would present data on 'national poverty lines' (NPL), of which a food-only component was a constituent element. In these cases, this component was considered as the FPL.

In total, 132 economies were found to have data on nationally defined poverty lines, of which 123 contained references to a FPL or food-only poverty component. 95 economies also recorded the equivalent calorific threshold for the FPL – this ranged from 1,460kcal to 3,000kcal. Where no calorie value was given, it was assumed the FPL represented the internationally standard 2,100kcal per adult equivalent per day. In cases where economies had published subnational FPLs only, the food-poor population-weighted average of the subnational lines were taken to produce a representative national average.

As established by the World Bank's PovcalNet, China, India and Indonesia each have separately recorded urban and rural poverty measures. The same split approach was taken in producing FPLs for these economies (as China does not have an urban FPL, the ratio of the rural to urban NPL was used to estimate an urban FPL). This ensures that spatial price differences in the largest population economies are recognised.

In all cases, the most recently available FPL was taken. While this reduces the relevance of FPL reference baskets in historical observations, the lack of frequently updated FPLs for most economies coupled with inconsistent methodologies in those that do update their FPLs meant that this was the most reasonable choice. The most recent year of FPL data across all economies ranged from 1999 to 2018, although only two observations were from before 2000. The median, mode and mean year of FPL observation was 2011. For this reason, and for ease of comparability with the most recent round of the International Comparison Program's (ICP) purchasing power parity (PPP) prices, each FPL was deflated to 2011 prices.⁹

FPL deflation to 2011 prices used the following method in order of priority based on data availability: national source food poverty price indices; Food and Agriculture Organization food consumer price indices; PovcalNet consumer price indices; World Bank Data Bank

consumer price indices. Finally, the FPLs were normalised to the recommended international threshold of 2,100kcal per adult per day.

International comparisons of food poverty lines

Food poverty is different to extreme poverty – the latter is defined by a fixed international threshold of PPP\$1.90 per adult per day, based on the median national poverty line of 15 low income economies.¹⁰ The expression of the extreme poverty line in PPP dollars is designed to make the ‘reality’ of this monetary threshold the same – equivalent to the purchasing power of US\$1.90 within the United States – regardless of the economy it is measured in.

As FPLs are based solely on the local cost of food required to meet a common energy intake (i.e. a common ‘reality’), PPP conversions therefore should express a very similar US dollar equivalent for FPLs in each economy. However, this is not the case – when local FPLs are expressed in PPP dollars, there is no alignment to a common international value. This finding is problematic for the concept of extreme poverty, as it indicates that PPP conversions are not suitable in making the cost of basic needs comparable between economies.

DIs’ research indicates that upper middle-income economies tend to have food poverty thresholds above the value of the extreme poverty line, whereas low-income economies have FPLs less than PPP\$1.90; there is significant variation within all income groups (Figure A1). These findings indicate that the extreme poverty line does not adequately measure deprivation of energy intake in many economies.

Figure A1: National food poverty lines do not align when using international PPP dollars



Source: Development Initiatives based on national sources, World Bank, Food and Agriculture Organization and PovcalNet.

Notes: Data presented is for 121 economies. The two observations for high income economies have been excluded.

Sources

Table A1: Food poverty line sources

Economy	Data year	Source institution	Economy	Data year	Source institution
Afghanistan	2016/2017	Islamic Republic of Afghanistan Central Statistics Organization	Lebanon	2011	Central Administration of Statistics of Lebanon
Albania	2002	Albania Institute of Statistics	Lesotho	2010/2011	Lesotho Bureau of Statistics
Algeria	1995	Algérie Office National des Statistiques	Liberia	2007	Liberia Institute of Statistics and Geo-Information Services
Angola	2000/2001	Angola Instituto de Pesquisa Económica e Social	Libya	2010	General People's Committee for Planning and Finance Libya
Argentina	2002	Argentina Instituto Nacional de Estadísticas y Censos	Macedonia, FYR	2006	State Statistical Office of the Republic of Macedonia
Armenia	2009	Statistical Committee of the Republic of Armenia	Madagascar	2010	Institut National de la Statistique de Madagascar
Azerbaijan	2001	State Statistical Committee of Azerbaijan	Malawi	2011	Malawi National Statistical Office
Bangladesh	2010	Bangladesh Bureau of Statistics	Malaysia	2010	Economic Planning Unit and Department of Statistics Malaysia

Economy	Data year	Source institution	Economy	Data year	Source institution
Belarus	2001	Belarus Ministry of Statistics and Analysis	Mali	2010	World Bank
Belize	2009	Belize Ministry of Economic Development and Petroleum	Mauritania	2008	Mauritania Office National de la Statistique
Benin	2015	Bénin Institut National de la Statistique et de l'Analyse Economique	Mexico	2017	México Consejo Nacional de Evaluación de la Política de Desarrollo Social
Bhutan	2017	Bhutan National Statistics Bureau	Micronesia, Fed. Sts.	2013/2014	Federated States of Micronesia Statistics Division
Bolivia	2017	Bolivia Instituto Nacional de Estadística	Moldova	2011	Ministry of Economy of the Republic of Moldova
Botswana	2009/2010	Botswana Central Statistics Office	Mongolia	2013	Mongolia National Statistics Office
Brazil	2009	FGV Social Centro de Políticas Sociais	Montenegro	2018	Statistical Office of Montenegro
Burkina Faso	2009/2010	Burkina Faso Institut National de la Statistique et de la Demographie	Morocco	2000/2001	Maroc Haut-Commissariat au Plan
Burundi	2014	Institut de Statistiques et d'etudes Economiques du Burundi	Mozambique	2014/2015	Mozambique National Institute of Statistics
Cabo Verde	2015	Instituto Nacional de Estatística Cabo Verde	Myanmar	2015	Myanmar Ministry of Planning and Finance
Cambodia	2009	Cambodia National Institute of Statistics	Namibia	2003/2004	Namibia Ministry of Finance

Economy	Data year	Source institution	Economy	Data year	Source institution
Central African Republic	2008	Institut Centrafricain des Statistiques et des Etudes Economiques et sociales	Nauru	2012/2013	Nauru National Statistics Office
Chad	2011	Tchad Institut National de la Statistique, des Études Économiques et Démographiques	Nepal	2003/2004	Nepal Central Bureau of Statistics
Chile	2012	Ministerio de Desarrollo Social del Gobierno de Chile	Nicaragua	2016	Nicaragua Instituto Nacional de información de Desarrollo
China--Rural	2014	National Bureau of Statistics of China	Niger	2011	Niger Institut National de la Statistique
Colombia	2016	Colombia Departamento Administrativo Nacional de Estadística	Nigeria	2009/2010	Nigeria National Bureau of Statistics
Comoros	2004	Comoros Direction de la Statistique	Papua New Guinea	2009/2010	National source
Congo, Dem. Rep.	2012	Republique Democratique du Congo Institut National de la Statistique	Paraguay	2018	Paraguay Dirección General de Estadística, Encuestas y Censos
Congo, Rep.	2011	Congo Centre Nationale de la Statistique et des Etudes Economiques	Peru	2016	Perú Instituto Nacional de Estadística e Informática
Costa Rica	2009	Costa Rica Instituto Nacional de Estadística y Censos	Philippines	2018	Philippine Statistics Authority
Cote d'Ivoire	2015	Cote d'Ivoire Institut National de la Statistique	Romania	2002/2003	Romania National Institute of Statistics

Economy	Data year	Source institution	Economy	Data year	Source institution
Djibouti	2017	Djibouti Direction de la Statistique et des Etudes Démographiques	Russian Federation	2018	Goskomstat
Dominican Republic	2011	República Dominicana Oficina Nacional de Estadística	Rwanda	2014	National Institute of Statistics of Rwanda
Ecuador	2006	Ecuador Instituto Nacional de Estadística y Censos	Samoa	2013/2014	Samoa Bureau of Statistics
Egypt, Arab Rep.	2015	Egypt Central Agency For Public Mobilization & Statistics	Sao Tome and Principe	2010	Sao Tome and Principe National Institute of Statistics
El Salvador	2017	El Salvador Dirección General de Estadística y Censos	Senegal	2011	Senegal Agence Nationale de la Statistique et de la Démographie
Equatorial Guinea	2006	Guinee Equatoriale Direction générale de la statistique et de la comptabilité nationale	Serbia	2006	Serbia Bureau of Statistics
Eritrea	1993	National Statistics Office of the Government of Eritrea	Sierra Leone	2003	Statistics Sierra Leone
Eswatini	2009/2010	Swaziland Central Statistical Office	Solomon Islands	2012/2013	Solomon Islands National Statistics Office
Ethiopia	2015/2016	Ethiopia Central Statistical Agency	Somalia	2016	World Bank
Fiji	2008/2009	Fiji Bureau of Statistics	South Africa	2011	Statistics South Africa

Economy	Data year	Source institution	Economy	Data year	Source institution
Gabon	2017	Direction de la Statistique et des Études Économiques du Gabon	South Sudan	2009	South Sudan National Bureau of Statistics
Gambia, The	2015/2016	The Gambia Bureau of Statistics	Sri Lanka	2002	Sri Lanka Department of Census and Statistics
Georgia	2015	Geostat	St. Lucia	2016	The Central Statistical Office of Saint Lucia
Ghana	2012/2013	Ghana Statistical Service	Sudan	2009	Sudan Central Statistics Organisation
Guatemala	2006	Guatemala Instituto Nacional de Estadística	Syrian Arab Republic	2006/2007	Syrian Arab Republic Central Bureau of Statistics
Guinea	2012	Republique de Guinee Institut National de la Statistique	Tajikistan	2009	Tajikistan Agency on Statistics
Guyana	2005	Guyana Bureau of Statistics	Tanzania	2010/2011	Tanzania National Bureau of Statistics
Haiti	2012	Institut Haïtien de Statistiques	Thailand	2002	Thailand National Economic and Social Development Board
Honduras	2018	Instituto Nacional de Estadísticas Honduras	Timor-Leste	2007	Timor-Leste Directorate of National Statistics
India--Rural	2011/2012	India Ministry of Statistics and Programme Implementation	Togo	2015	Togo Institut National de la Statistique et des Etudes Economiques et Démographiques
India--Urban	2011/2012	India Ministry of Statistics and Programme Implementation	Tunisia	2015	Statistiques Tunisie

Economy	Data year	Source institution	Economy	Data year	Source institution
Indonesia--Rural	2017	Indonesia Badan Pusat Statistik	Turkey	2010	Turkish Statistical Institute
Indonesia--Urban	2017	Indonesia Badan Pusat Statistik	Tuvalu	2010	Tuvalu Central Statistics Department of the Ministry of Finance and Economic Planning
Iraq	2012	National source	Uganda	2013	Uganda Bureau of Statistics
Jamaica	2014	Planning Institute of Jamaica	Ukraine	2003	Ukraine State Statistics Committee
Jordan	2010	Jordan Department of Statistics	Uzbekistan	2000	Uzbekistan Information and Analytical Department
Kazakhstan	2018	Kazakhstan Ministry of Labor and Social Protection of Population	Vanuatu	2010	Vanuatu National Statistics Office
Kenya	2005/2006	Kenya National Bureau of Statistics	Vietnam	2010	Viet Nam General Statistics Office
Kiribati	2006	Pacific Community Statistics for Development Division	West Bank and Gaza	2016	Palestinian Central Bureau of Statistics
Kosovo	2011	Kosovo Agency of Statistics	Yemen, Rep.	2005/2006	Central Statistical Organization of the Republic of Yemen
Kyrgyz Republic	2015	National Statistical Committee of the Kyrgyz Republic	Zambia	2012	Zambia Central Statistics Office
Lao PDR	2012/2013	Lao Statistics Bureau	Zimbabwe	2011	Zimbabwe National Statistics Agency

Notes

¹ Extreme poverty is defined as living on less than PPP\$1.90 a day. For more information on extreme poverty, see Development Initiatives, 2019. Poverty trends: global, regional and national. Available at: www.devinit.org/publications/poverty-trends-global-regional-and-national/

² Development Initiatives uses regions naming terminology to remain consistent with our data sources.

³ Bellú, L. G. & Liberati, P. 2005. *Impacts of Policies on Poverty: Absolute Poverty Lines*. Food and Agriculture Organization of the United Nations, FAO. Available at: www.fao.org/policy-support/resources/resources-details/en/c/446032/

⁴ Household-produced food, including subsistence farming, is generally counted in household income/expenditure data.

⁵ Average household income/expenditure are weighted to adult-equivalence (21 years): children are generally weighted according to their age and sex, depending on the national context.

⁶ \$1.90 is in 2011 prices Purchasing Power Parity (PPP).

⁷ Global estimate uses weighted regional average headcount ratios for economies without food poverty data.

⁸ For more information on definitions of food poverty lines, see Bellú, L. G. & Liberati, P. 2005. *Impacts of Policies on Poverty: Absolute Poverty Lines*. Food and Agriculture Organization of the United Nations, FAO. Available from: www.fao.org/policy-support/resources/resources-details/es/c/446032/

⁹ For more information on the ICP's PPP process see www.worldbank.org/en/programs/icp#1

¹⁰ Ferreira, F., et al, 2015. A global count of the extreme poor in 2012: data issues, methodology and initial results. Policy Research working paper; no. WPS 7432. Washington, D.C: World Bank Group. Available at: <http://documents.worldbank.org/curated/en/360021468187787070/A-global-count-of-the-extreme-poor-in-2012-data-issues-methodology-and-initial-results>

Development Initiatives (DI) is an international development organisation that focuses on putting data-driven decision-making at the heart of poverty eradication.

Our vision is a world without poverty that invests in human security and where everyone shares the benefits of opportunity and growth.

We provide rigorous information to support better decisions, influence policy outcomes, increase accountability and strengthen the use of data to eradicate poverty.

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