THE EMERGING MARKETS SYMPOSIUM

GREEN TEMPLETON COLLEGE | OXFORD

SYMPOSIUM ON HEALTH AND THE ENVIRONMENT IN EMERGING MARKETS

EGROVE PARK, OXFORD, 12-15 JANUARY 2017

ANALYTICAL FRAMEWORK

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Health and the Environment in the Emerging Markets

CARLQVIST, A. 2016

An Analytical Framework, Green Templeton College

Table of Contents

1. Introduction

1.1 Aim of document, definitions and caveats

This document aims to provide data on areas related to health and the environment in emerging markets, together with relevant macroeconomic and demographic indicators. Graphs and tables include the 20 emerging market countries in focus at the Emerging Markets Symposium, and comparative data on selected high and low income countries (Table 1.1.1).

Figure 1.1.1: Map of countries

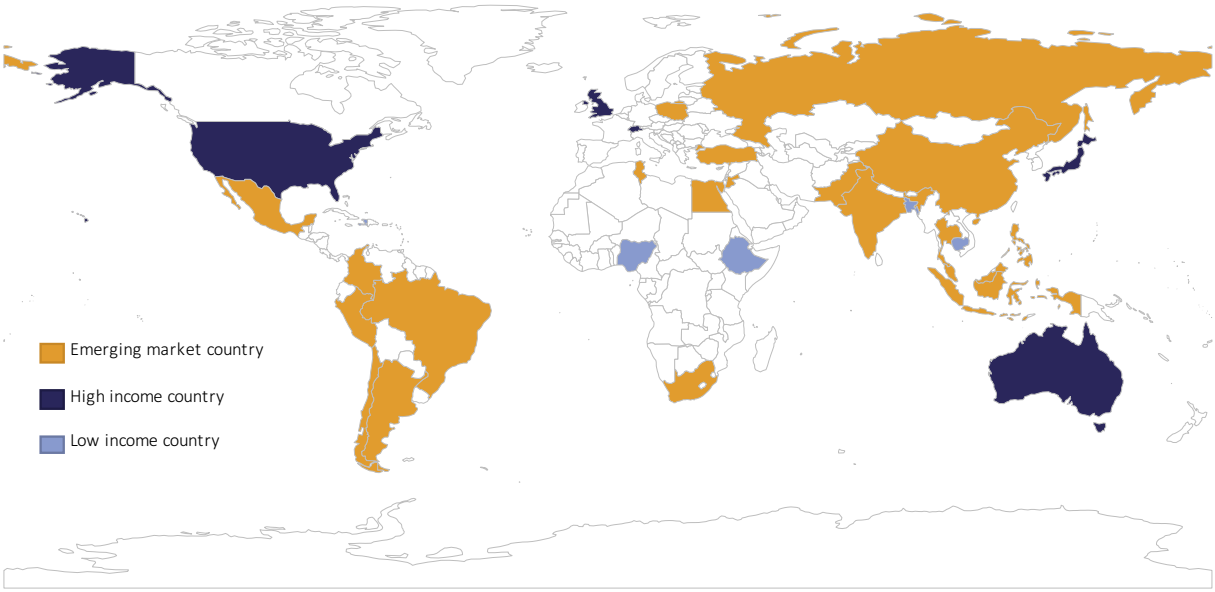


Table 1.1.1: List of countries

Emerging Market Countries
Argentina, Brazil, Chile, China, Colombia, Egypt, India, Indonesia, Jordan, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Thailand, Tunisia, Turkey
High Income Countries (HIC) Aggregate
Australia, Japan, Switzerland, United Kingdom, United States
Low Income Countries (LIC) Aggregate
Bangladesh, Cambodia, Ethiopia, Haiti, Nigeria

Sources

Tables and graphs presented here are mainly based on data from the World Bank, the World Health Organisation's Global Health Observatory database, and the United Nation Population Division. With the exception of Figures 1.2.4-6 and Tables 1.2.1-2 that are reprinted with permission from the World Health Organisation (WHO), figures and tables have been prepared for the Emerging Markets Symposium by data extraction from the indicated sources. Sources are indicated below each figure or table, and a full list of references can be found at the end of the document.

Definitions and caveats

Environmental risks to health

"Environmental risks to health" has been defined by the WHO as "all the physical, chemical and biological factors external to a person, and all related behaviours, but excluding those natural environments that cannot reasonably be modified." [1]. This definition has been used when preparing the current document.

Definitions

Where applicable, definitions are shown below figures.

Disability-adjusted life years (DALYs) are used throughout the document. This is calculated as the sum of years of life lost (YLL) due to premature mortality in the population, and years lost due to disability (YLD) for people living with the condition or its consequences.

Data availability

For emerging market countries, data is shown for each individual country. For high income countries (HIC) and low income countries (LIC), data is displayed as an average of the five included countries. There is some variability in data availability, where certain indicators only store data for a subset of the countries included in the Emerging Markets Symposium. Figures and tables show all data that is available. Where countries have been omitted, this is due to unavailability of data for that particular indicator.

Occasionally, data is only available by WHO income regions, using the following classification combining WHO geographical regions with World Bank income regions:

Table 1.1.2: List of WHO income regions

WHO income region	Emerging market countries, HIC and LIC aggregate countries included
Global	All
HICs	Australia, Chile, Japan, Poland, Switzerland, United Kingdom, United States
LMICs, African Region	Ethiopia, Nigeria, South Africa
LMICs, the Americas	Argentina, Brazil, Colombia, Haiti, Mexico, Peru
LMICs, South-East Asia Region	Bangladesh, India, Indonesia, Thailand
LMICs, Eastern Mediterranean Region	Egypt, Jordan, Pakistan, Tunisia
LMICs, European Region	Russia, Turkey
LMICs, Western Pacific Region	Cambodia, China, Malaysia, Philippines

*LMICs: low and middle income countries

Table 1.1.3: List of abbreviations

BMI	Body mass index
DALY	Disability-adjusted life year
DPT	Diphtheria, pertussis and tetanus
EMR	Eastern Mediterranean Region
GDP	Gross domestic product
HIC	High income country
LIC	Low income country
LMICs	Low and middle income countries
NCD	Non-communicable disease
PPP	Purchasing power parity
SEAR	South-East Asia Region
WPR	Western Pacific Region
WHO	World Health Organisation

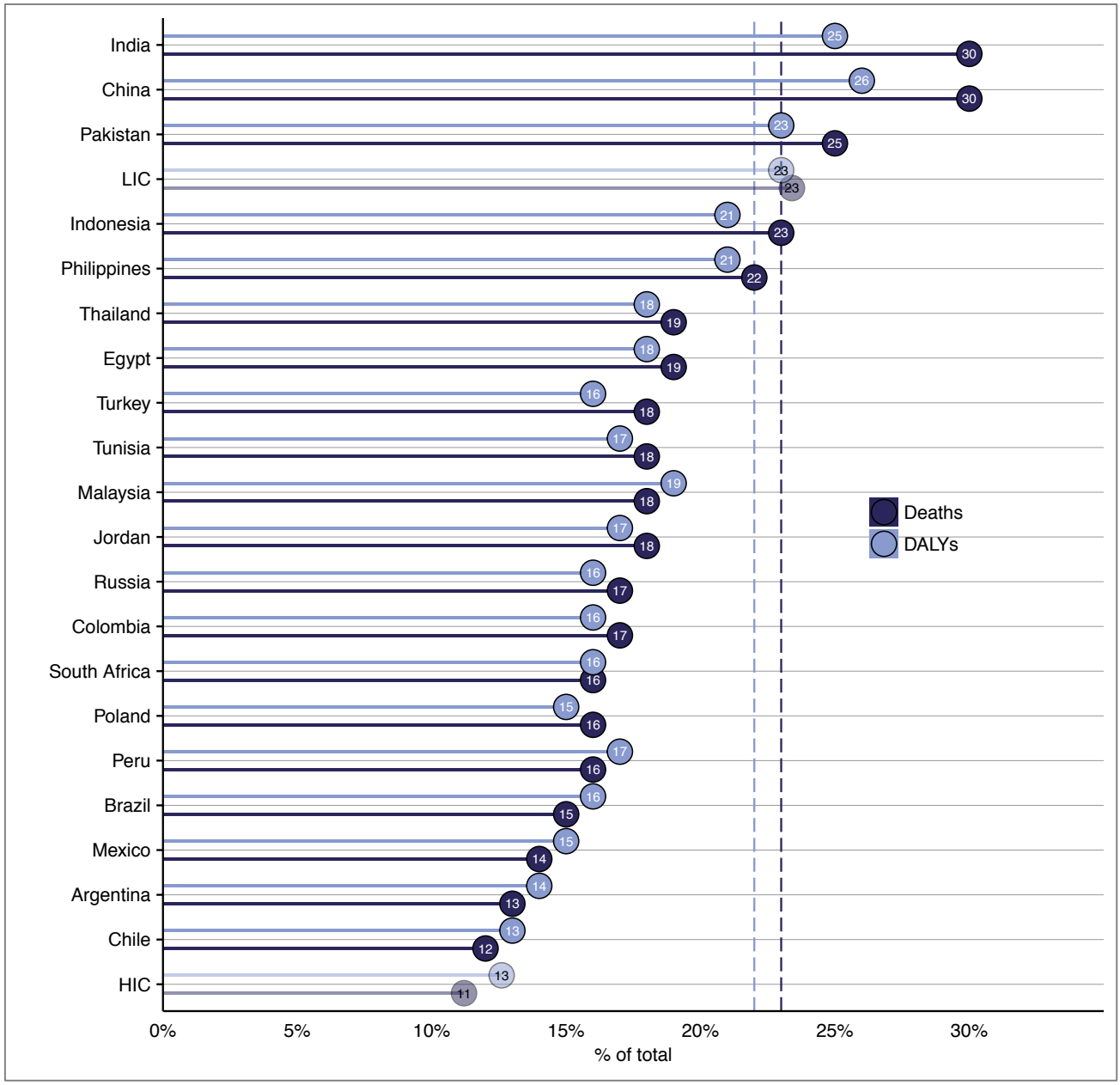
1.2 Health and the environment – an overview

Globally, 23% of all deaths, and 22% of death and disability, can be attributed to the environment. In emerging market countries, the environmental burden of disease ranges between 12-30%, (Figure 1.2.1). The impact of environment on different disease groups vary considerably across emerging market economies (Figures 1.2.2-3). Environmental risks for health relate to a wide range of areas, including infectious, non-communicable, neonatal and nutritional diseases, mental health, and injuries (Figure 1.2.4). Further, impacts vary across the life span; infectious and parasitic diseases contributing the majority of environmental disease burden in children under 5 years old (Figure 1.2.5), with a shift toward non-communicable diseases and injuries in the adult population (Figure 1.2.6). [1]

For details on links between environmental risk factors and specific diseases, and identified areas for interventions in order to reduce the environmental disease burden, see Tables 1.2.1 and 1.2.2.

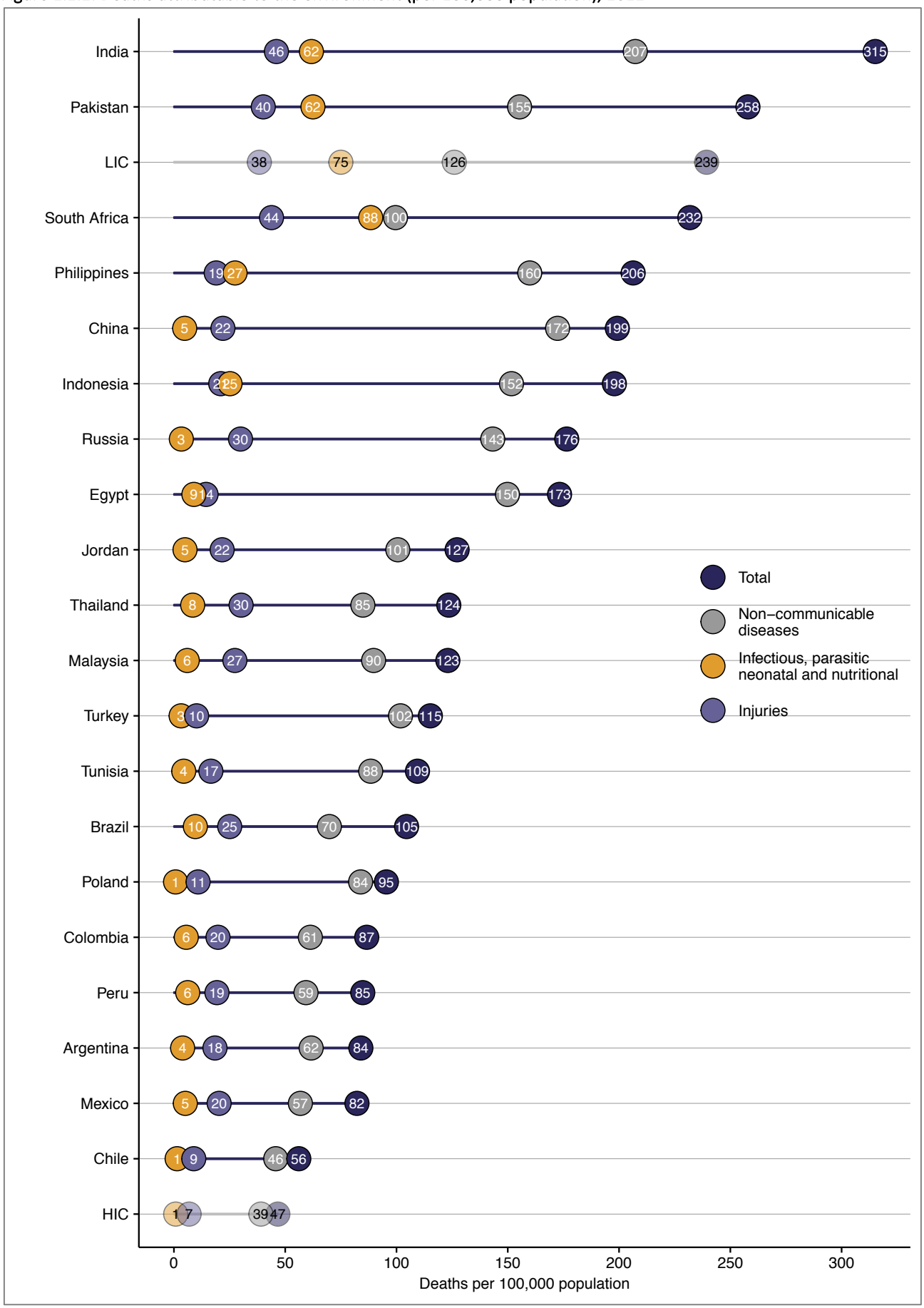
Figure 1.2.1: Deaths and disability-adjusted life years (DALYs) attributable to the environment (% of total deaths or DALYs), 2012

Dashed line: global average



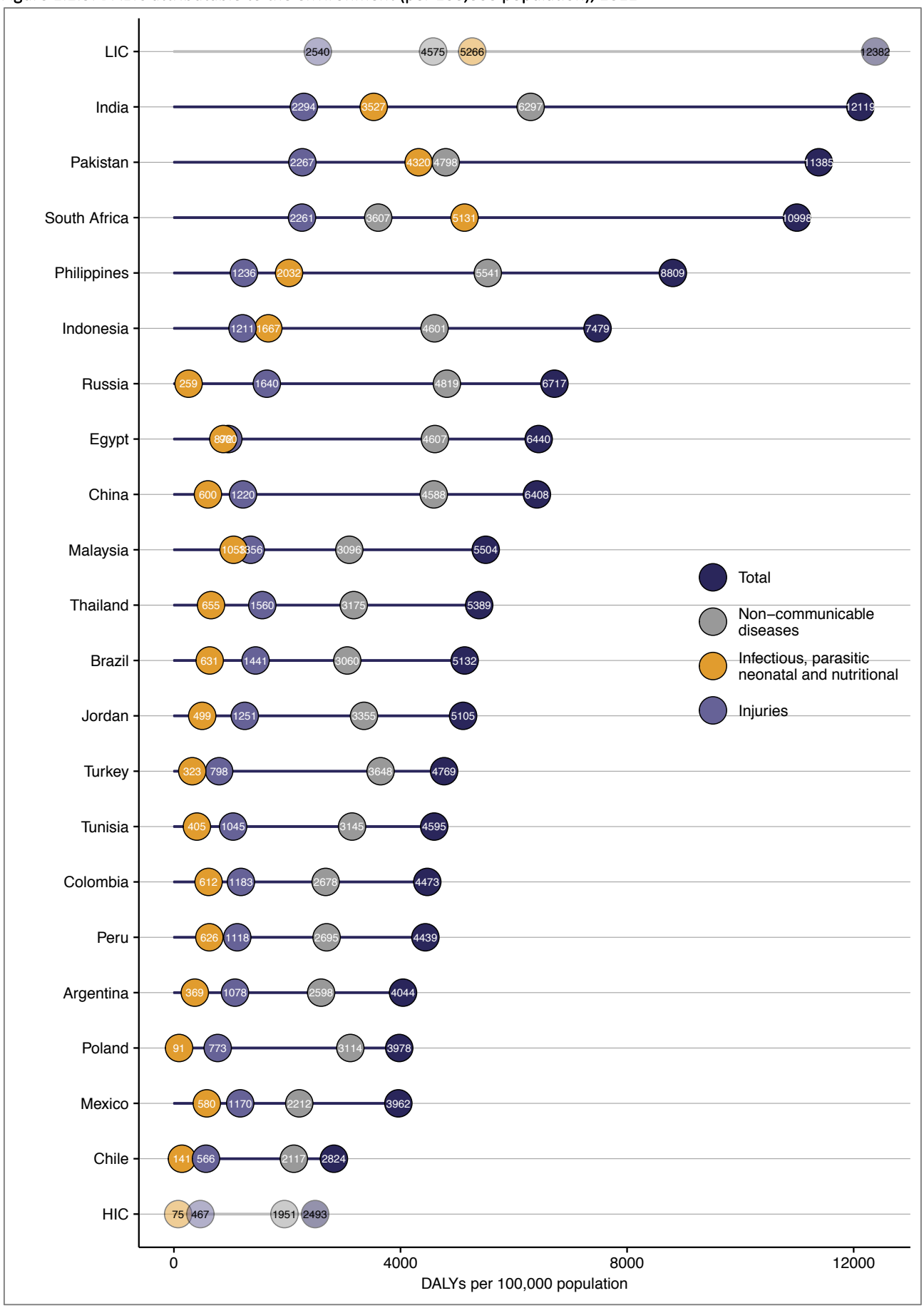
Source: [2]

Figure 1.2.2: Deaths attributable to the environment (per 100,000 population), 2012



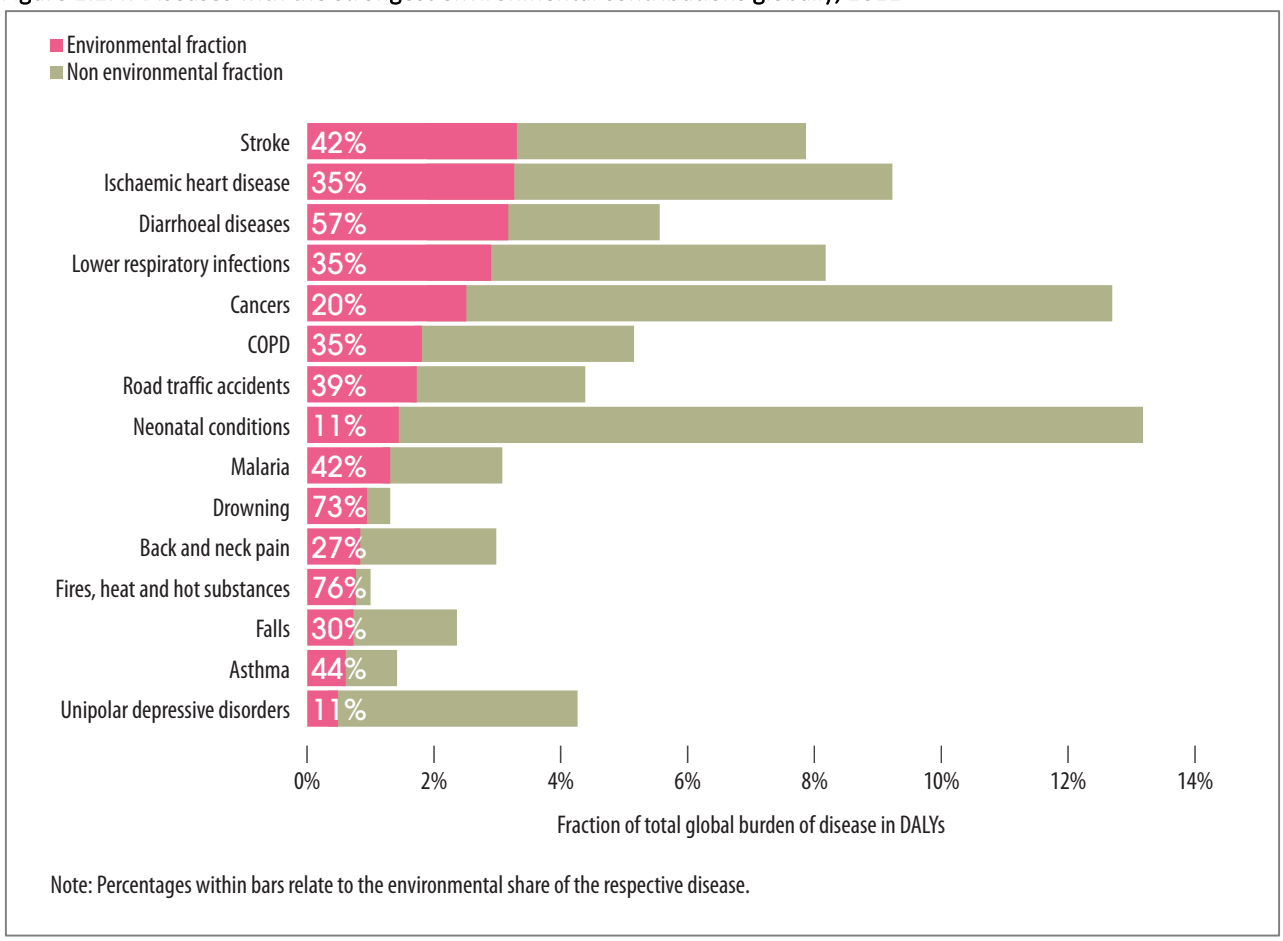
Source: [2]

Figure 1.2.3: DALYs attributable to the environment (per 100,000 population), 2012



Source: [2]

Figure 1.2.4: Diseases with the strongest environmental contributions globally, 2012



Reprinted with permission from World Health Organisation: Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks. Authors: A Prüss-Ustün, J Wolf, C Corvalán, R Bos and M Neira. Executive Summary, p. XX. Copyright (2016)

Figure 1.2.5: Main diseases contributing to the global environmental burden of disease, children <5 years, 2012

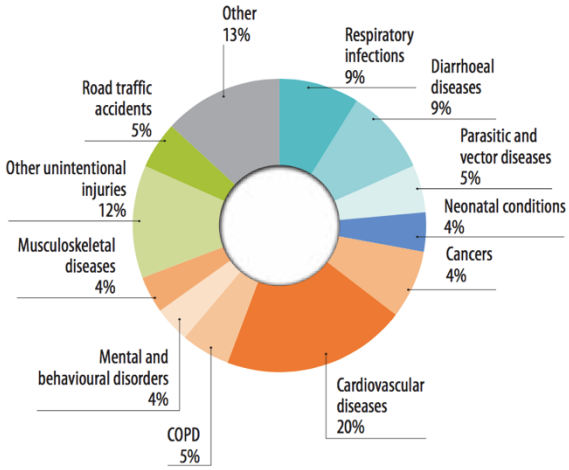
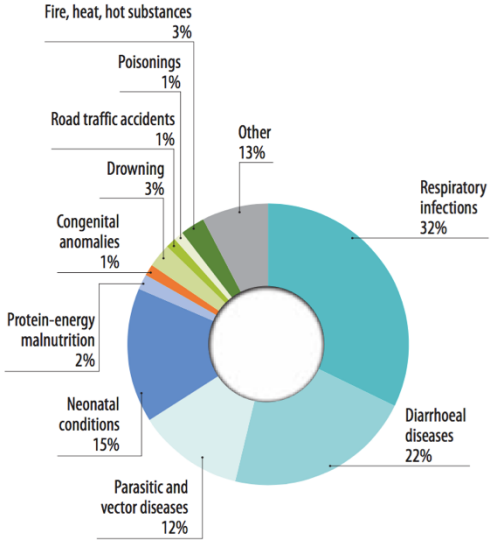


Figure 1.2.6: Main diseases contributing to the global environmental burden of disease, all ages, 2012



Figures 1.2.5 and 1.2.6 reprinted with permission from World Health Organisation: Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks. Authors: A Prüss-Ustün, J Wolf, C Corvalán, R Bos and M Neira. Results: a systematic analysis of fractions attributable to the environment, by disease, p. 88. Copyright (2016)

Table 1.2.1: Indicative linkages between environmental risk factor and disease or injury

The environmental population attributable fractions are indicative values, based on CRA or expert opinion. The ranges of the population attributable fractions are: ● <5%; ● 5–25%; ● >25%.

Disease or injury	Environmental risk factor													
	Water, sanitation and hygiene	Indoor fuel combustion	Second-hand tobacco smoke	Ambient air pollution	Noise	Chemicals[a]	Other housing risks	Recreational environment	Water resources management	Land use and built environment	Other community risks	Radiation	Occupation	Climate change
Infectious and parasitic diseases														
Respiratory infections		●	●	●			●							
Diarrhoeal diseases	●							●						●
Intestinal nematode infections	●												●	
Malaria									●		●		●	●
Trachoma	●													
Schistosomiasis	●							●					●	
Chagas disease							●							
Lymphatic filariasis	●								●				●	
Onchocerciasis									●				●	
Leishmaniasis							●						●	
Dengue							●						●	●
Japanese encephalitis									●				●	
HIV/AIDS													●	
STDs													●	
Hepatitis B and C													●	
Tuberculosis		●					●						●	
Other infectious diseases	●						●		●				●	
Neonatal and nutritional diseases														
Neonatal conditions	●	●	●	●		●							●	
Protein-energy malnutrition	●										●			●
Noncommunicable diseases														
Cancers		●	●	●		●					●	●	●	
Neuropsychiatric disorders					●	●	●						●	●
Cataracts		●										●	●	
Hearing loss						●							●	
Cardiovascular diseases		●	●	●	●	●				●			●	●
Chronic obstructive pulmonary disease		●		●									●	
Asthma		●	●	●			●						●	
Other respiratory diseases													●	
Chronic kidney diseases						●							●	
Skin diseases						●							●	
Musculoskeletal diseases													●	
Congenital anomalies				●		●						●	●	
Injuries														
Road traffic accidents										●			●	
Falls							●	●		●	●		●	
Drownings								●			●		●	●
Fires			●				●						●	
Poisonings						●	●						●	
Other unintentional injuries							●	●		●	●	●	●	●
Violence						●	●			●				
Self-harm						●	●			●			●	

Notes: [a] Limited to industrial and agricultural chemicals and chemicals involved in acute poisonings.

CRA: comparative risk assessment

Population attributable fraction: "the proportional reduction in death or disease that would occur if exposure to a risk were removed or reduced to an alternative (or counterfactual) exposure distribution"

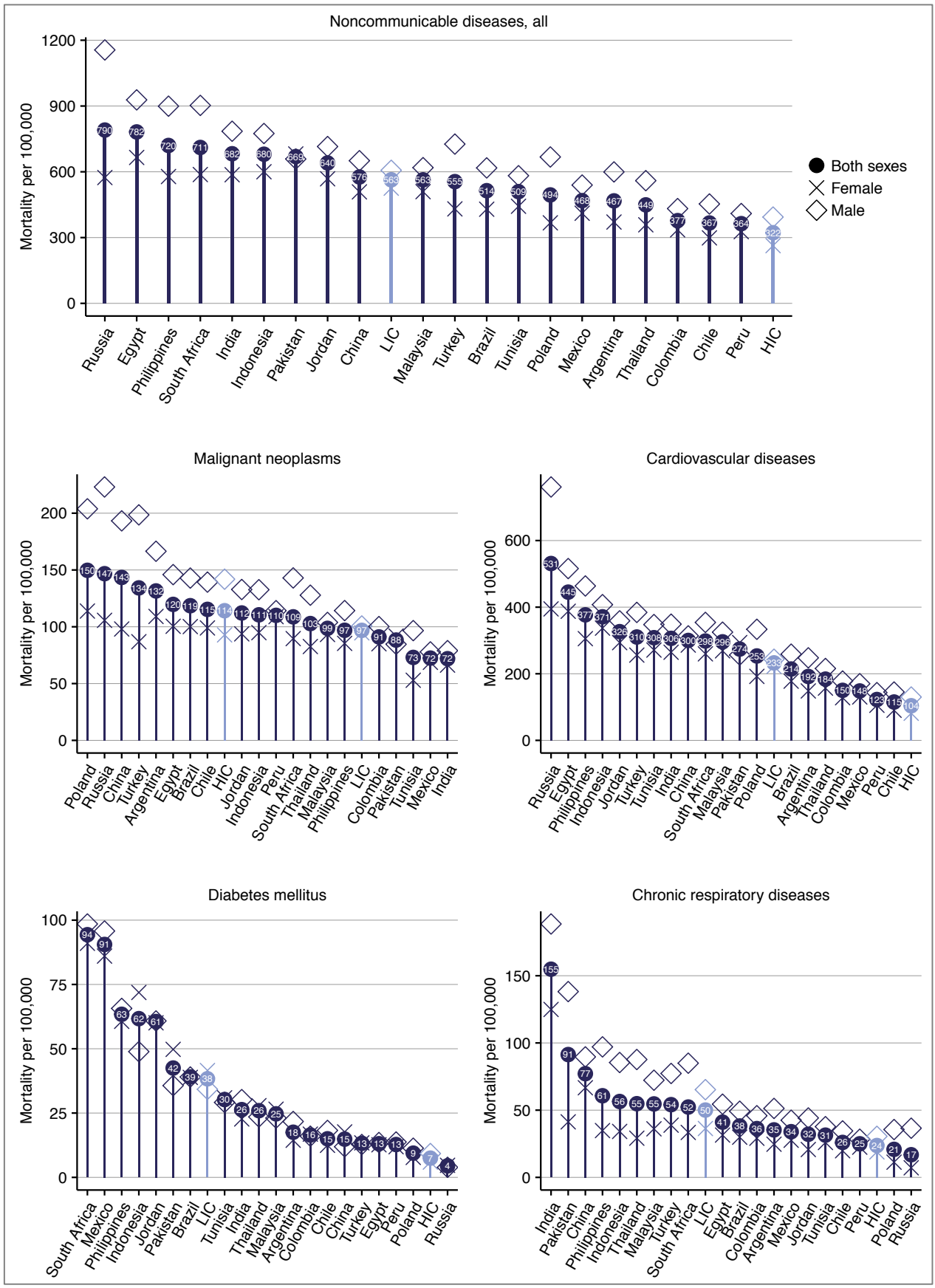
Table 1.2.2: Main intervention areas to reduce environmental burden of disease and injury

Disease or injury	Main intervention areas
Infectious and parasitic diseases	
Respiratory infections	Household and ambient air pollution, second-hand tobacco smoke, housing improvements.
Diarrhoeal diseases	Water, sanitation and hygiene, agricultural practices, climate change.
Intestinal nematode infections	Water, sanitation and hygiene, management of wastewater for irrigation.
Malaria	Environmental modification and environmental manipulation to reduce vector breeding sites and reduce contact between humans and disease vector, contextually mosquito-proof drinking-water storage, livestock distribution.
Trachoma	Access to domestic water supplies, latrines, fly control, personal hygiene.
Schistosomiasis	Excreta management, safe water supply, safe agricultural practices, worker protection.
Chagas disease	Management of peri-domestic areas.
Lymphatic filariasis	Modification of drainage and wastewater ponds, freshwater collection and irrigation schemes.
Onchocerciasis	Water resource management projects (particularly dams).
Leishmaniasis	Housing, cleanliness of the peri-domestic environment, worker protection.
Dengue	Management of water bodies around the house, removing standing water.
Japanese encephalitis	Management of irrigation areas and distribution of farm animals, personal protection.
HIV/AIDS and sexually transmitted diseases	Occupational transmission in sex workers and migrant workers.
Hepatitis B and C	Occupational transmission in sex workers and migrant workers for hepatitis B; accidental needlestick injuries in health-care workers for hepatitis B and C.
Tuberculosis	Exposure of miners and other occupational groups to airborne particles such as silica or coal dust; possibly exposure to household fuel combustion smoke and second-hand tobacco smoke; exposure in settings such as prisons, hospitals and overcrowded housing conditions.
Neonatal and nutritional conditions	
Neonatal conditions	Household air pollution, mothers' exposure to second-hand tobacco smoke, poor water and sanitation in birth settings.
Protein-energy malnutrition	Water, sanitation and hygiene, climate change acting on food insecurity.
Noncommunicable diseases	
Cancers	Household and ambient air pollution, second-hand tobacco smoke, ionizing radiation, UV radiation, chemicals, worker protection.
Mental, behavioural and neurological disorders	Occupational stress; disasters such as floods, earthquakes and fires (linked to housing, flood management, climate change); forced resettlements in the context of development projects; occupations in the entertainment or alcohol industry; head trauma (for epilepsy); chemicals (for certain neurological diseases); noise (for insomnia); bright lights, poor air quality and odours (for headaches). Physical activity fostered by supportive environments can reduce certain disorders.
Cataracts	UV radiation, household air pollution.
Hearing loss	Occupational exposure to high noise levels.
Cardiovascular diseases	Household and ambient air pollution, second-hand tobacco smoke, exposure to lead, stressful working conditions, shift work.
Chronic obstructive pulmonary disease	Household air pollution, ambient air pollution, exposure to dusts in the workplace.
Asthma	Air pollution, second-hand tobacco smoke, indoor exposure to mould and dampness, occupational exposure to allergens.
Musculoskeletal diseases	Occupational stressors, prolonged sitting at work and poor work postures; need to carry large quantities of water over significant distances for domestic use.
Congenital anomalies	Mothers' exposure to second-hand tobacco smoke, chemicals.
Risk factors for noncommunicable diseases in other areas but related to the environment	
Physical inactivity	Workplace activity, prolonged sitting at the workplace, travel modes, transport infrastructure and land-use patterns, availability of suitable parks and open spaces.
Obesity	Environmental factors favouring physical activity.
Unintentional injuries	
Road traffic accidents	Design of roads, land-use planning; traffic intensification in development areas with big infrastructure projects.
Unintentional poisonings	Safe handling and storage of chemicals, adequate product information, adequate choice of chemicals, worker protection.
Falls	Safety of housing and work environment.
Fires, heat and hot substances	Safety of cooking, lighting and heating equipment, building fire codes, use of flammable materials in the home, safety of occupational environments and practices, climate change.
Drownings	Safety of water environments, public awareness, regulations, worker safety, climate change.
Other unintentional injuries	Protection from animal bites and contact with venomous plants, safety of mechanical equipment, ionizing radiation and currents.
Intentional injuries	
Self-harm	Access to toxic chemicals such as pesticides, access to firearms.
Interpersonal violence	Access to firearms, urban design (e.g. mobility, visibility), worker protection.

2. Disease burden and environmental risk factors

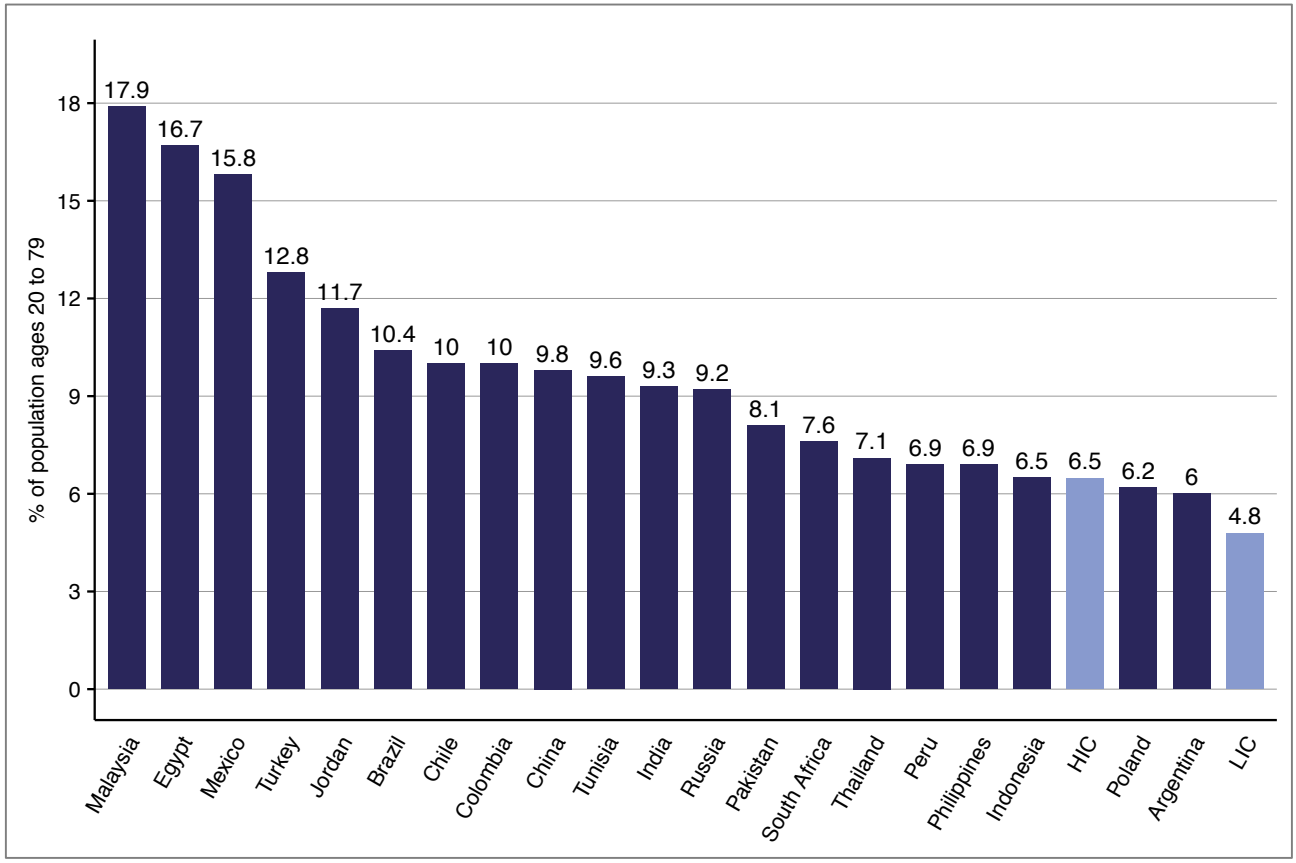
2.1 Non-communicable diseases (NCDs)

Figure 2.1.1: Mortality attributable to non-communicable diseases (per 100,000 population), 2012



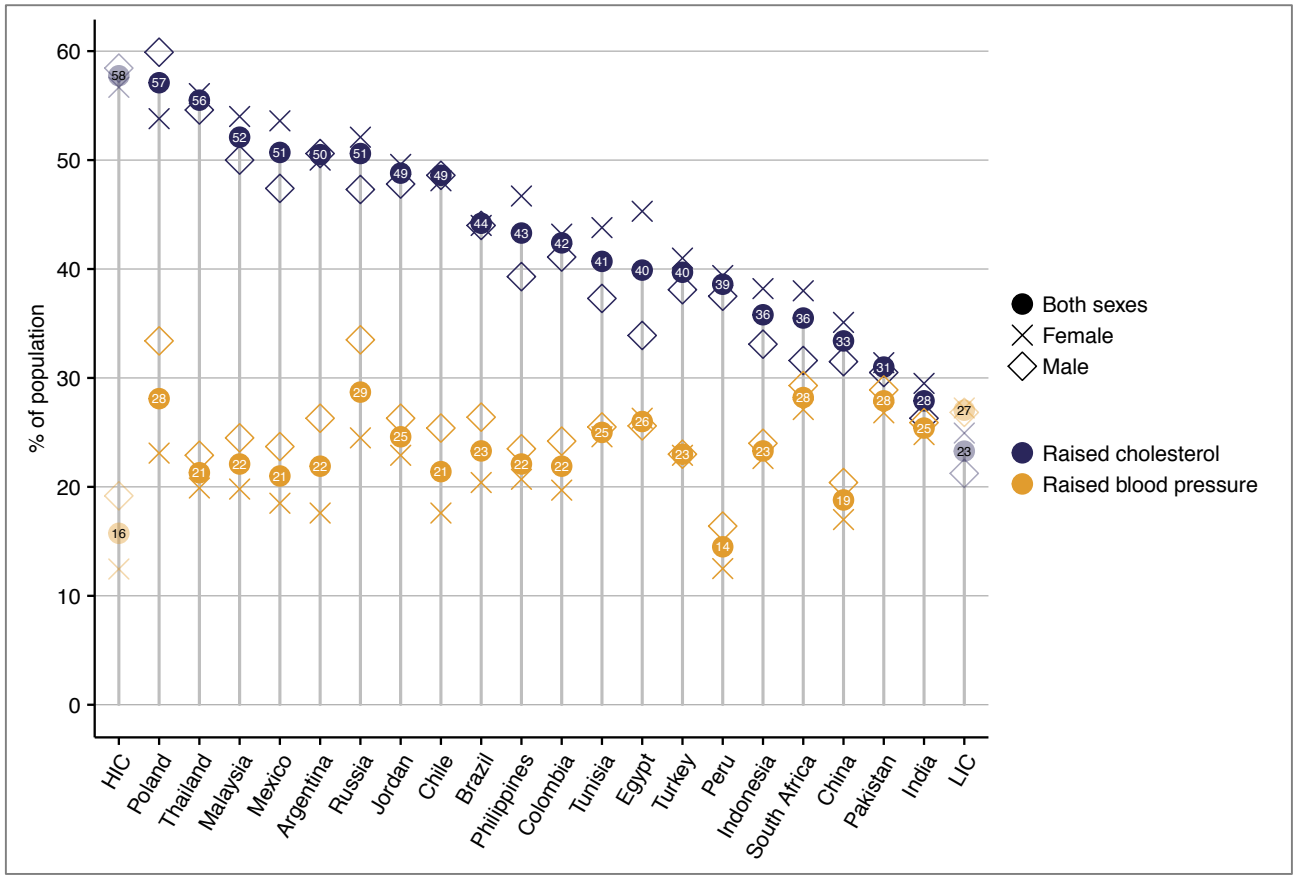
Source: [2]

Figure 2.1.2: Diabetes prevalence (% of population ages 20-79), 2012



Source: [3]

Figure 2.1.3: Raised blood pressure, raised cholesterol (% of population). Data from 2014 (blood pressure), 2008 (cholesterol)

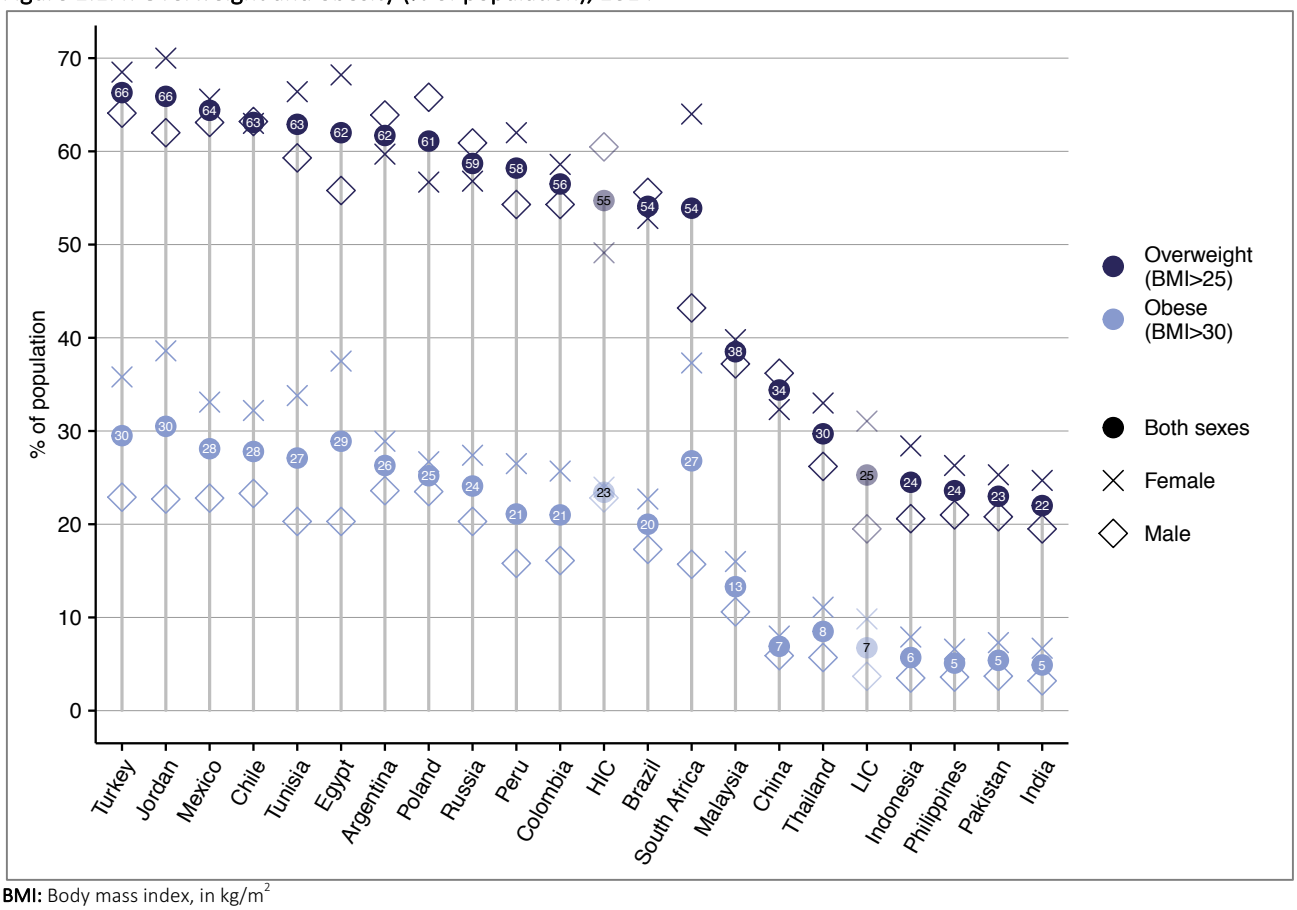


Source: [2]

Raised blood pressure: systolic blood pressure ≥140 mmHg, OR diastolic blood pressure ≥90 mmHg.

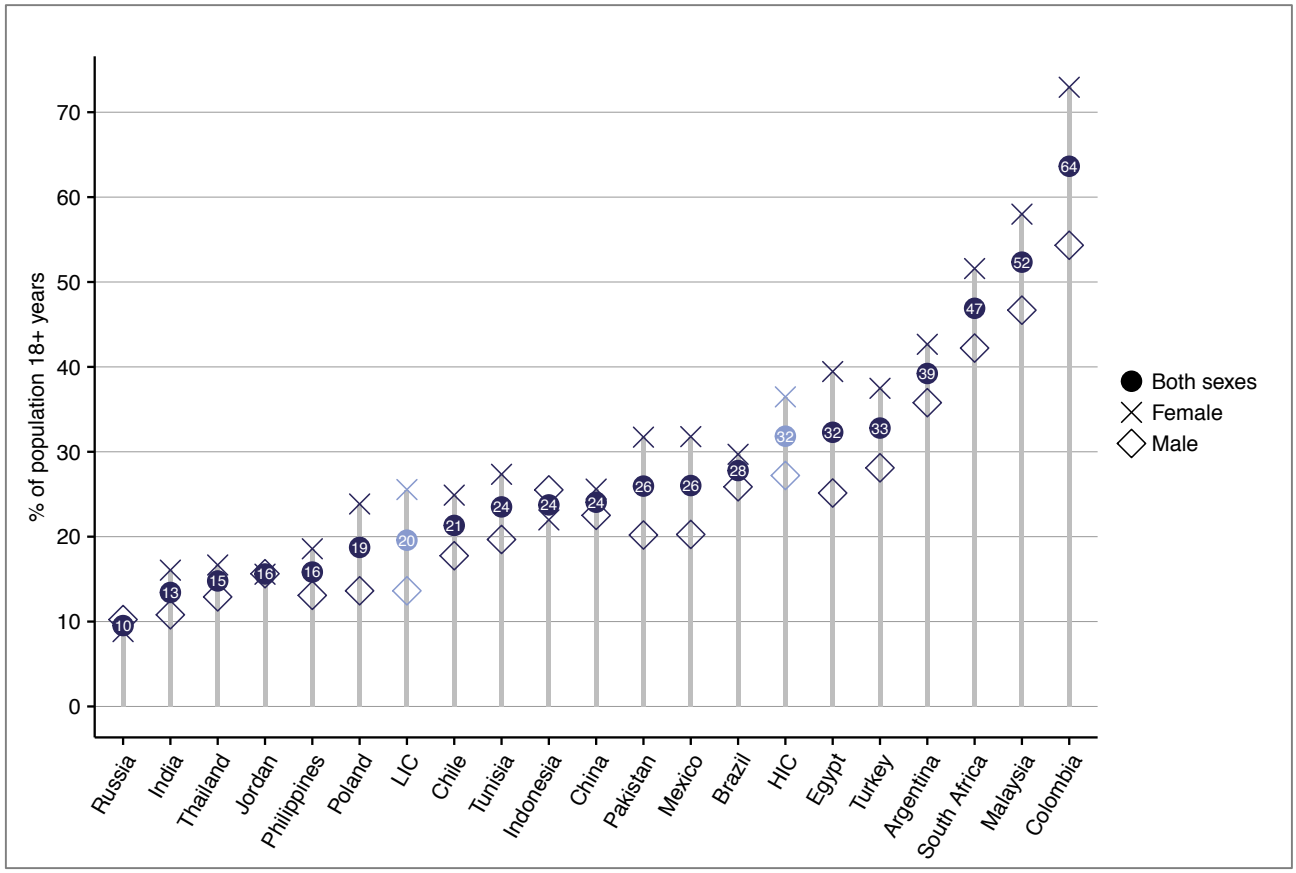
Raised cholesterol: serum cholesterol ≥5.0 mmol/L.

Figure 2.1.4: Overweight and obesity (% of population), 2014



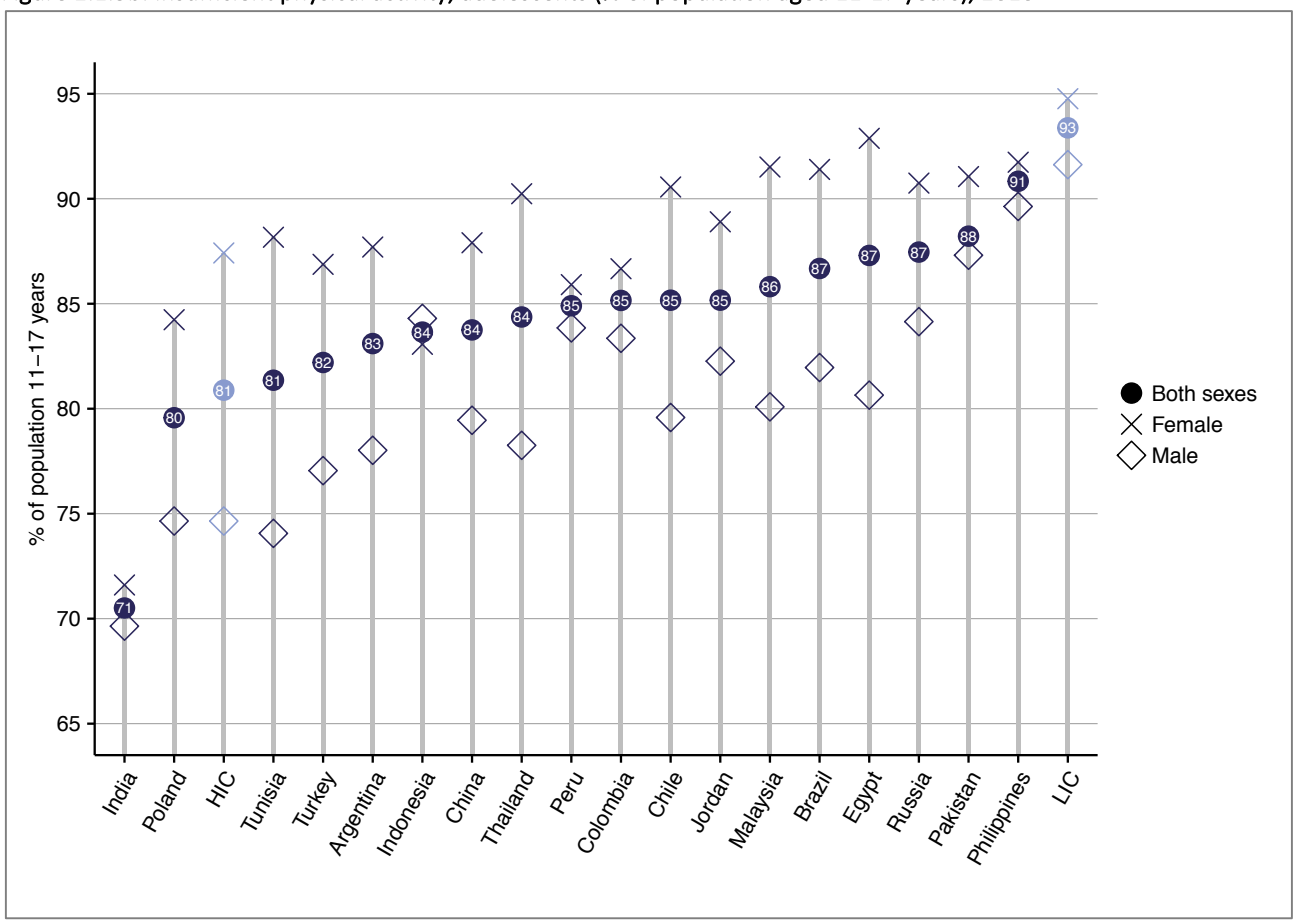
BMI: Body mass index, in kg/m^2
Source: [2]

Figure 2.1.5a: Insufficient physical activity, adults (% of population aged 18+ years), 2010



Insufficient physical activity (adults): "less than 150 minutes of moderate-intensity physical activity per week, or less than 75 minutes of vigorous-intensity physical activity per week, or equivalent".
Source: [2]

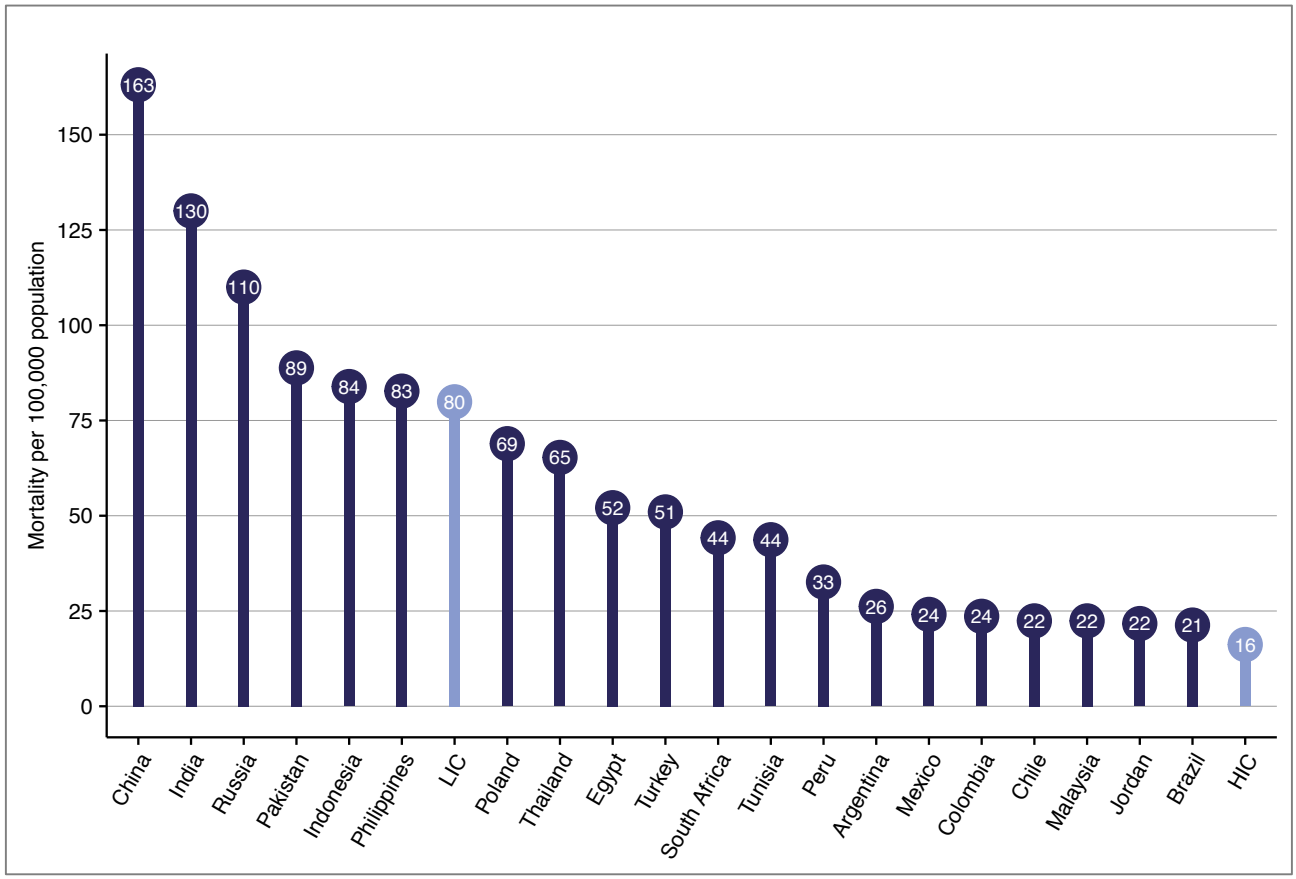
Figure 2.1.5b: Insufficient physical activity, adolescents (% of population aged 11-17 years), 2010



Insufficient physical activity (adolescents): "less than 60 minutes of moderate- to vigorous-intensity physical activity daily". Source: [2]

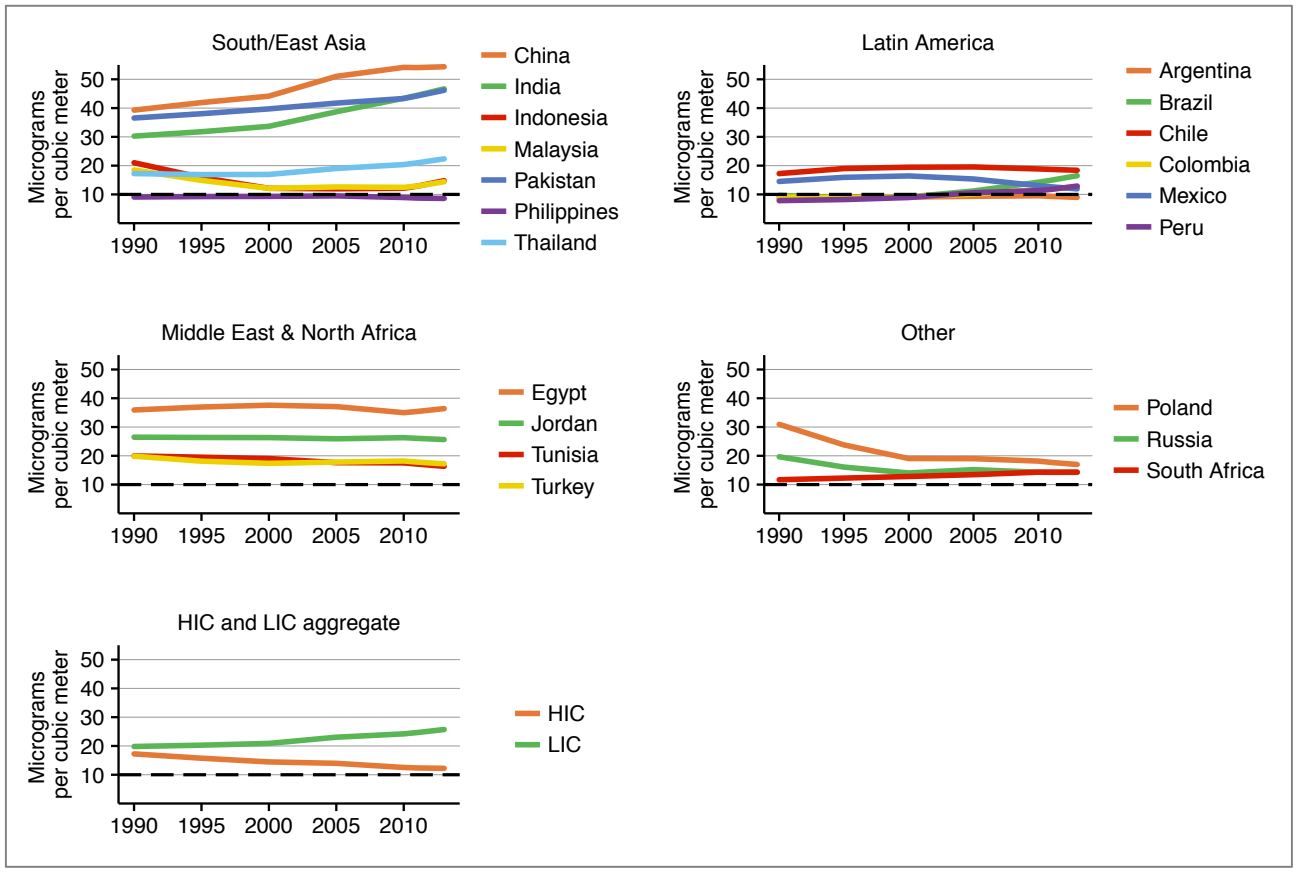
2.2 Ambient and household air pollution attributable disease

Figure 2.2.1: Mortality attributed to household and ambient air pollution (per 100,000 population), 2012



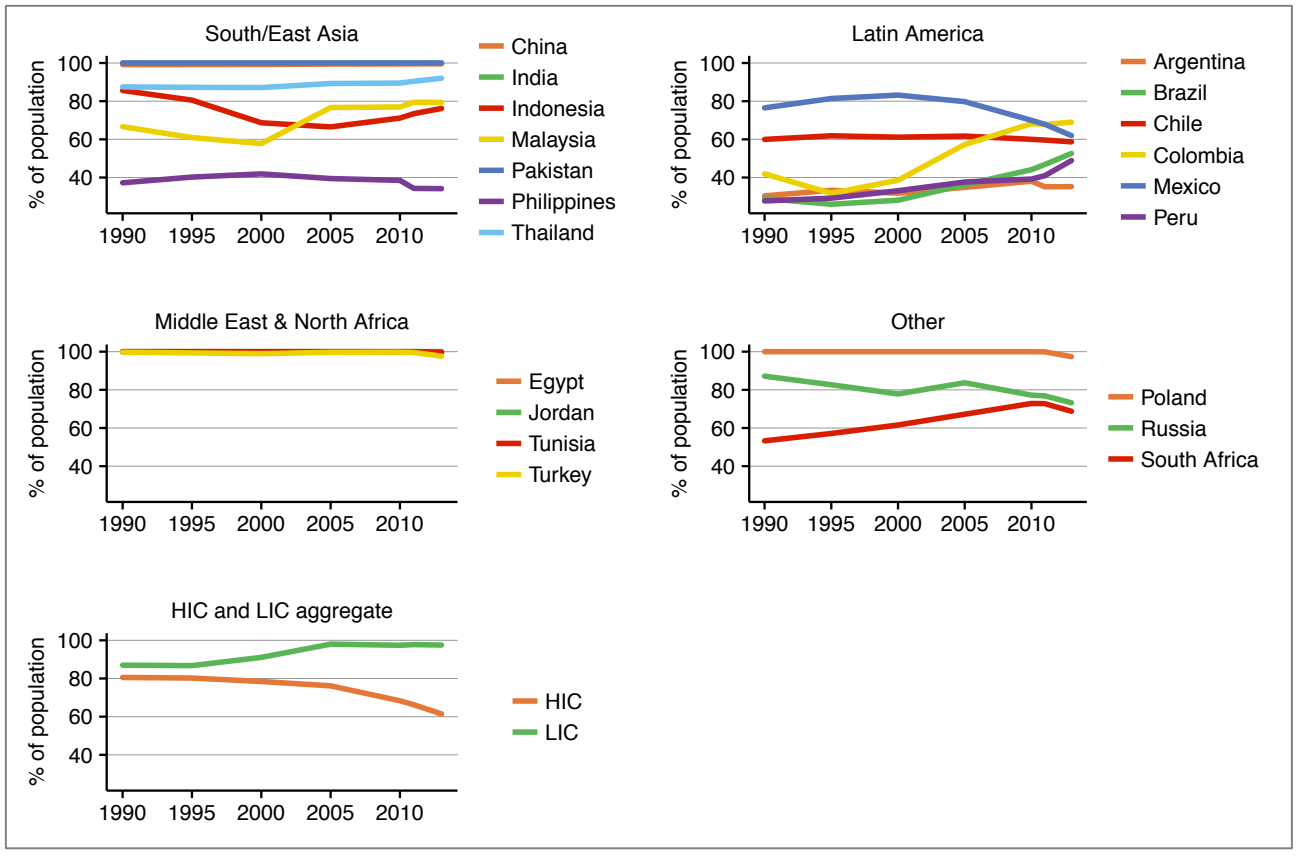
Source: [2]

Figure 2.2.2: PM2.5 air pollution, mean annual exposure (micrograms per cubic meter), 1990-1995-2000-2005-2010-2012. Dashed line: WHO guideline maximum value, 10 mcg / m3



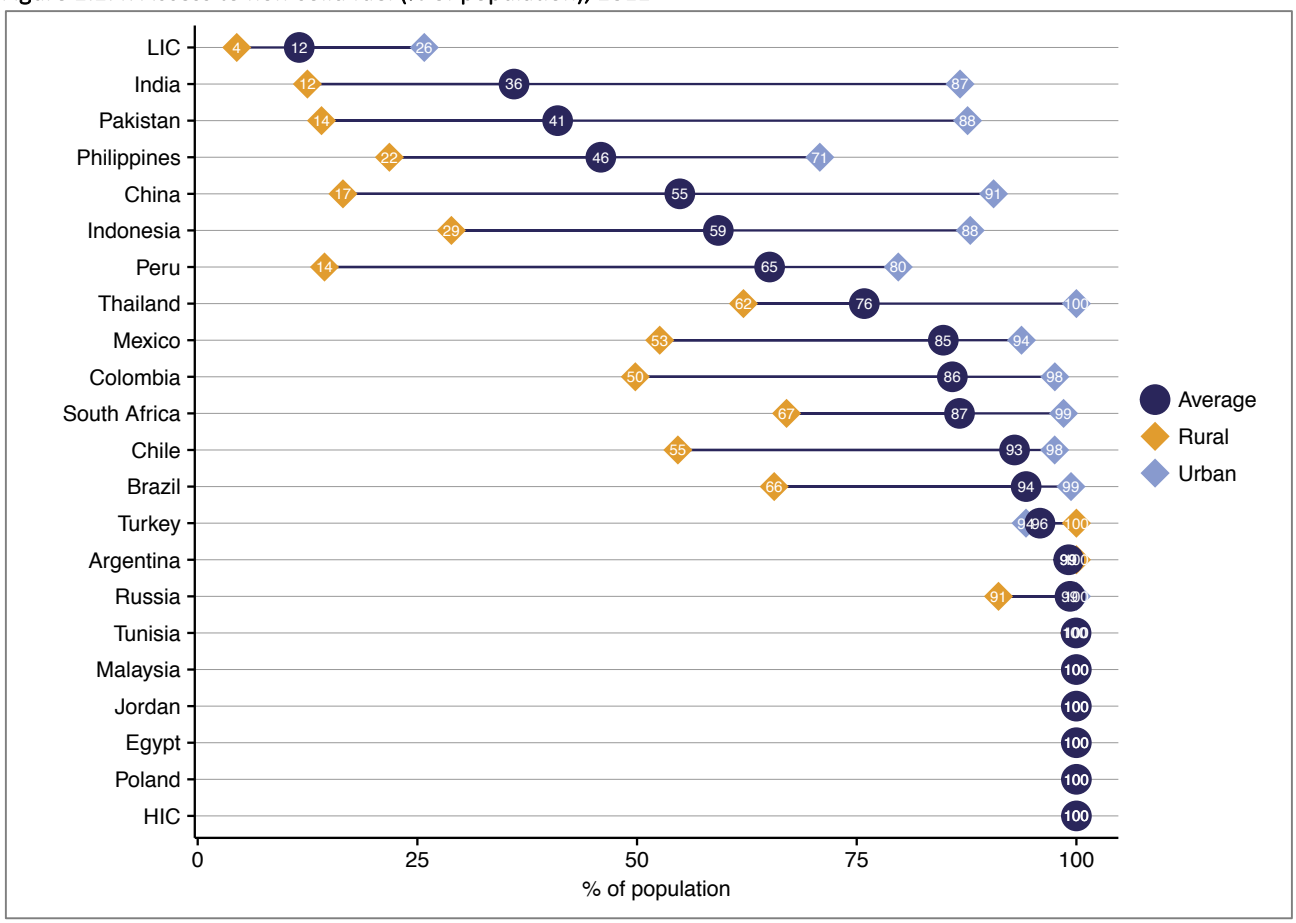
Source: [4]

Figure 2.2.3: PM2.5 air pollution, population exposed to levels exceeding WHO guideline value (% of population), 1990-1995-2000-2005-2010-2012



Source: [4]

Figure 2.2.4: Access to non-solid fuel (% of population), 2012



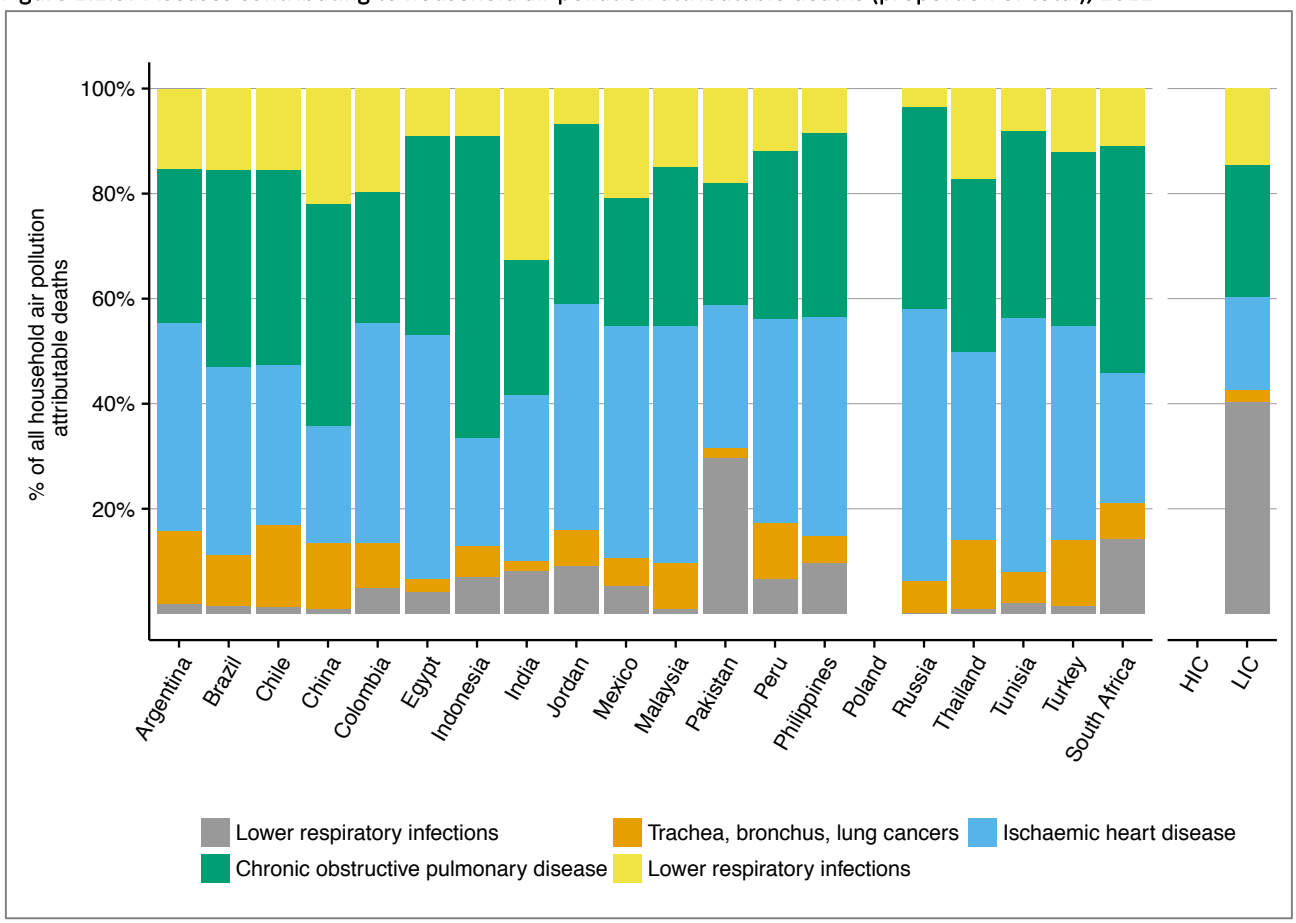
Source: [5]

Table 2.2.1: Household air pollution attributable deaths and DALYs (total), 2012

Country	DALYs attributable to household air pollution	Deaths attributable to household air pollution
Argentina	35,711	1,393
Brazil	546,367	18,285
Chile	33,222	1,237
China	34,006,048	1,467,954
Colombia	184,172	5,849
Egypt	45,367	1,393
India	42,525,412	1,250,325
Indonesia	5,230,833	164,224
Jordan	1,584	43
Malaysia	8,694	295
Mexico	416,794	14,292
Pakistan	5,533,170	120,001
Peru	214,665	6,549
Philippines	2,338,555	59,903
Poland	*No data*	*No data*
Russia	477,037	18,824
South Africa	413,622	10,601
Thailand	648,186	24,917
Tunisia	4,488	149
Turkey	196,374	6,589

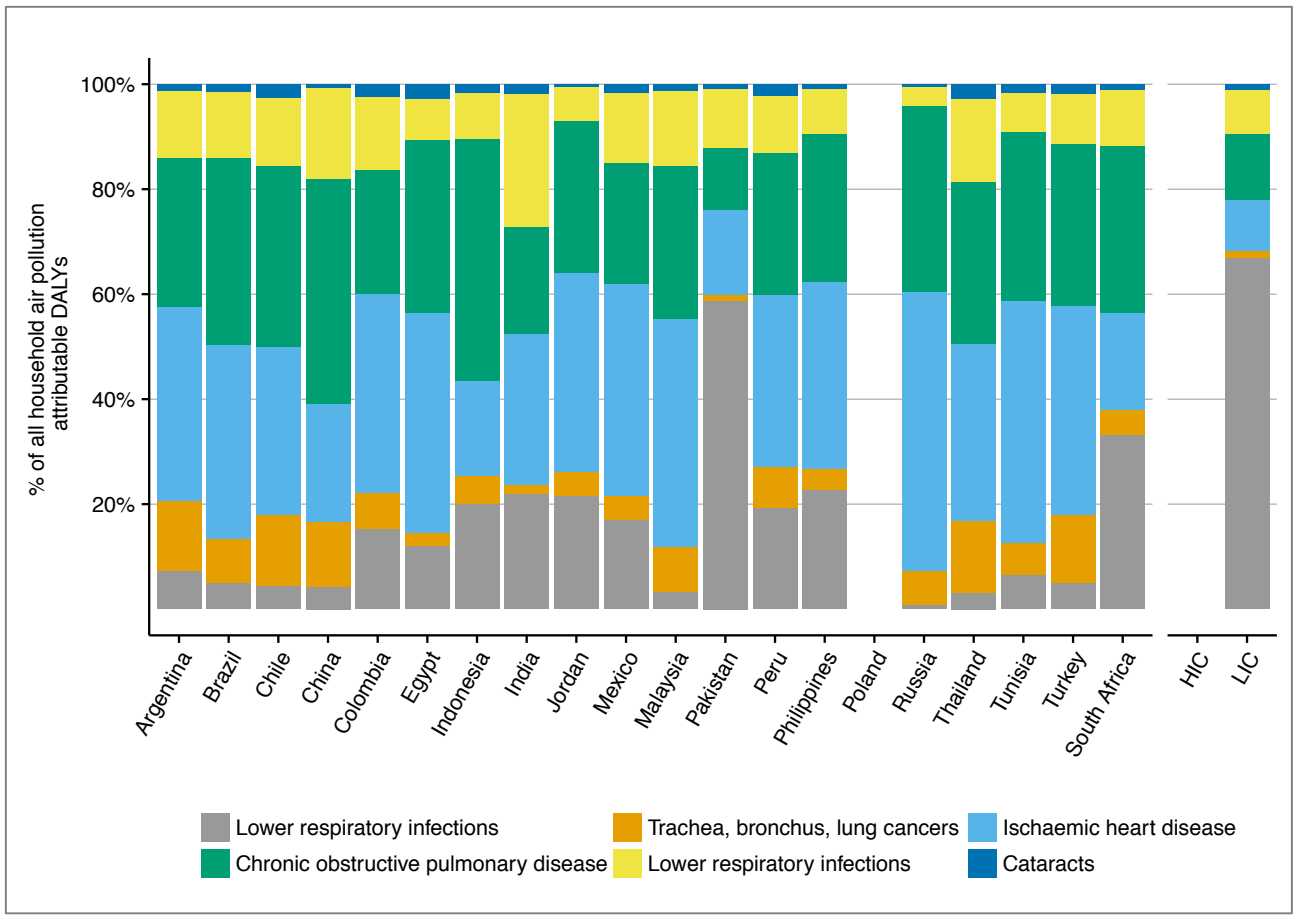
Source: [2]

Figure 2.2.5: Diseases contributing to household air pollution attributable deaths (proportion of total), 2012



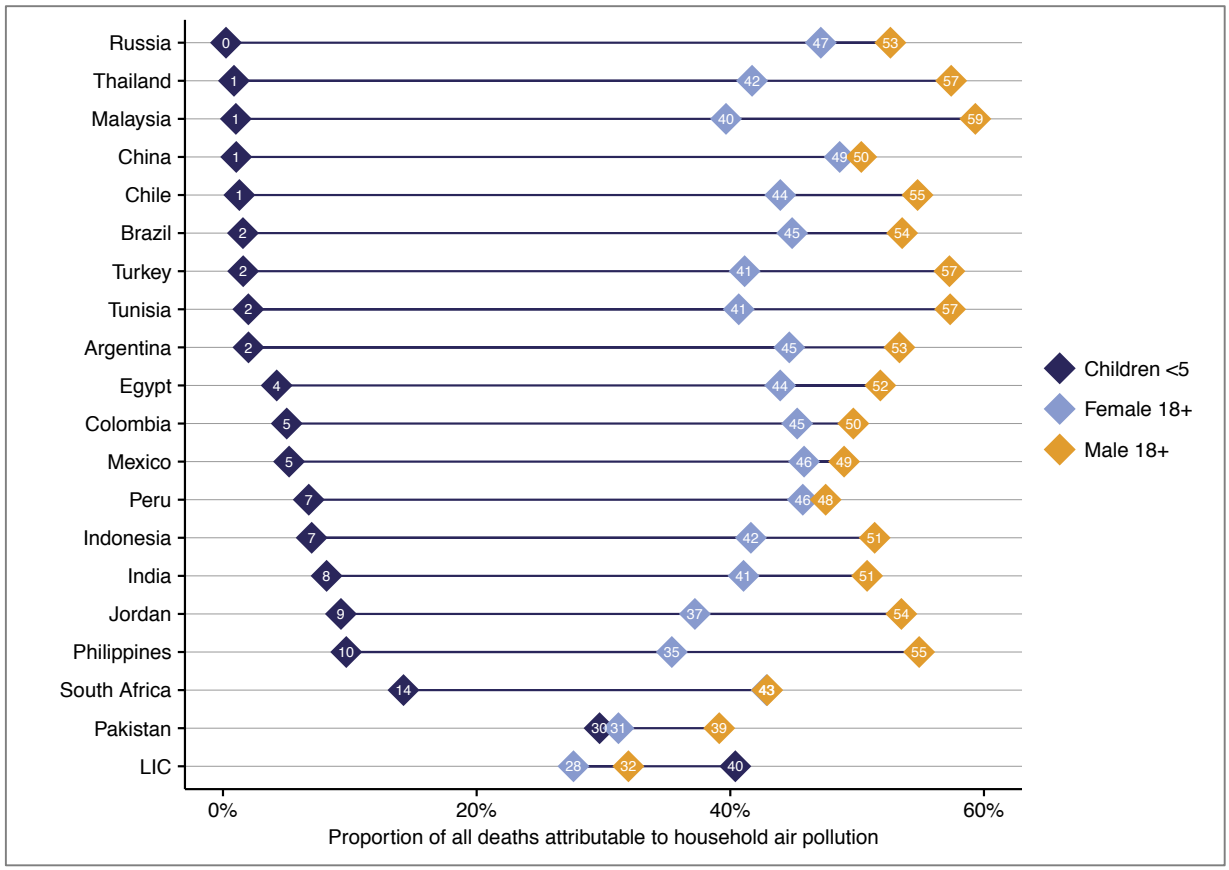
Source: [2]

Figure 2.2.6: Diseases contributing to household air pollution attributable DALYs (proportion of total), 2012



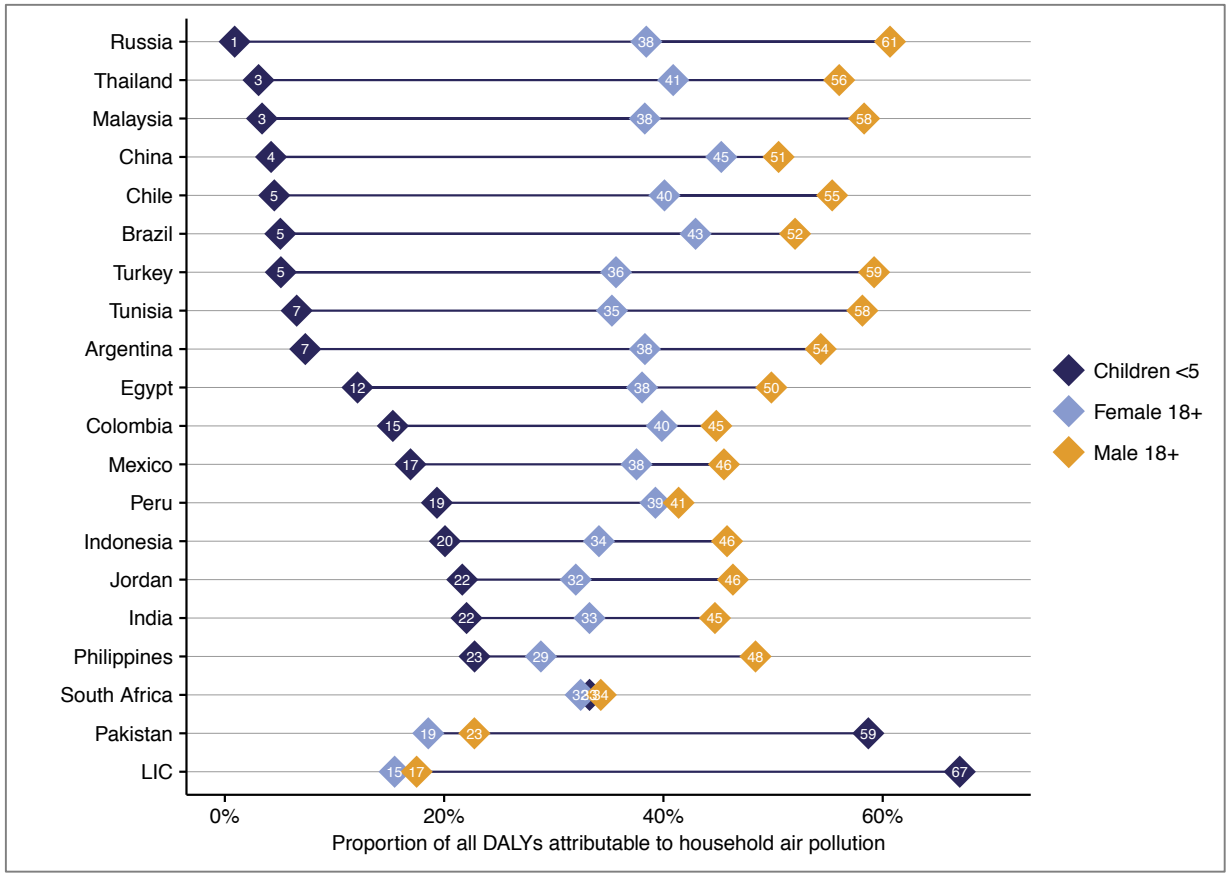
Source: [2]

Figure 2.2.7: Household air pollution attributable deaths; proportional effect on children <5 years, men and women >18 years affected (% of total), 2012



Source: [2]

Figure 2.2.8: Household air pollution attributable DALYs; proportional effect on children <5 years, men and women >18 years affected (% of total), 2012



Source: [2]

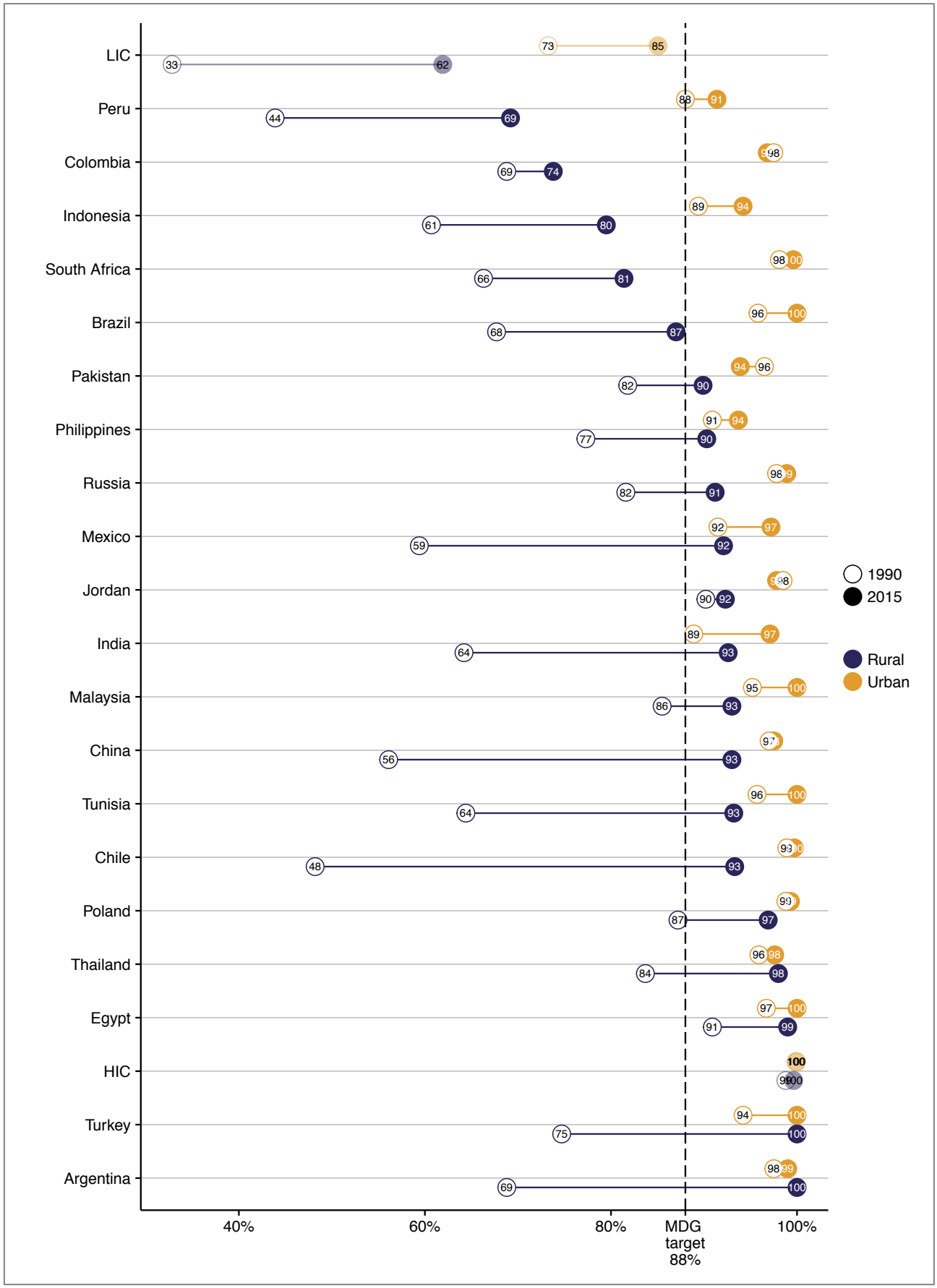
Table 2.2.2: Second-hand smoke attributable deaths and DALYs (per 100,000 population), 2004. Data by WHO region

			Global	HICs	LMICs, African Region	LMICs, Americas	LMICs, SEAR	LMICs, European Region	LMICs, EMR	LMICs, WPR
Second-hand smoke	Deaths	Children <5	27	1	36	11	33	23	50	15
		Adults	9.4	6.5	7.2	3.9	9.8	30.2	12.6	6.8
	DALYs	Children <5	988	66	1279	493	1211	820	1791	626
		Adults	170	56	235	97	217	251	317	117

*SEAR: South East Asia Region, EMR: Eastern Mediterranean Region, WPR: Western Pacific Region
Data not available disaggregated by individual countries.
Source: [2]

2.3 Water, sanitation and hygiene attributable disease

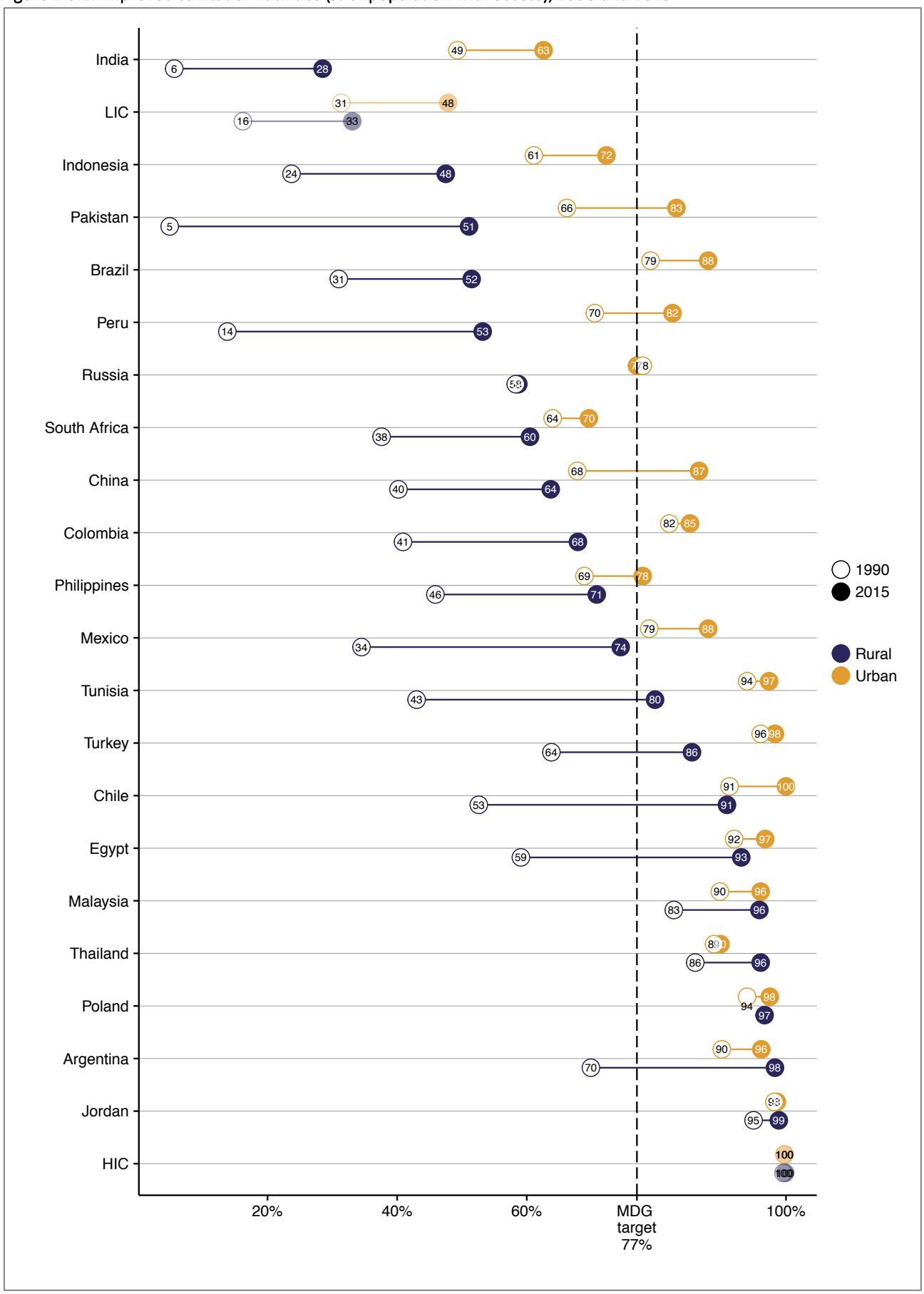
Figure 2.3.1: Improved water source (% of population with access), 1990 and 2015



Improved water source: includes piped water on premises (piped household water connection located inside the user's dwelling, plot or yard), and other improved drinking water sources (public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection).

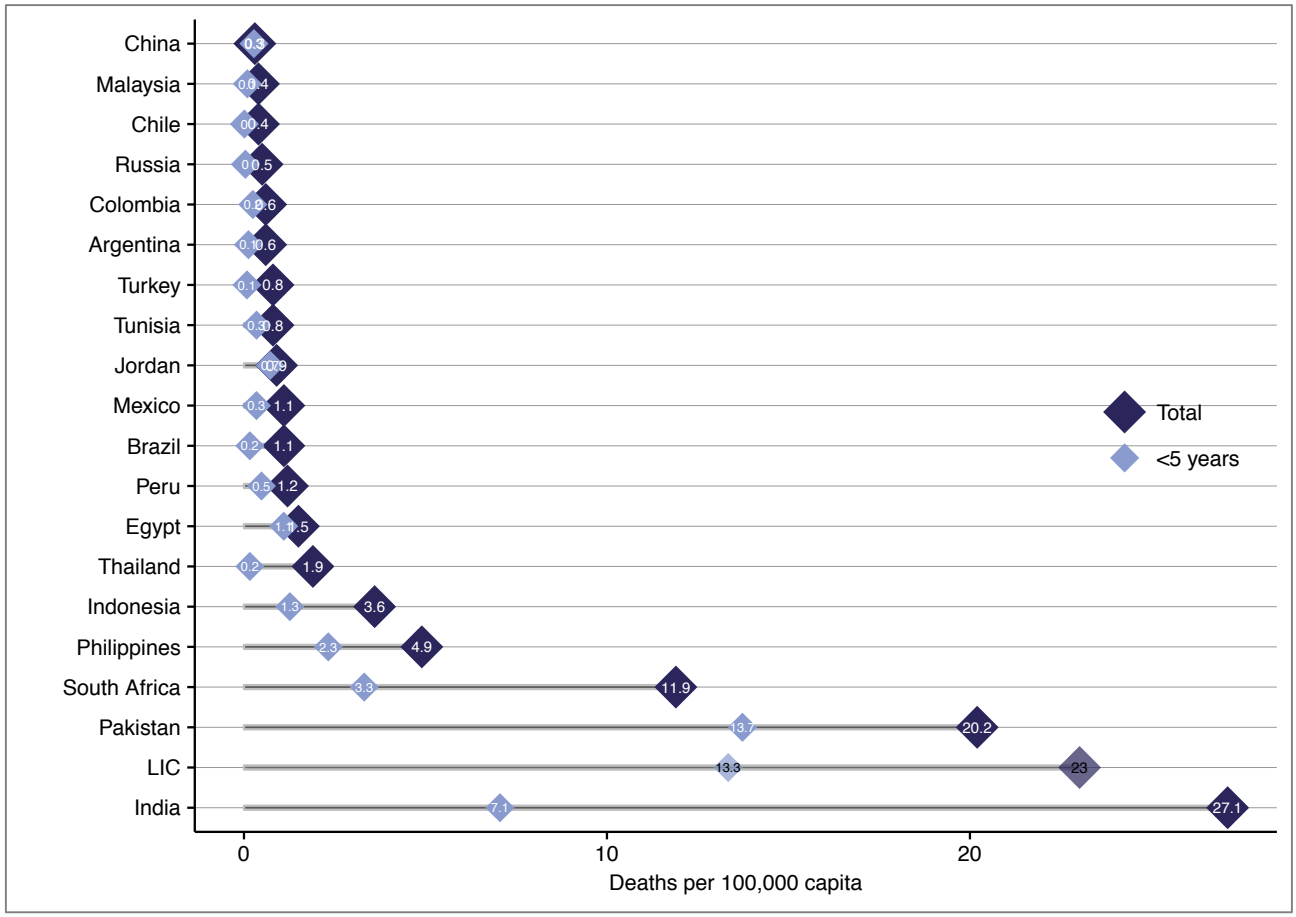
Source: [6]

Figure 2.3.2: Improved sanitation facilities (% of population with access), 1990 and 2015



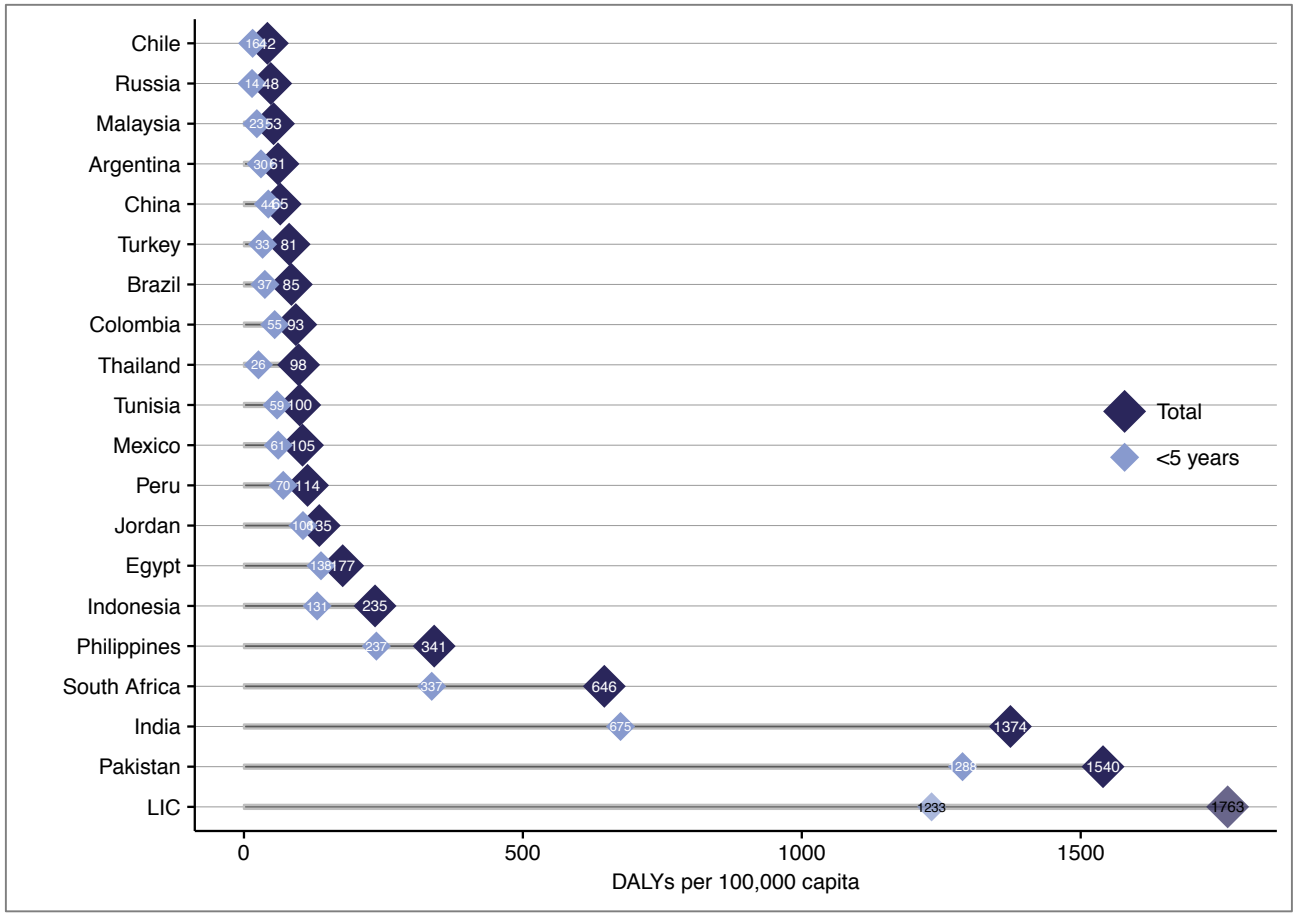
Improved sanitation: includes flush/pour flush (to piped sewer system, septic tank, pit latrine), ventilated improved pit (VIP) latrine, pit latrine with slab, and composting toilet.
Source: [6]

Figure 2.3.3: Water, sanitation and hygiene attributable deaths (per 100,000 population), 2012



Source: [2]

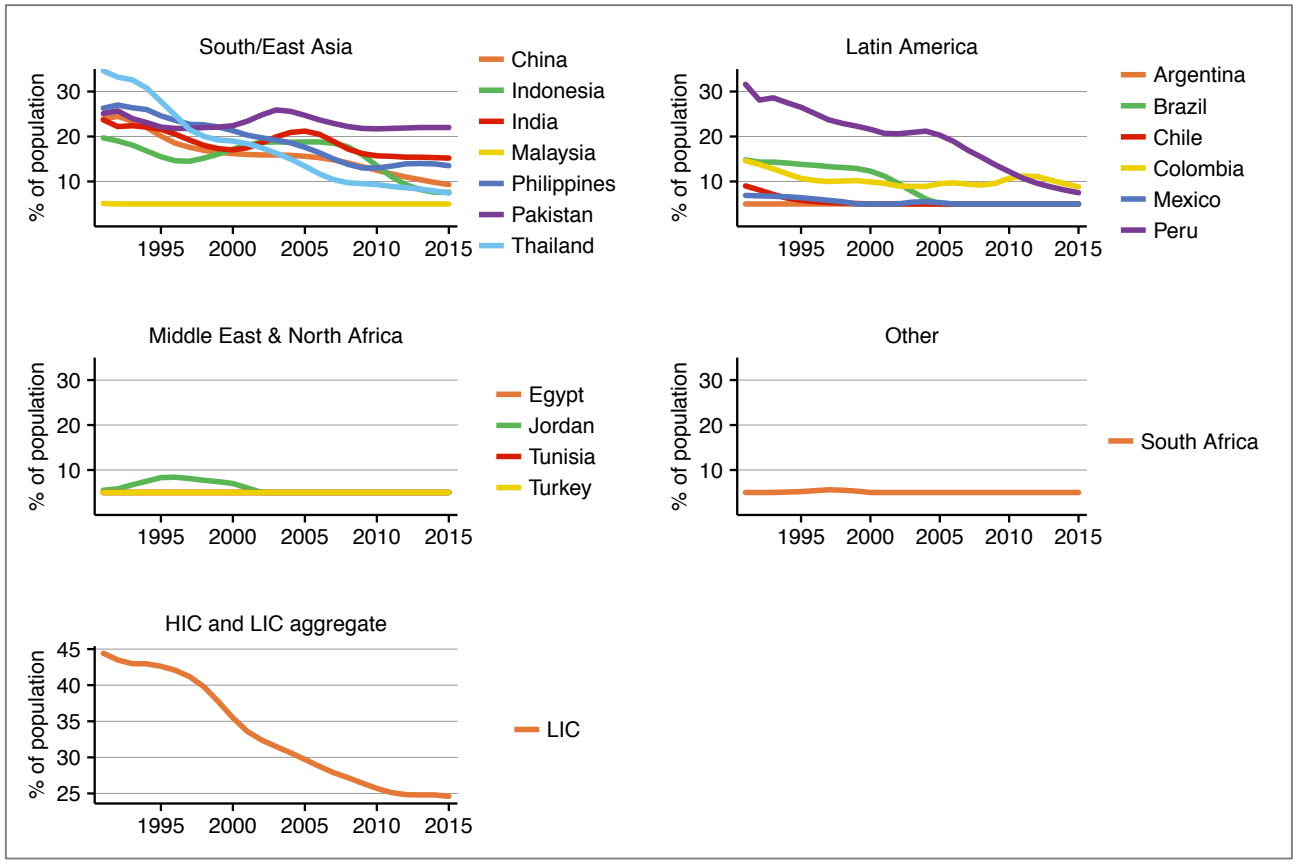
Figure 2.3.4: Water, sanitation and hygiene attributable DALYs (per 100,000 population), 2012



Source: [2]

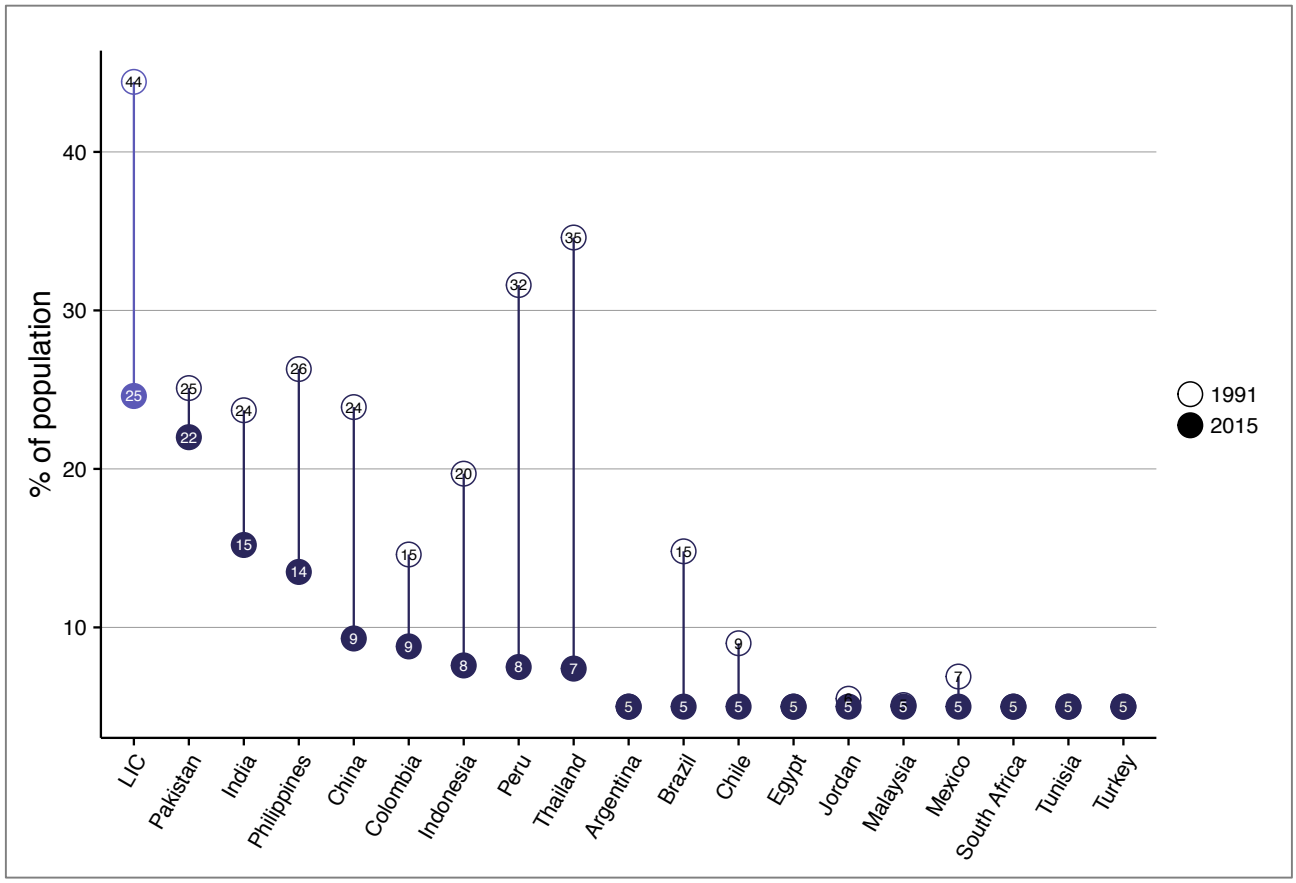
2.4 Nutrition

Figure 2.4.1: Prevalence of undernourishment (% of population), 1990-2015



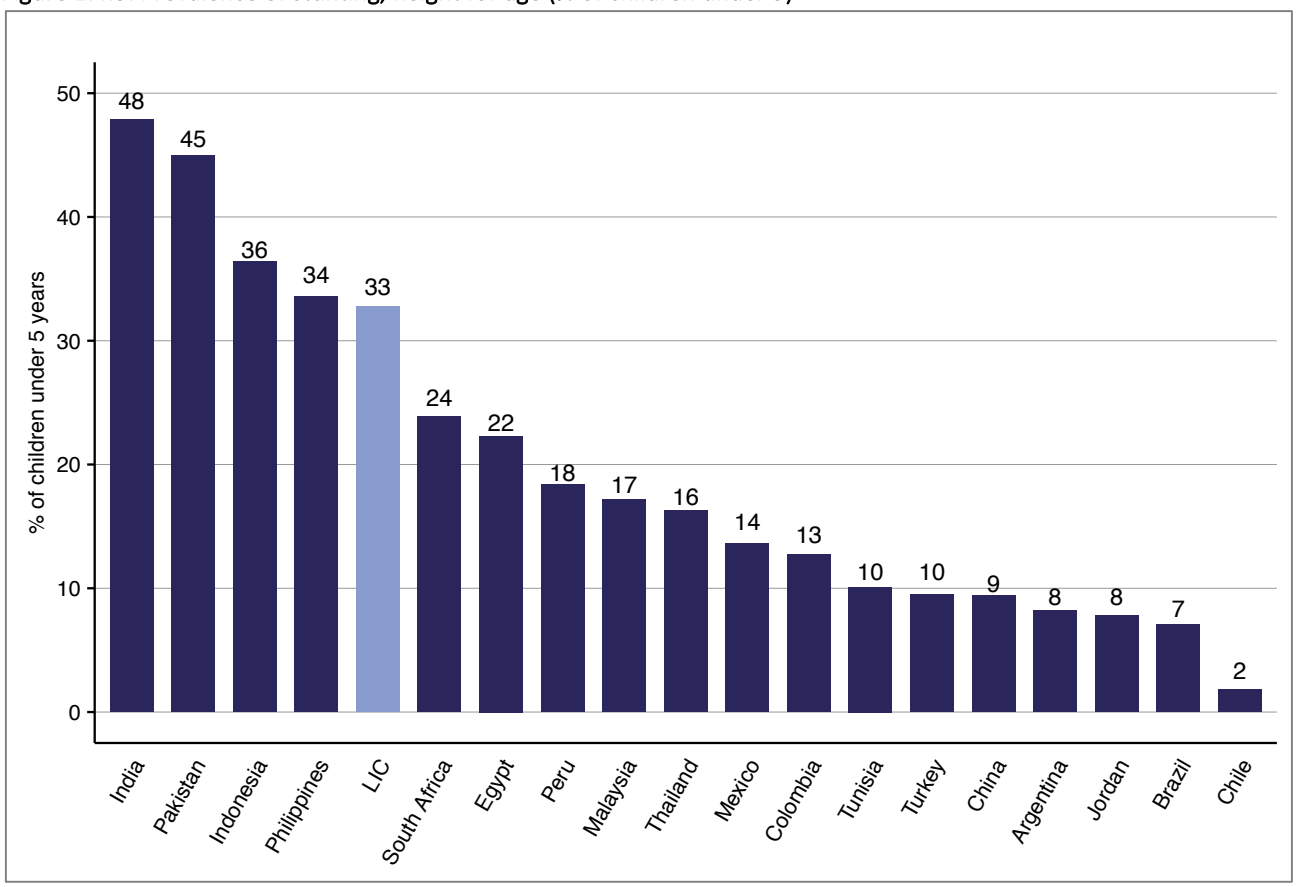
Value shown as 5: prevalence of undernourishment is 5% or below.
Source: [7]

Figure 2.4.2: Prevalence of undernourishment (% of population), change between 1990 and 2015



Value shown as 5: prevalence of undernourishment is 5% or below.
Source: [7]

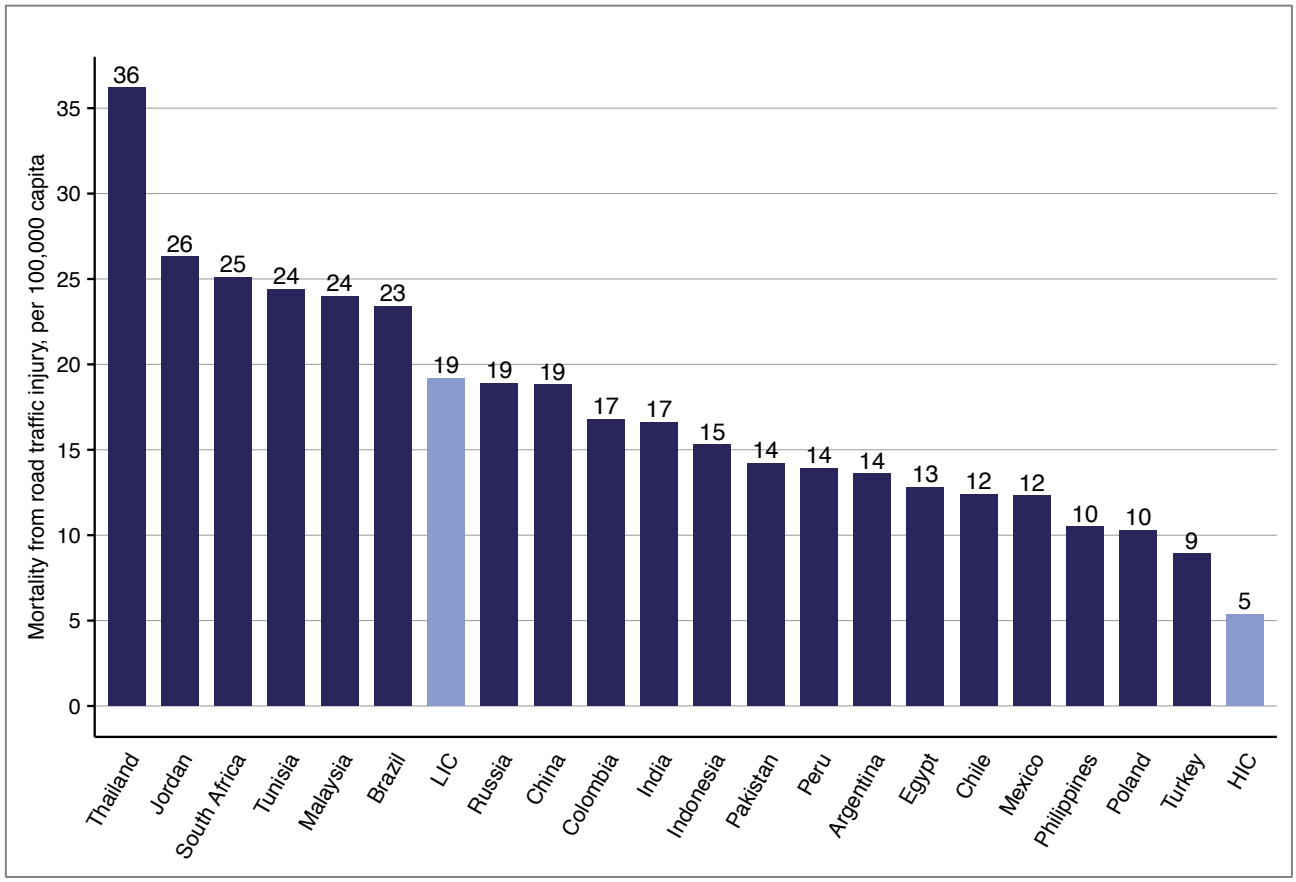
Figure 2.4.3: Prevalence of stunting, height for age (% of children under 5)



Stunting: Height for age more than two standard deviations below the median for the international reference population.
Source: [7]

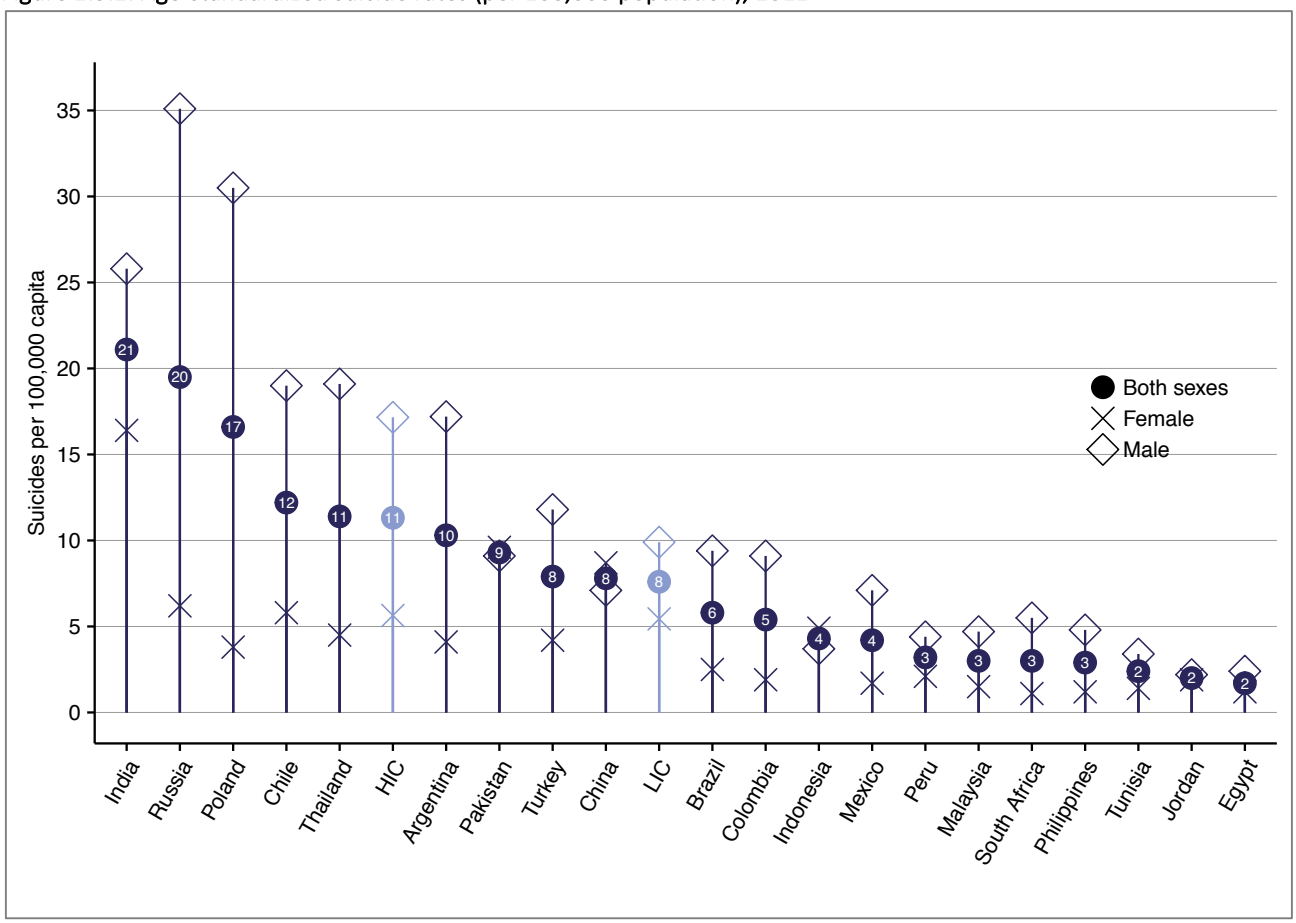
2.5 Injuries and violence

Figure 2.5.1: Mortality caused by road traffic injury (per 100,000 people), 2013



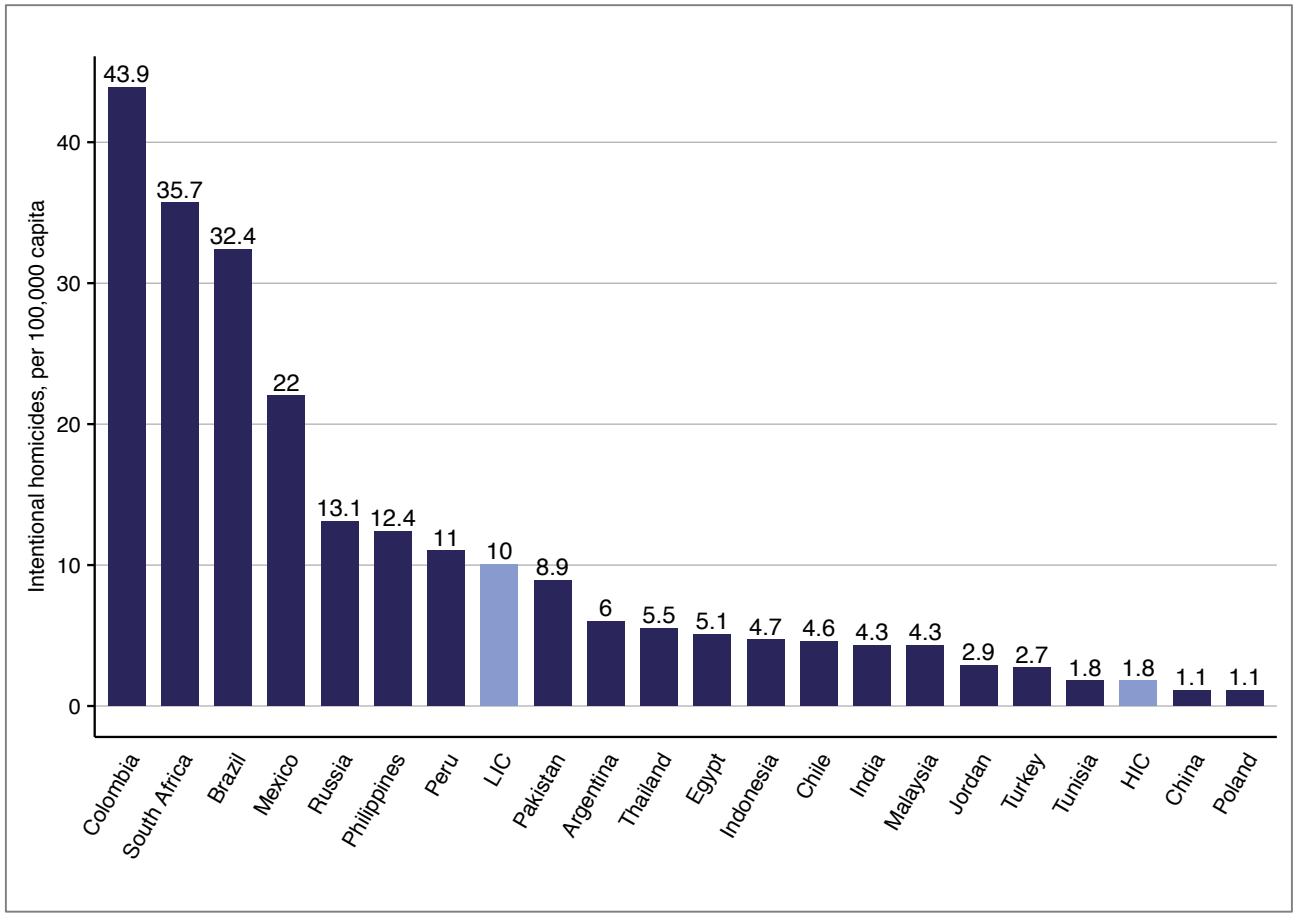
Source: [8]

Figure 2.5.2: Age-standardized suicide rates (per 100,000 population), 2012



Source: [2]

Figure 2.5.3: Intentional homicides (per 100,000 population), 2012



Source: [2]

Table 2.5.1: Violence against women 15-69 years old (%), 2010

Region	Intimate partner violence: physical and/or sexual (%)	Non-partner sexual violence (%)
Low- and middle- income regions		
Africa	36.6	11.9
Americas	35.8	10.7
Eastern Mediterranean	37.0	0
Europe	25.4	5.2
South-East Asia	37.7	4.9
Western Pacific	24.6	6.8
High income	23.2	12.6
World	30.0	7.2

Data not available disaggregated by individual countries.
Source: [2]

2.6 Occupational burden of disease

Table 2.6.1: Occupational risk attributable deaths and DALYs (per 100,000 population), 2004. Data by WHO region

		Global	HICs	LMICs, African Region	LMICs, Americas	LMICs, SEAR	LMICs, European Region	LMICs, EMR	LMICs, WPR
Occupational injuries	Deaths per 100,000	5	4	2	17	3	5	24	1
	DALYs per 100,000	181	137	53	517	98	161	806	44
Occupational airborne particulates	Deaths per 100,000	7	4	4	3	7	6	3	14
	DALYs per 100,000	105	70	76	63	109	89	69	169
Occupational carcinogens	Deaths per 100,000	3	3	0.9	2	2	6	1	4
	DALYs per 100,000	30	27	12	18	23	66	16	44
Occupational ergonomic stressors	Deaths per 100,000	0.01	0.02	0.06	0.01	0.00	0.02	0.01	0.00
	DALYs per 100,000	14	8	14	11	16	15	12	17
Occupational noise	DALYs per 100,000	70	39	52	35	95	85	65	83

*SEAR: South East Asia Region, EMR: Eastern Mediterranean Region, WPR: Western Pacific Region
Data not available disaggregated by individual countries.
Source: [2]

2.7 Climate change burden of disease

Table 2.7.1: Climate change attributable deaths and DALYs (per 100,000 population), 2004. Data by WHO region

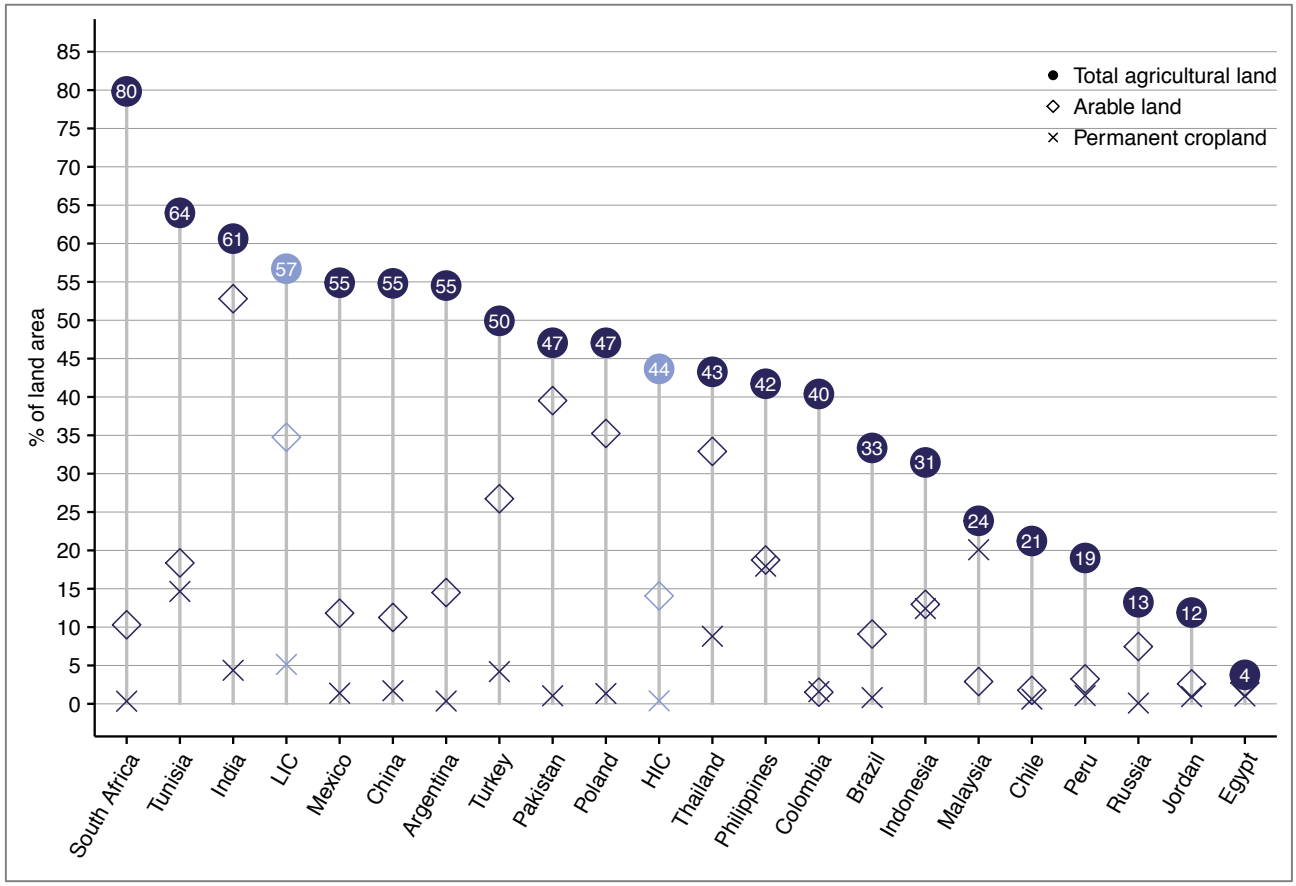
			Global	HICs	LMICs, African Region	LMICs, Americas	LMICs, SEAR	LMICs, European Region	LMICs, EMR	LMICs, WPR
Climate change	Deaths	Children <5	19	0.13	39	1	29	2	26	3
		Adults	2	0.02	8	0.32	3	0.15	4	0.27
	DALYs	Children <5	757	6	1456	50	1190	72	979	93
		Adults	84	2	278	15	139	6	149	12

*SEAR: South East Asia Region, EMR: Eastern Mediterranean Region, WPR: Western Pacific Region
Data not available disaggregated by individual countries.
Source: [2]

3. Environment

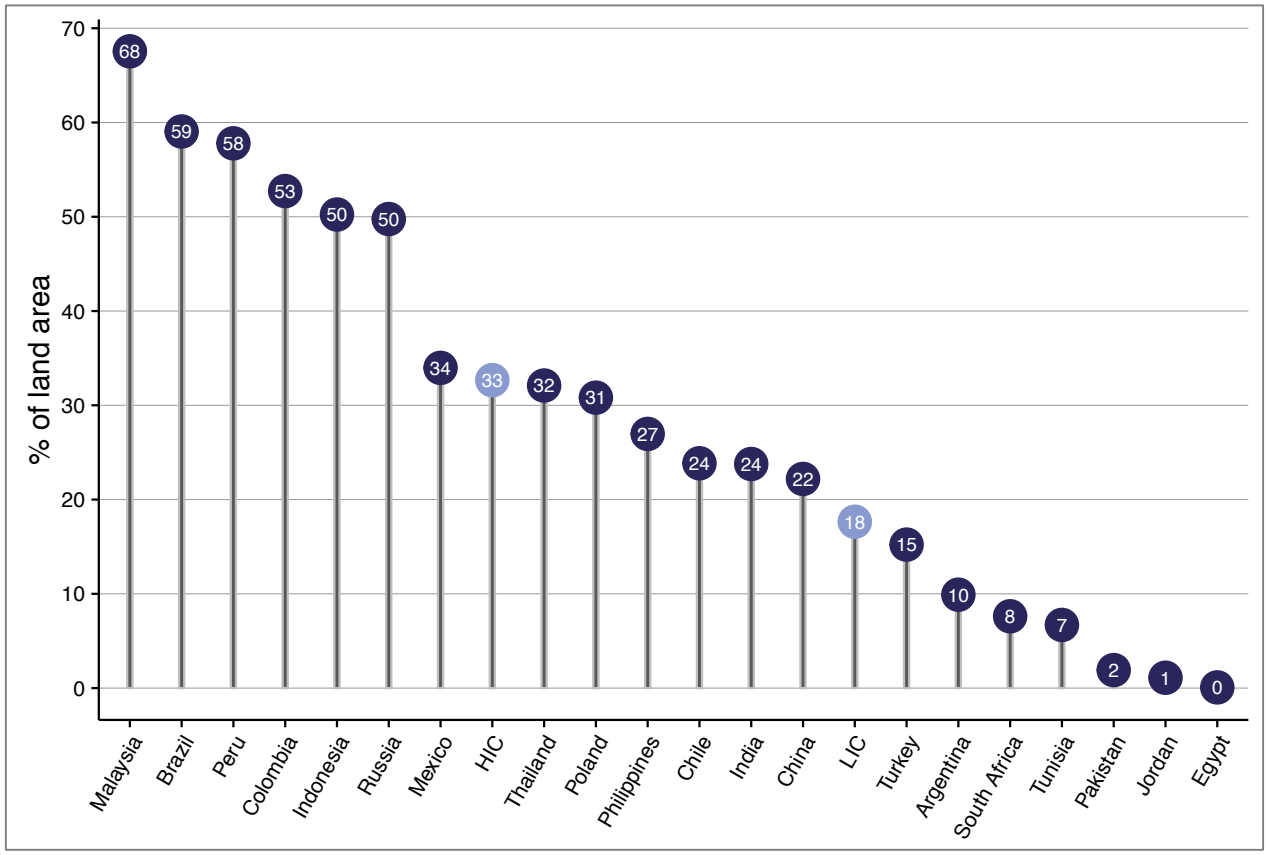
3.1 Land and water

Figure 3.1.1: Total agricultural land, arable land, permanent crops land (% of land area), 2013



Source: [9]

Figure 3.1.2: Forest area (% of land area), 2015



Source: [9]

Table 3.1.1: Total forest area (square kilometres, thousands), Average annual deforestation (%), 1990-2015

Country	Forest area (sq. km, thousands)		Average annual deforestation (%)	
	1990	2015	1990-2000	2000-2015
Argentina	348	271	0.88	1.07
Brazil	5,467	4,935	0.48	0.36
Chile	153	177	-0.37	-0.76
China	1,571	2,083	-1.20	-1.09
Colombia	644	585	0.41	0.36
Egypt	0	1	-2.98	-1.43
India	639	707	-0.22	-0.52
Indonesia	1,185	910	1.75	0.59
Jordan	1	1	0.00	0.00
Malaysia	224	222	0.36	-0.18
Mexico	698	660	0.28	0.18
Pakistan	25	15	1.76	2.39
Peru	779	740	0.23	0.19
Philippines	66	80	-0.70	-0.90
Poland	89	94	-0.20	-0.27
Russia	8,090	8,149	0.00	-0.05
South Africa	92	92	0.00	0.00
Thailand	140	164	-1.96	0.24
Tunisia	6	10	-2.67	-1.46
Turkey	96	117	-0.57	-0.94

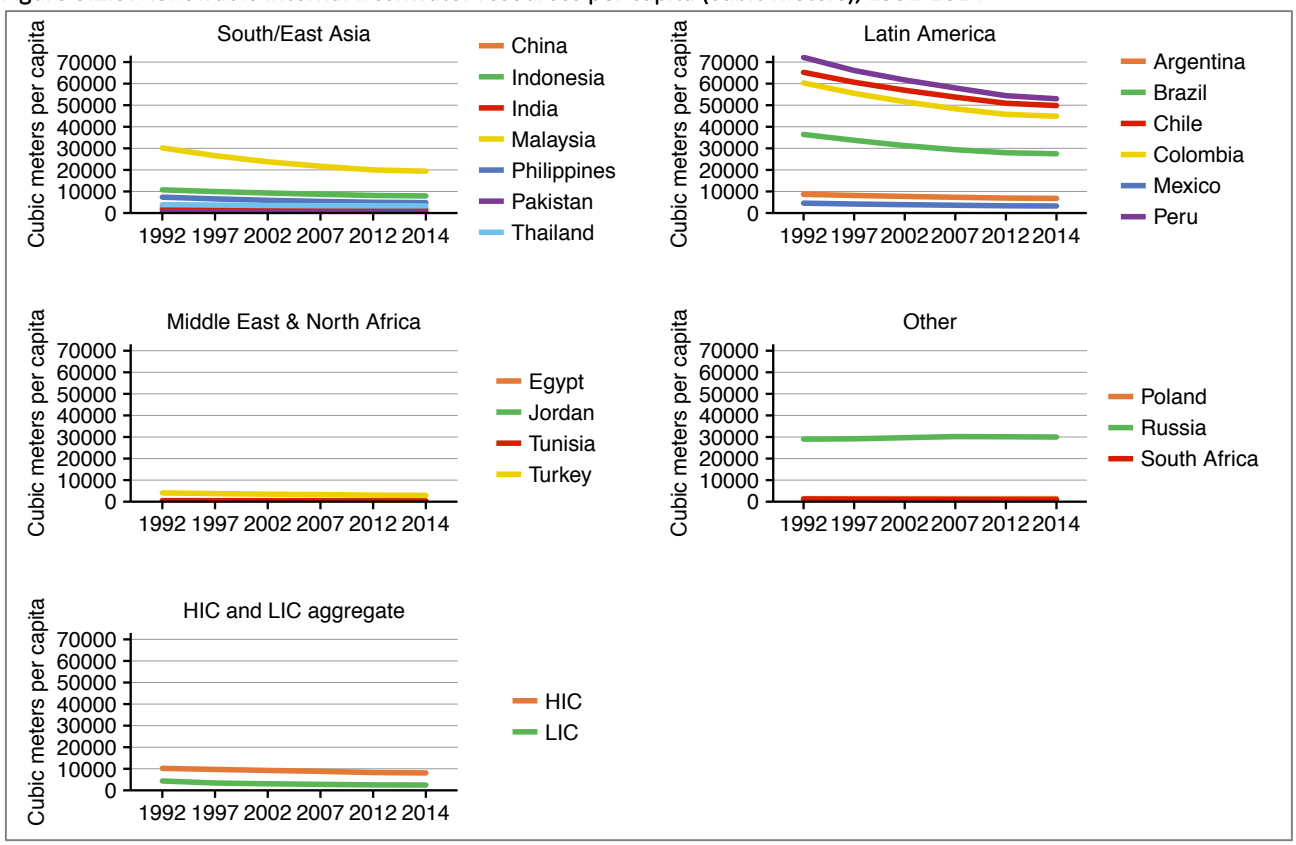
Source: [10]

Table 3.1.2: Protected areas, annual freshwater withdrawals and water productivity, 2014

Country	Terrestrial and marine protected areas (% of total territorial area)	Annual freshwater withdrawals (% of internal resources)	2010 US$ GDP per m^3 of total freshwater withdrawal
Argentina	5.4	12.9	11.8
Brazil	20.4	1.3	32.2
Chile	6.8	4.0	7.3
China	15.6	21.6	14.9
Colombia	17.4	0.5	29.6
Egypt	9.6	4333.3	3.5
Indonesia	6.0	5.6	8.3
India	3.1	52.6	2.9
Jordan	2.1	138.0	31.3
Mexico	6.0	19.6	14.7
Malaysia	8.0	1.9	28.1
Pakistan	8.6	333.6	1.1
Peru	19.4	0.8	13.3
Philippines	2.4	17.0	3.1
Poland	29.3	21.4	46.6
Russia	8.8	1.4	25.4
Thailand	12.5	25.5	6.7
Tunisia	3.7	78.8	14.1
Turkey	0.2	18.5	21.7
South Africa	10.2	34.6	32.9
HIC	13.9	10.2	144.2
LIC	10.9	12.3	11.7

Source: [11-13]

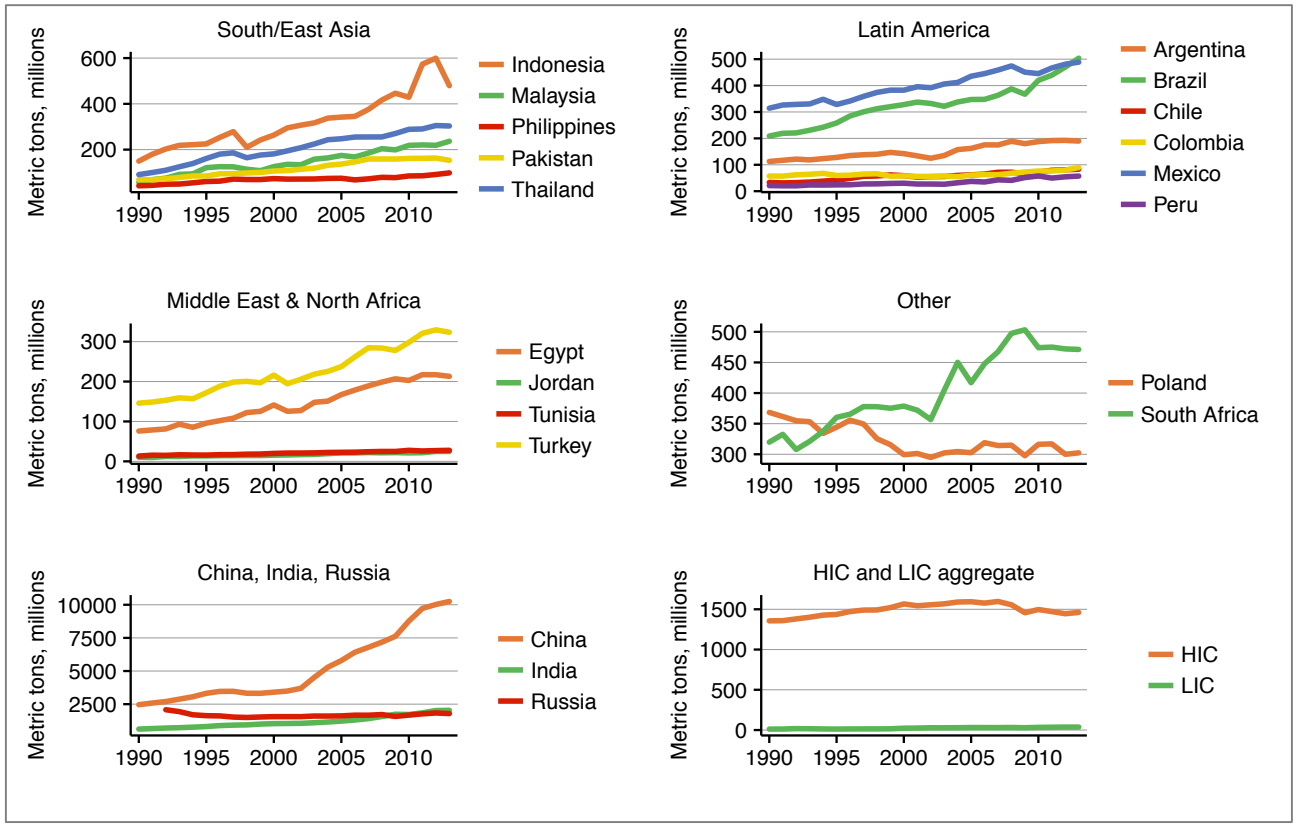
Figure 3.1.3: Renewable internal freshwater resources per capita (cubic meters), 1992-2014



Source: [12]

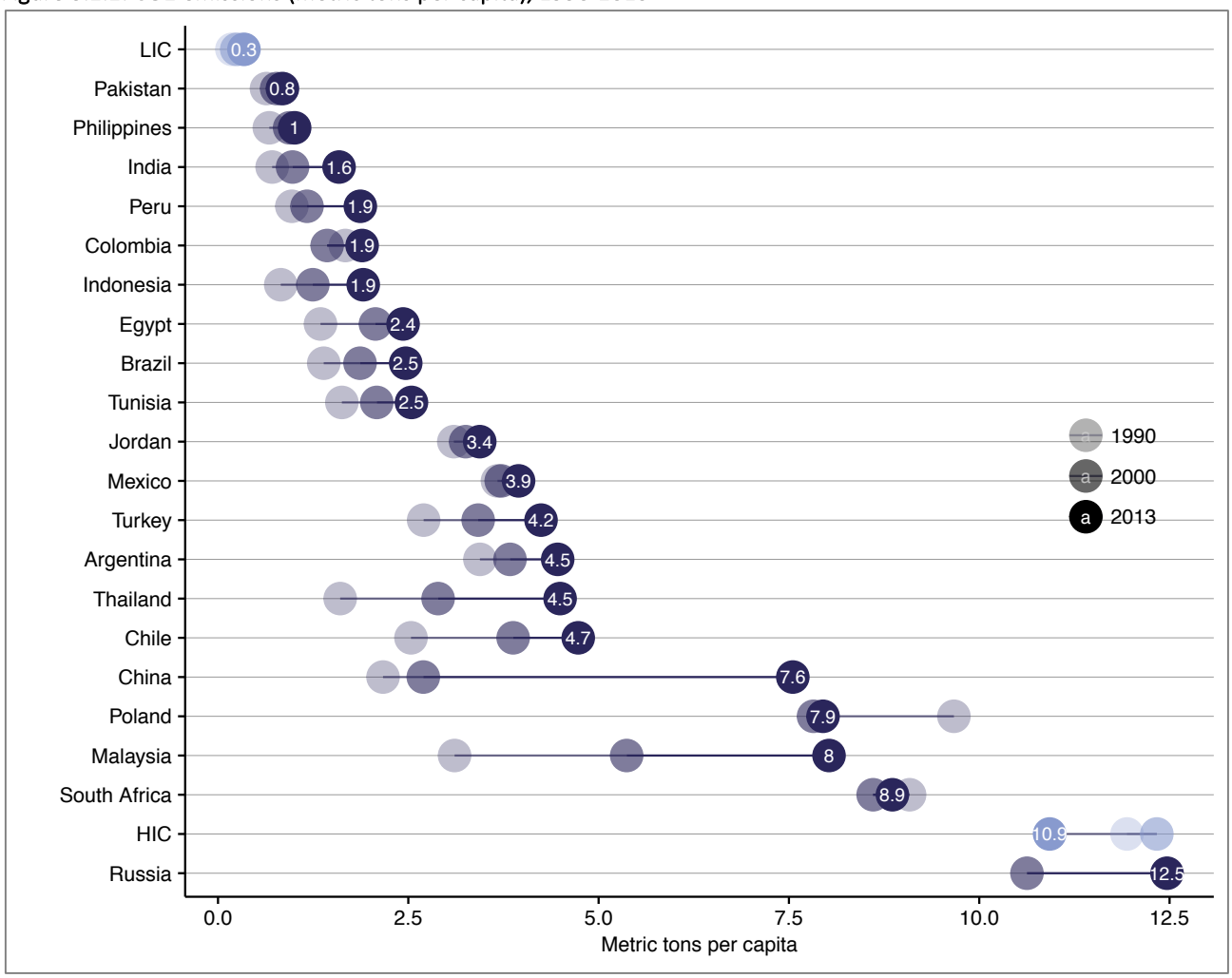
3.2 Climate

Figure 3.2.1: Carbon dioxide (CO2) emissions (million metric tons), 1990-2013



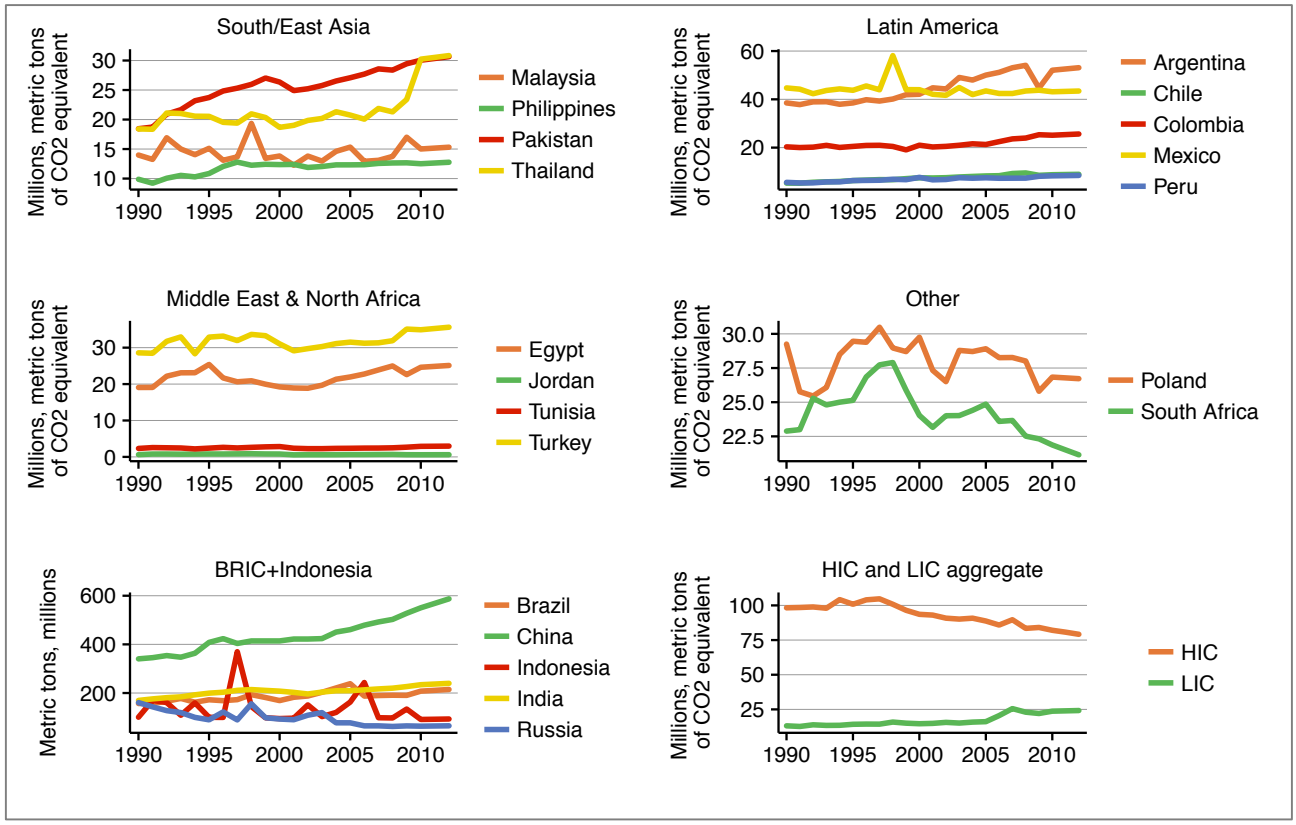
Source: [14]

Figure 3.2.2: CO2 emissions (metric tons per capita), 1990-2013



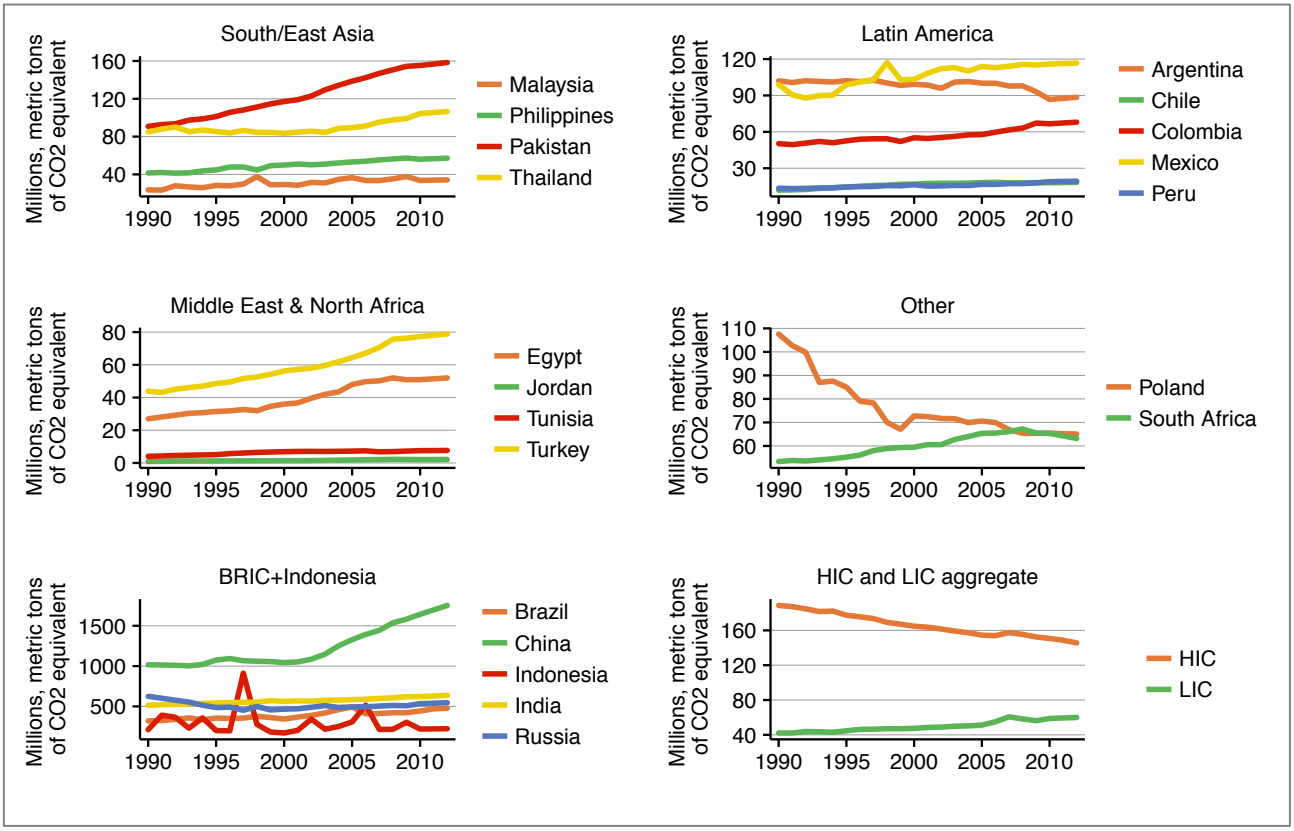
Source: [14]

Figure 3.2.3: Nitrous oxide emissions (million metric tons of CO2 equivalent), 1990-2012



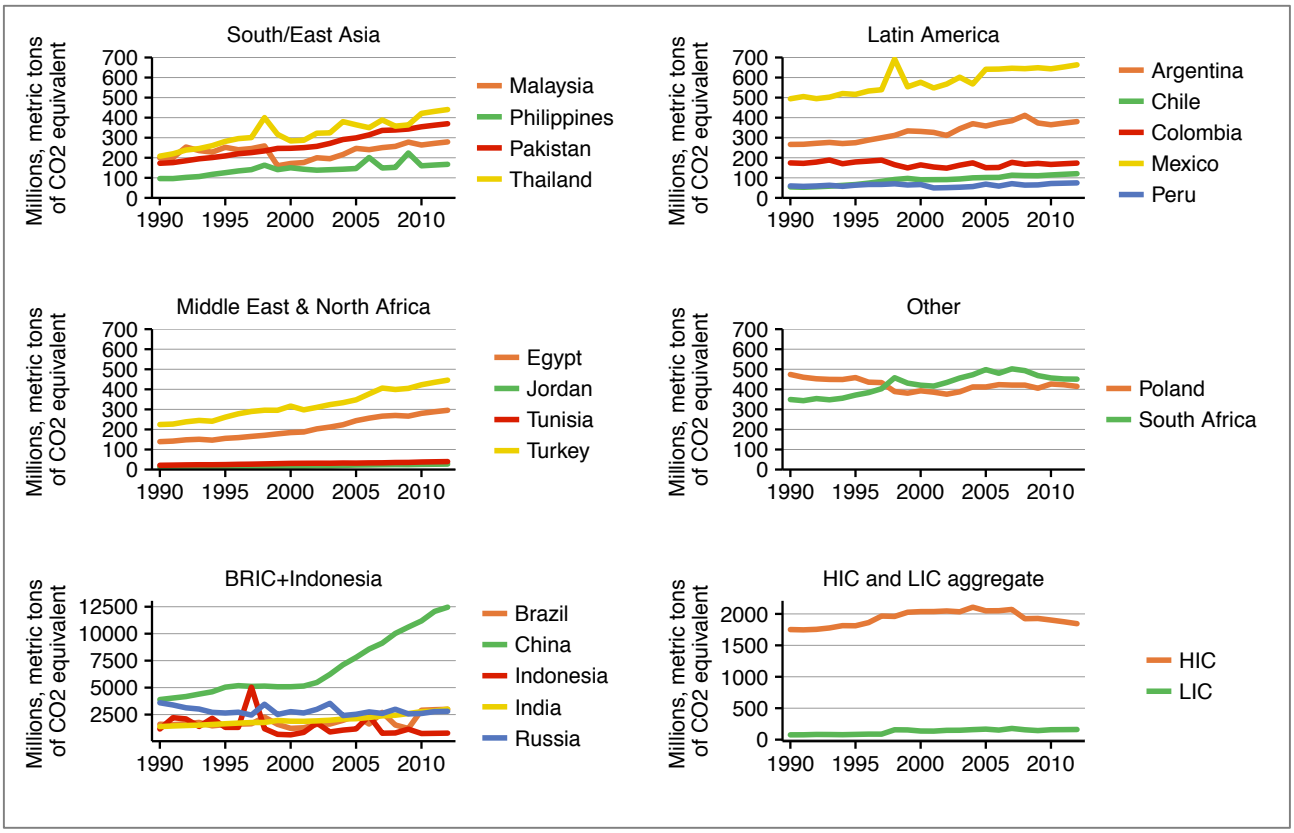
Source: [15]

Figure 3.2.4: Methane emissions (million metric tons of CO2 equivalent), 1990-2012



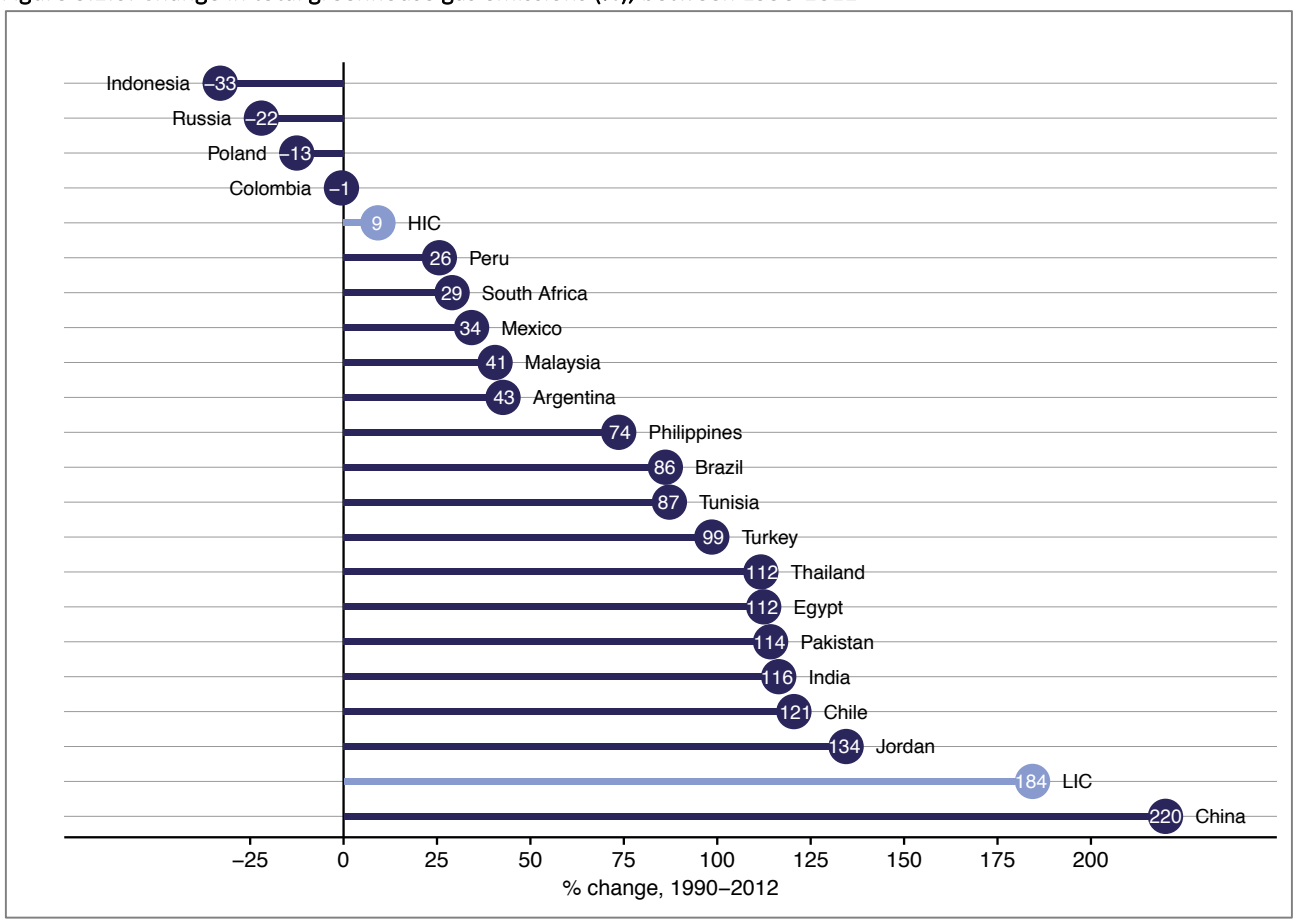
Source: [15]

Figure 3.2.5: Total greenhouse gas emissions (million metric tons of CO2 equivalent), 1990-2012



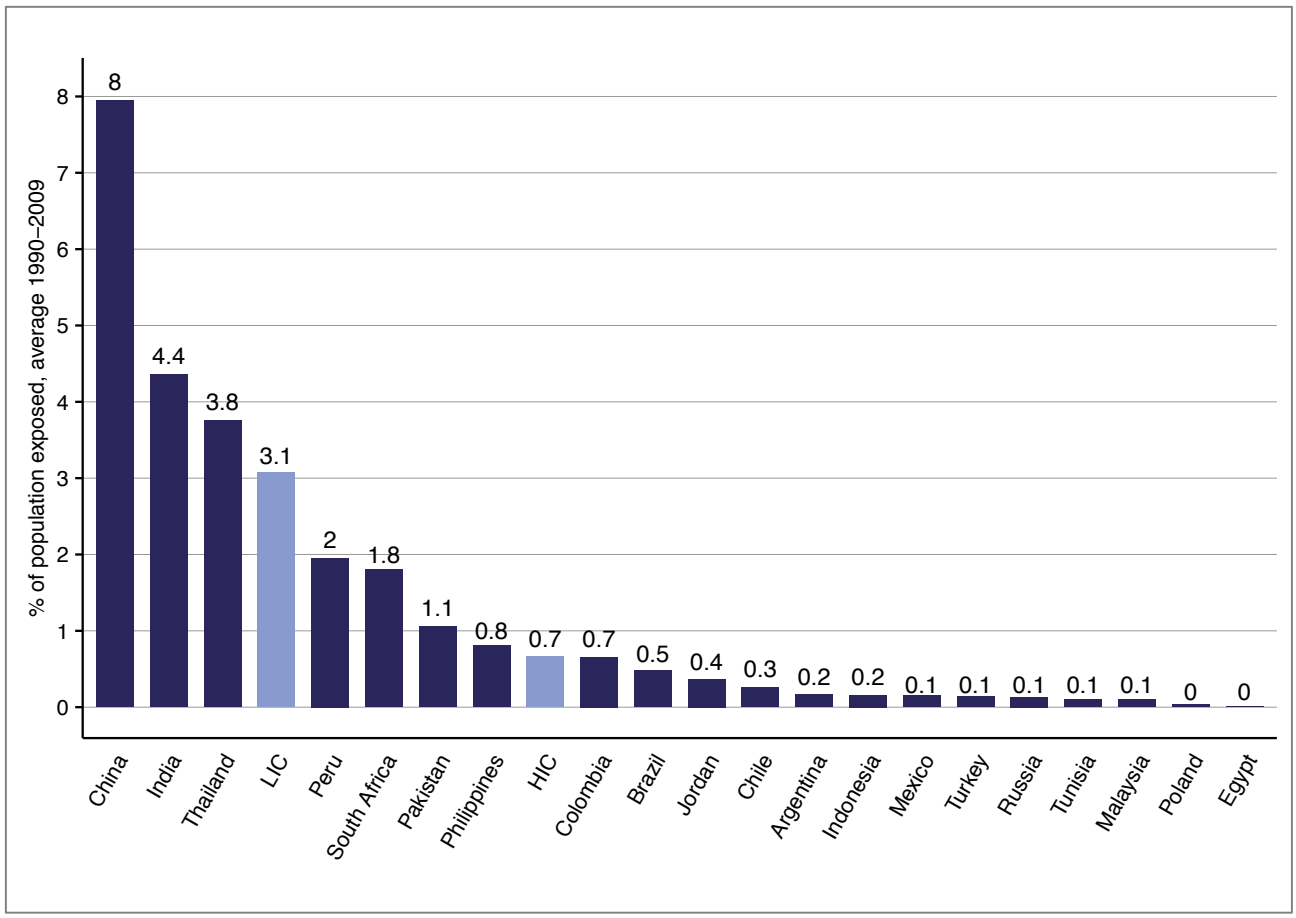
Total greenhouse gas emissions include: CO2 totals excluding short-cycle biomass burning (such as agricultural waste burning and Savannah burning) but including other biomass burning (such as forest fires, post-burn decay, peat fires and decay of drained peatlands), all anthropogenic CH4 sources, N2O sources and F-gases (HFCs, PFCs and SF6).
Source: [15]

Figure 3.2.6: Change in total greenhouse gas emissions (%), between 1990-2012



Source: [15]

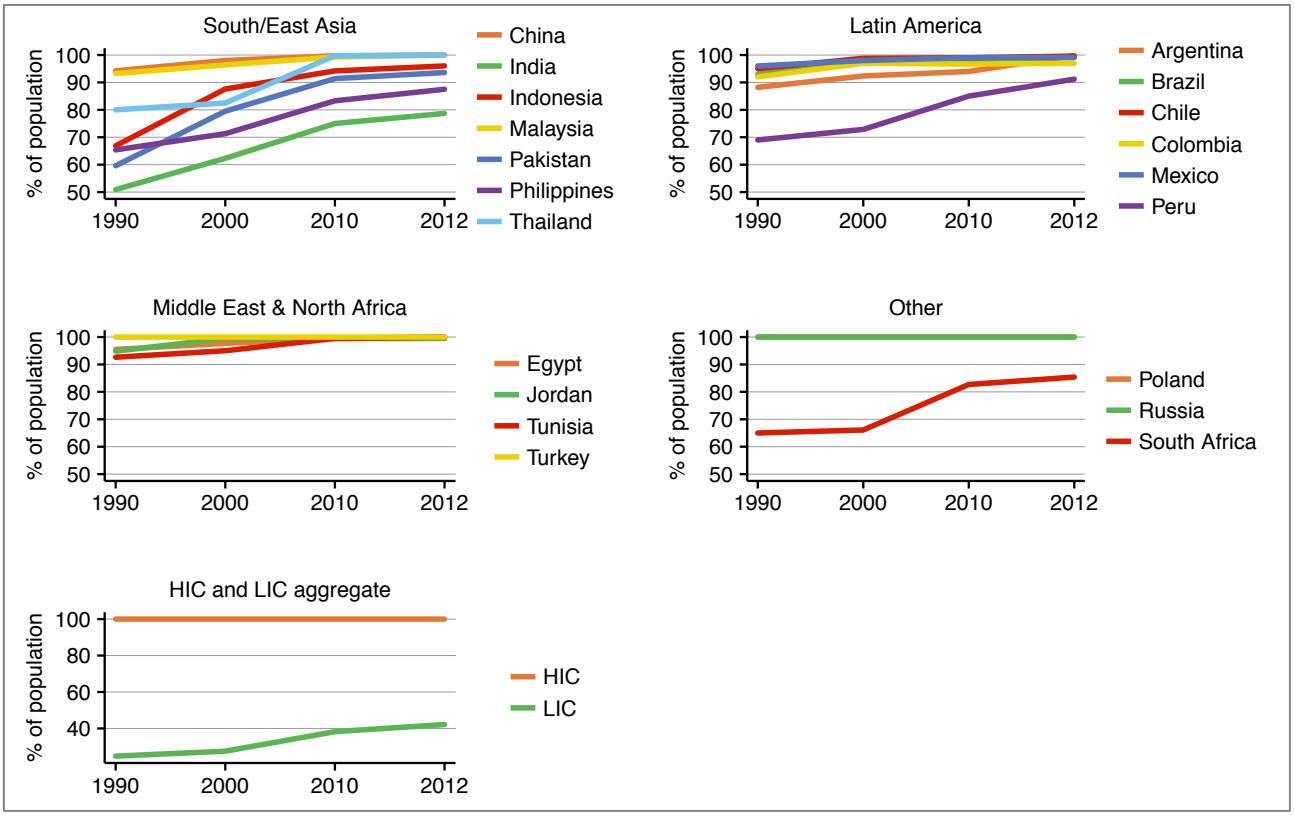
Figure 3.2.7: Droughts, floods, extreme temperatures (% of population exposed), average 1990-2009



Source: [16]

3.3 Energy

Figure 3.3.1: Access to electricity (% of population), 1990-2012



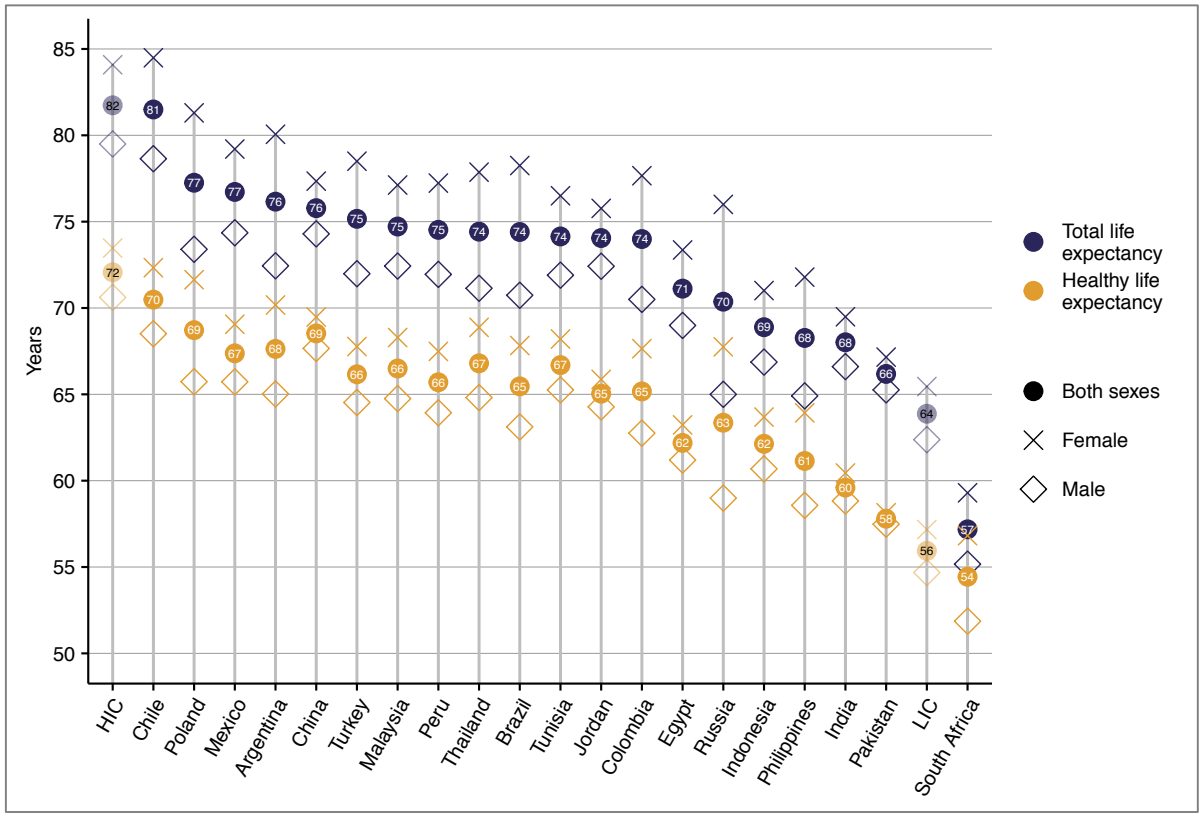
Source: [5]

4. Health and healthcare indicators

4.1 Life expectancy and mortality

Figure 4.1.1: Total life expectancy and healthy life expectancy at birth (total years)

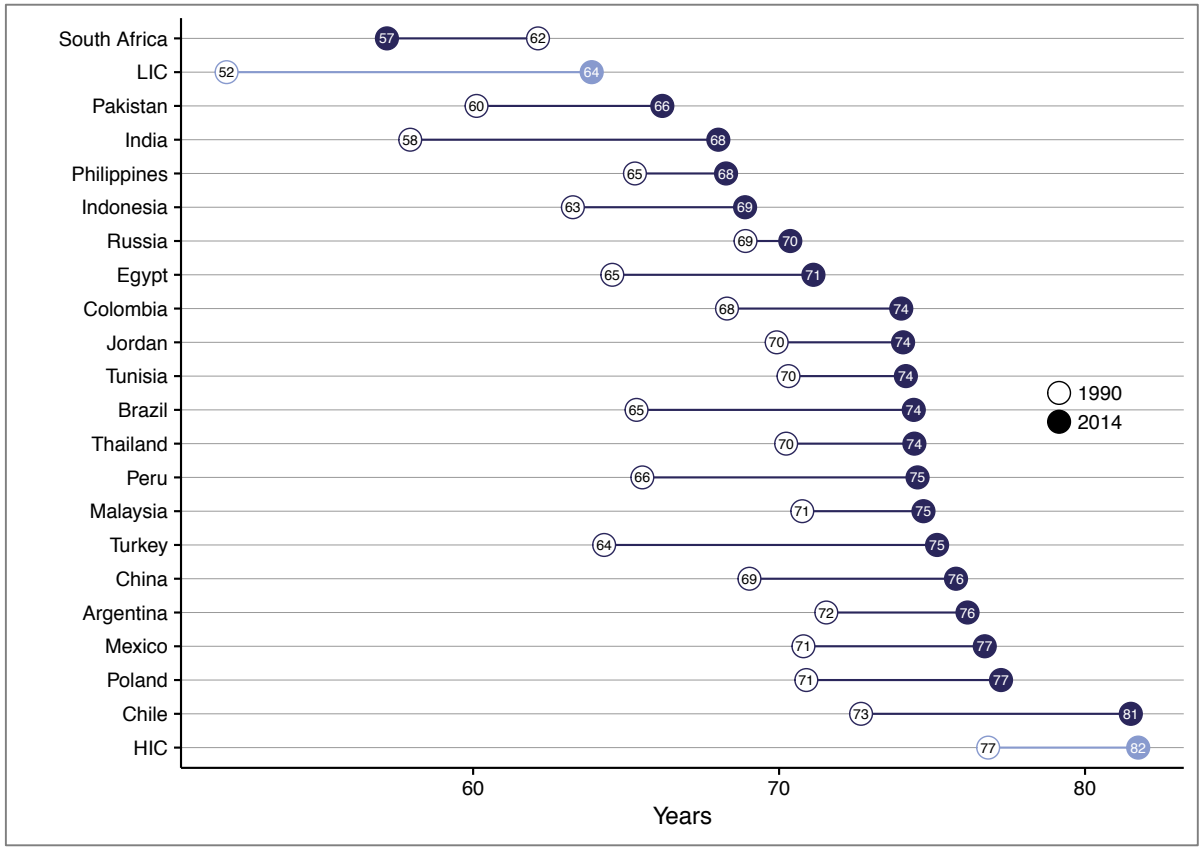
Data from 2014 (Total life expectancy), 2015 (healthy life expectancy)



Healthy life expectancy: "Average number of years that a person can expect to live in "full health" by taking into account years lived in less than full health due to disease and/or injury."

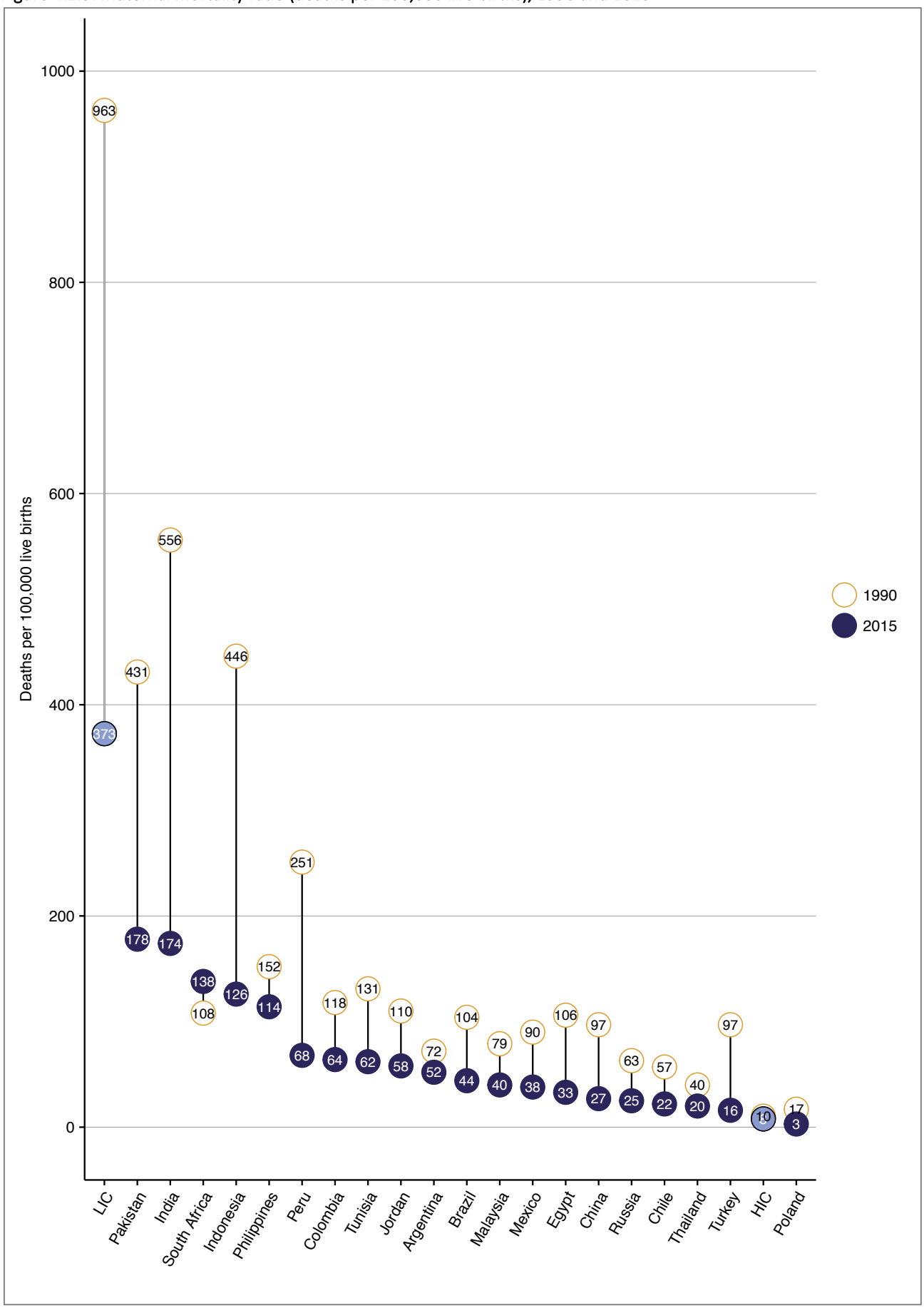
Sources: Healthy life expectancy data [2], Total life expectancy data [17]

Figure 4.1.2: Life expectancy at birth, 1990 and 2014



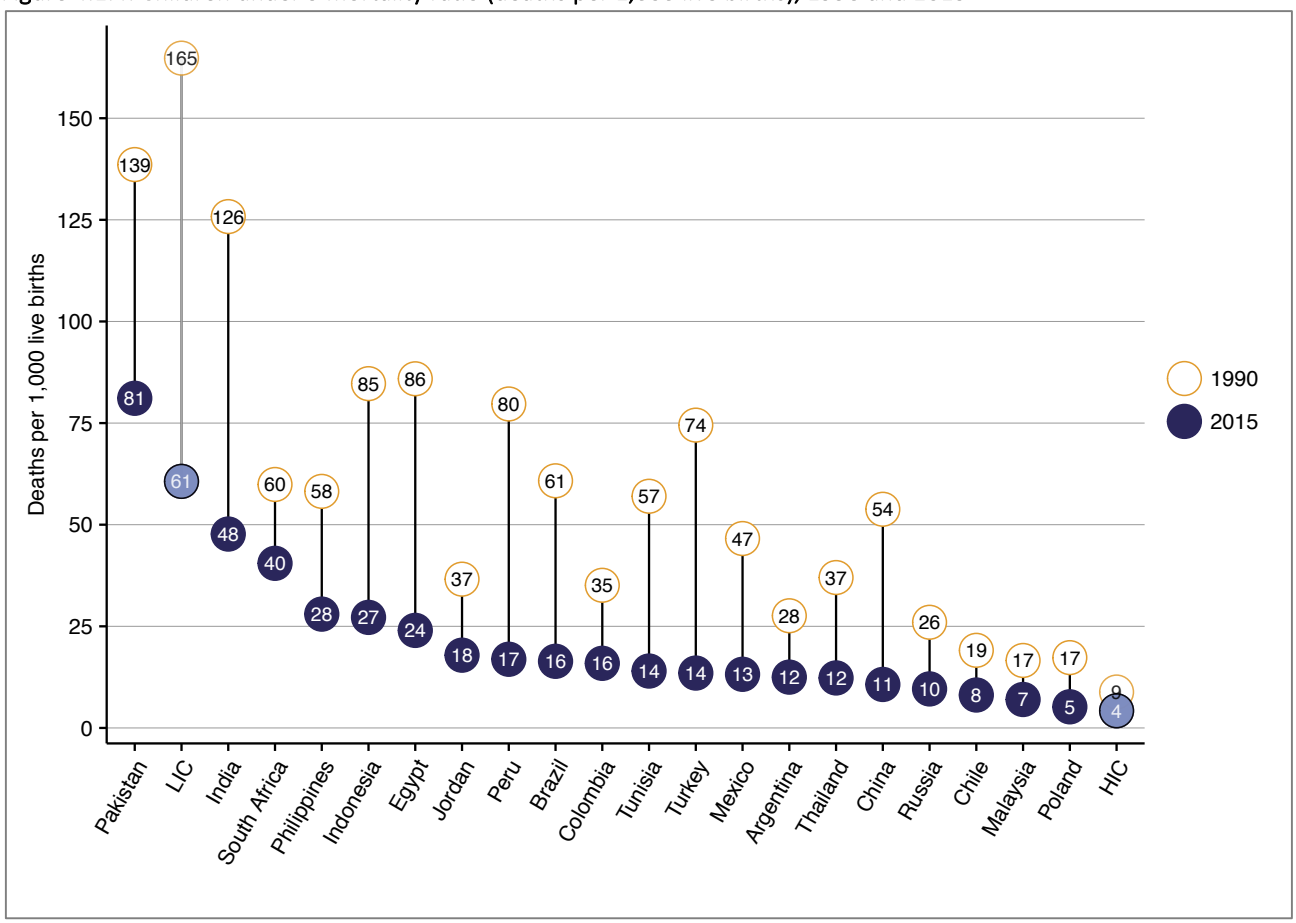
Source: [17]

Figure 4.1.3: Maternal mortality ratio (deaths per 100,000 live births), 1990 and 2015



Source: [18]

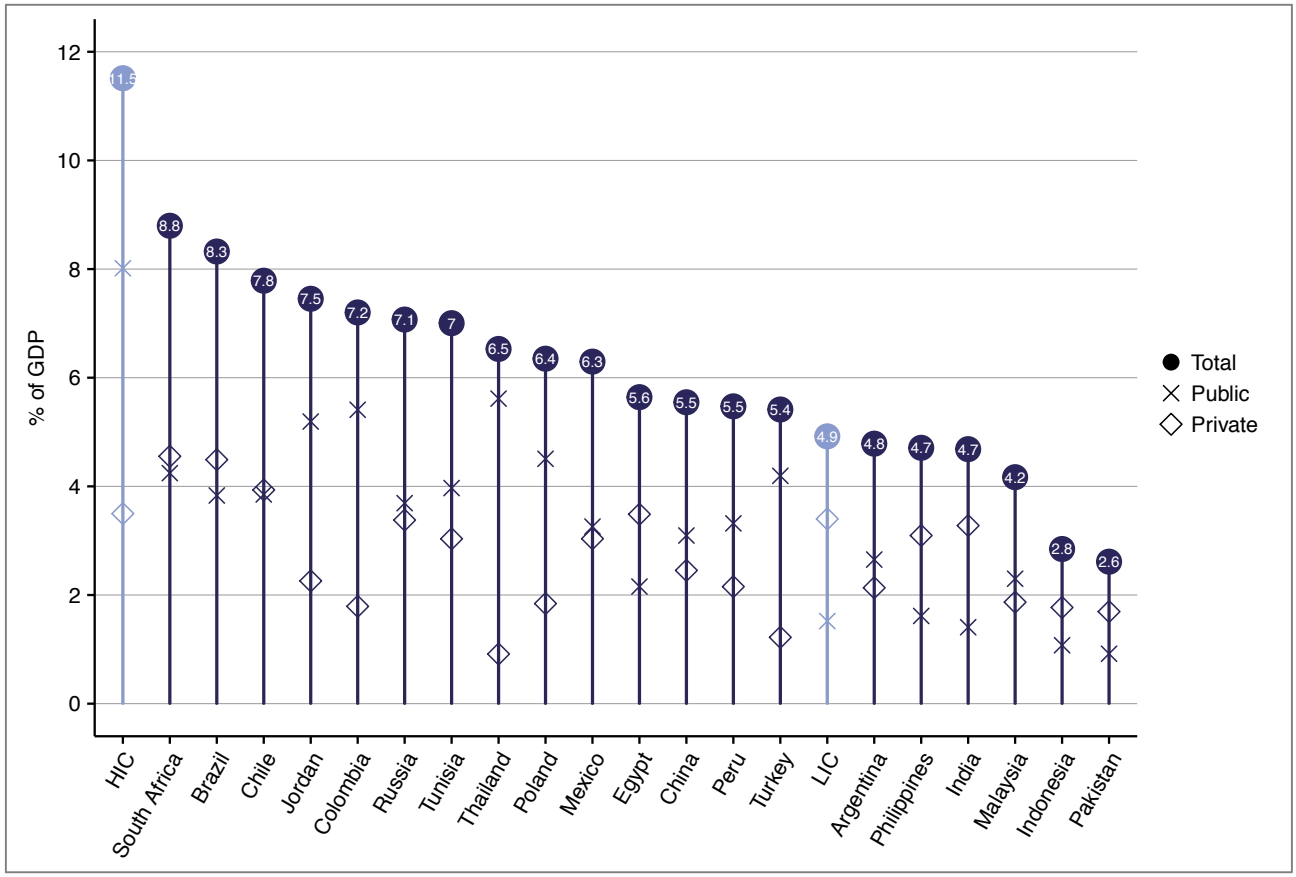
Figure 4.1.4: Children under 5 mortality ratio (deaths per 1,000 live births), 1990 and 2015



Source: [19]

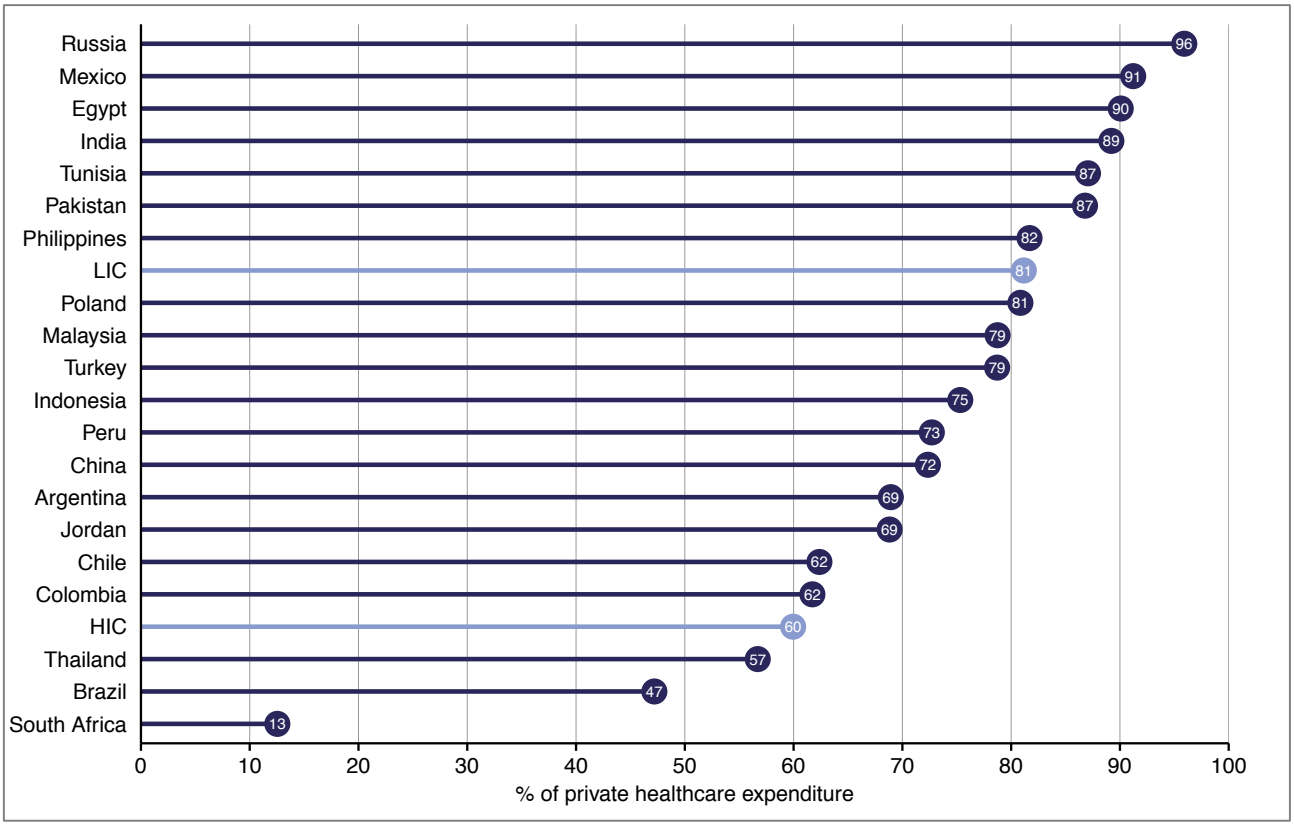
4.2 Healthcare expenditure

Figure 4.2.1: Healthcare expenditure (% of GDP), 2014



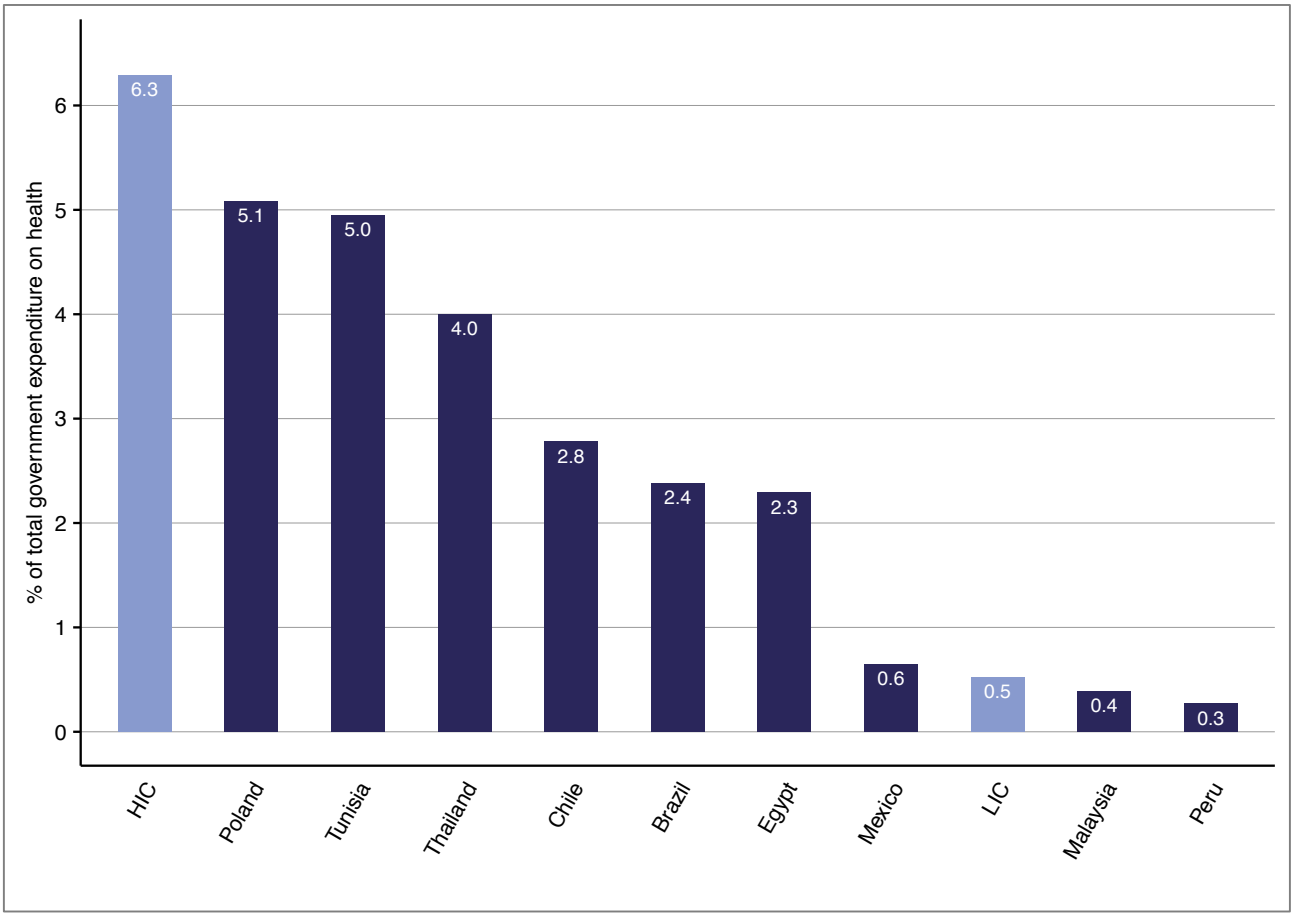
Source: [20]

Figure 4.2.2: Out-of-pocket health expenditure (% of total expenditure on health), 2014



Out-of-pocket healthcare expenditure: "any direct outlay by households, including gratuities and in-kind payments, to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services whose primary intent is to contribute to the restoration or enhancement of the health status of individuals or population groups."
Source: [20]

Figure 4.2.3: Government expenditures on mental health (% of total government expenditures on health), 2011



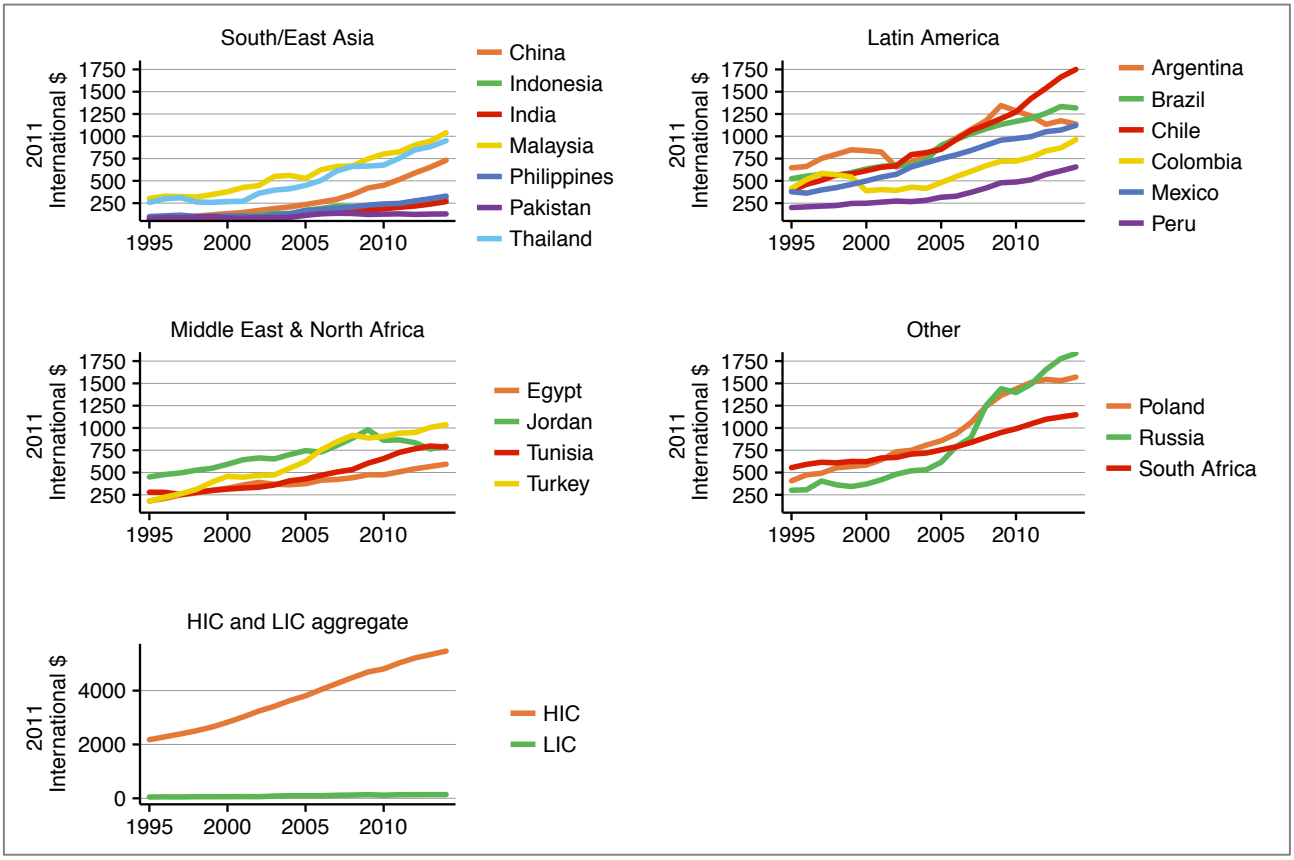
Source: [2]

Table 4.2.1: External resources for health (% of total expenditure on health), 2014

Country	% of total
Argentina	0.8
Brazil	0.1
China	0.03
Colombia	1.3
Egypt	1.3
Indonesia	1.1
India	1.0
Jordan	6.0
Malaysia	0.05
Pakistan	8.0
Peru	0.7
Philippines	1.4
South Africa	1.8
Thailand	0.5
Tunisia	0.3
LIC average	21.9
HIC average	*No data*

External resources for health: funds or services in kind that are provided by entities not part of the country in question, e.g. from international organisations, foreign non-governmental organisations.
Source: [20]

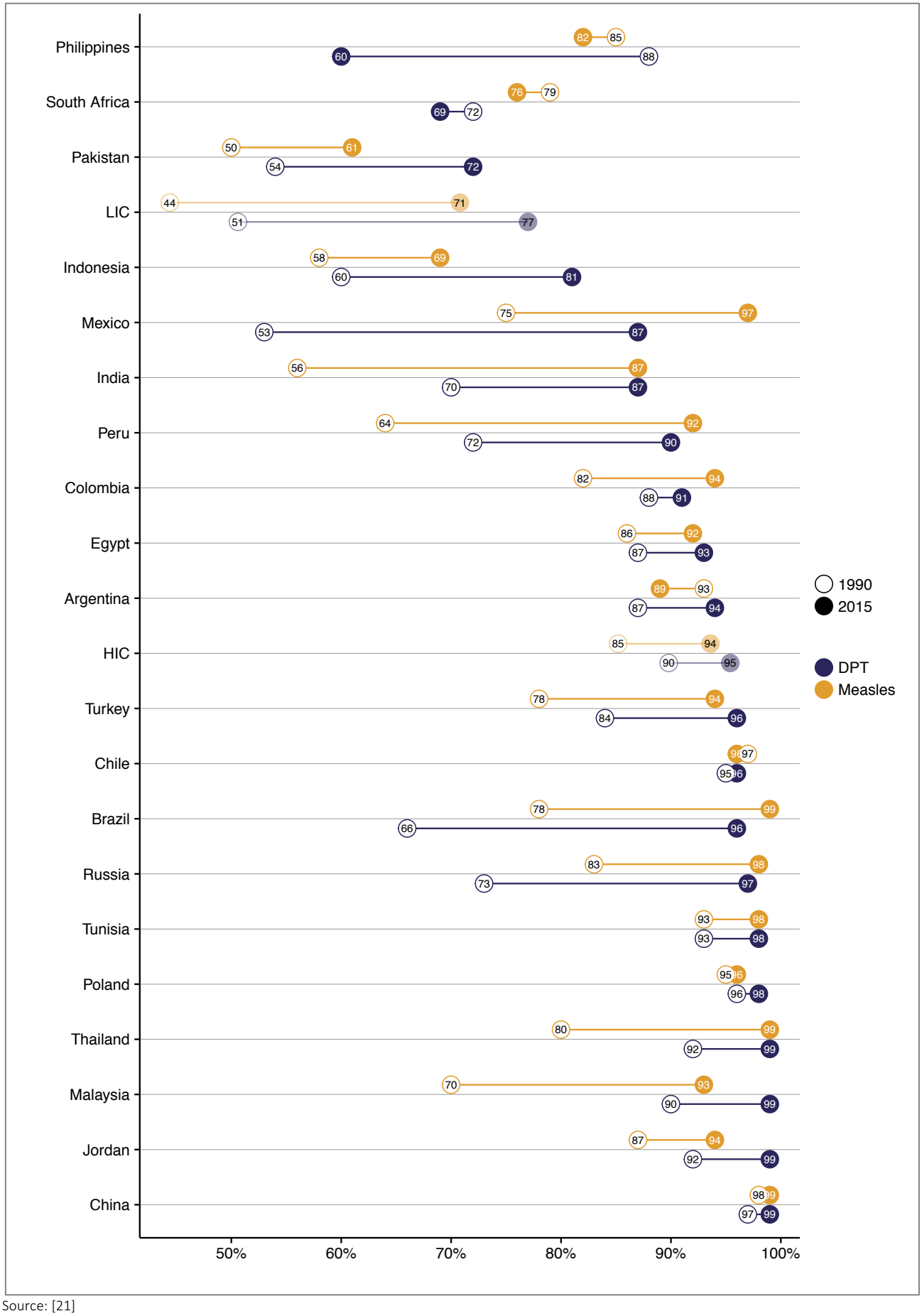
Figure 4.2.4: Total health expenditure per capita, PPP (constant 2011 international $), 1995-2014



Source: [20]

4.3 Healthcare coverage and workforce

Figure 4.3.1: Immunisation coverage: measles and diphtheria, pertussis and tetanus (DPT) (% of children ages 12-23 months), 1990 and 2015



Source: [21]

Table 4.3.1: Prenatal and delivery care (% of pregnant women), 2008-2014

Country	Pregnant women receiving prenatal care (% of pregnant women)		Births attended by skilled staff (% of births)
	≥ 1 visit	≥ 4 visits	
Argentina	98.1	89.8	97.0
Brazil	96.0	88.9	98.1
Chile	*No data*	*No data*	99.8
China	95.0	*No data*	99.9
Colombia	97.0	88.6	99.0
Egypt	90.3	82.8	91.5
India	75.1	49.7	52.3
Indonesia	95.7	83.5	83.1
Jordan	99.1	94.5	99.6
Malaysia	96.5	*No data*	98.8
Mexico	98.7	*No data*	96.0
Pakistan	73.1	36.6	52.1
Peru	95.9	94.7	90.0
Philippines	95.4	84.3	72.8
Poland	*No data*	*No data*	99.9
Russia	*No data*	*No data*	99.7
South Africa	97.1	87.1	94.3
Thailand	98.1	93.4	99.6
Tunisia	83.6	85.1	98.6
Turkey	92.0	88.9	97.4
LIC average	66.4	51.5	44.4
HIC average	*No data*	*No data*	99.7

Source: Prenatal care [2], Births attended by skilled staff [22]

Table 4.3.2: Hospital bed capacity and workforce, within physical healthcare (per 1,000 population), 2004-2013

Country	Hospital beds (per 1,000 people)	Physicians (per 1,000 people)	Nurses and midwives (per 1,000 people)
Argentina	4.7	3.9	0.5
Brazil	2.3	1.9	7.6
Chile	2.1	1.0	0.1
China	3.8	1.9	1.8
Colombia	1.5	1.5	0.6
Egypt	0.5	2.8	3.5
India	0.7	0.7	1.7
Indonesia	0.9	0.2	1.4
Jordan	1.8	2.6	4.0
Malaysia	1.9	1.2	3.3
Mexico	1.5	2.1	2.5
Pakistan	0.6	0.8	0.6
Peru	1.5	1.1	1.5
Philippines	1.0	1.2	6.0
Poland	6.5	2.2	6.2
Russia	9.7	4.3	8.5
Thailand	2.1	0.4	2.1
Tunisia	2.1	1.2	3.3
Turkey	2.5	1.7	2.4
South Africa	2.8	0.8	5.1
LIC average	0.8	0.2	0.7
HIC average	3.7	3.1	11.6

Showing most recent available value.

Sources: Hospital beds [23], Physicians [24], Nurses and midwives [24]

Table 4.3.3: Workforce within mental health (per 100,000 population), 2014

Country	Psychiatrists	Nurses	Social workers	Psychologists
Argentina	*No data*	*No data*	*No data*	*No data*
Brazil	3.49	3.05	1.72	3.22
Chile	4.66	1.59	2.18	5.19
China	1.53*	2.65*	*No data*	0.18*
Colombia	2.53	*No data*	*No data*	10.74
Egypt	0.69	3.10	0.29	0.12
India	0.30	0.12	0.07	0.07
Indonesia	0.29	2.57	0.05	0.18
Jordan	0.51	4.72	0.16	0.27
Malaysia	0.76	3.31*	0.84	0.89
Mexico	0.67	2.81	0.52	2.11
Pakistan	0.31	15.43	2.32	1.09
Peru	0.76	6.09	0.22	5.06
Philippines	0.46	0.49	0.07	0.07
Poland	5.07	18.66	0.73	5.34
Russia	11.06	33.24	1.76	2.61
South Africa	0.39	9.72*	0.39*	0.31*
Thailand	0.87	4.46	0.34	0.72
Tunisia	2.58	4.08*	0.35	1.06
Turkey	1.51	2.22*	0.77	1.43
LIC	0.098	0.42	0.032	0.036
HIC	12.06	47.50	23.46	19.71

*Data only available from 2011
Source: [2]

4.4 Healthcare legislation, plans and policies

Table 4.4.1: Existence of mental health legislation, plan and policy, 2011

Country	Stand-alone mental health legislation	Mental health plan	Mental health policy
Argentina	No	Yes	Yes
Brazil	Yes	Yes	Yes
Chile	No	Yes	No
China	No	Yes	Yes
Colombia	*No data*	*No data*	*No data*
Egypt	Yes	Yes	Yes
India	Yes	Yes	No
Indonesia	No	Yes	Yes
Jordan	No	No	No
Malaysia	Yes	Yes	Yes
Mexico	Yes	Yes	Yes
Pakistan	Yes	Yes	Yes
Peru	No	Yes	Yes
Philippines	No	Yes	Yes
Poland	Yes	Yes	Yes
Russia	Yes	Yes	Yes
South Africa	Yes	Yes	Yes
Thailand	Yes	Yes	Yes
Tunisia	Yes	Yes	Yes
Turkey	No	Yes	Yes

Source: [2]

Table 4.4.2: Existence of national policies, strategies and action plans for non-communicable diseases, 2013

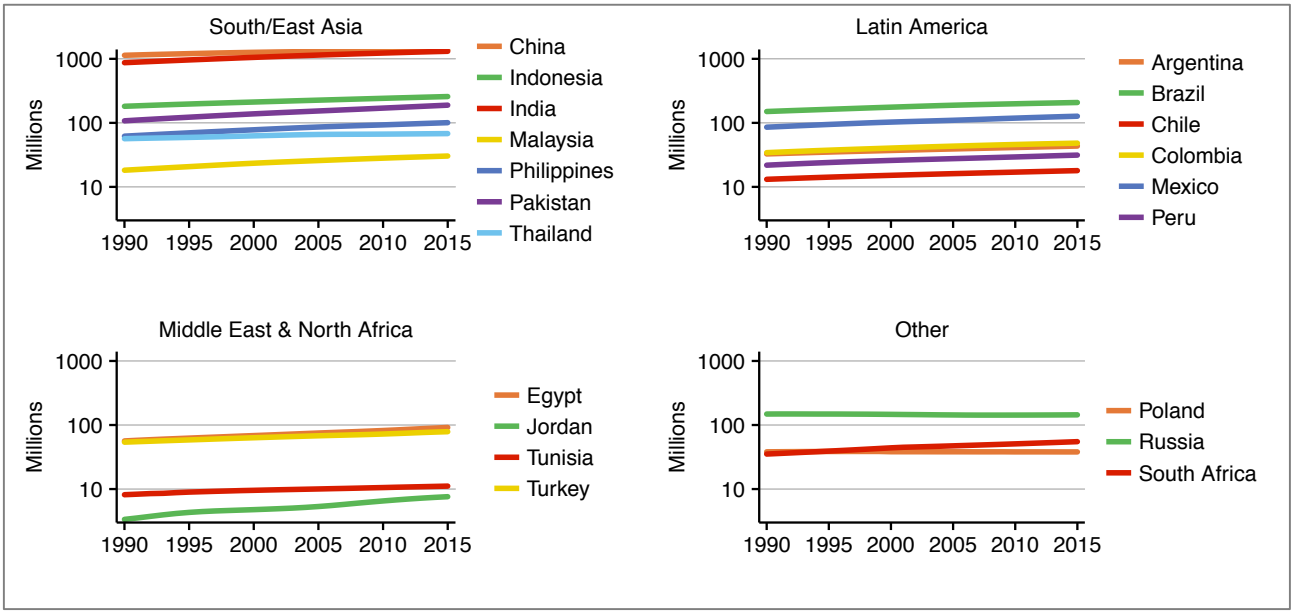
Country	Cancer	Cardiovascular	Diabetes	Chronic respiratory	Reduce physical inactivity	Reduce unhealthy diet
Argentina	Yes	Yes	Yes	Yes	Yes	Yes
Brazil	Yes	No	No	No	Yes	Yes
Chile	Yes	Yes	Yes	Yes	Yes	Yes
China	Yes	Yes	Yes	Yes	Yes	Yes
Colombia	Yes	Yes	Yes	Yes	Yes	Yes
Egypt	No	No	No	No	No	No
India	Yes	Yes	Yes	No	Yes	Yes
Indonesia	Yes	Yes	Yes	Yes	Yes	Yes
Jordan	Yes	Yes	Yes	No	Yes	Yes
Malaysia	Yes	Yes	Yes	No	Yes	Yes
Mexico	No	Yes	Yes	No	Yes	Yes
Pakistan	No	No	No	No	No	No
Peru	Yes	Yes	Yes	No	No	No
Philippines	Yes	Yes	Yes	Yes	Yes	Yes
Poland	Yes	Yes	Yes	Yes	Yes	Yes
Russia	Yes	Yes	Yes	Yes	Yes	Yes
South Africa	*No data*	*No data*	*No data*	*No data*	*No data*	*No data*
Thailand	Yes	Yes	Yes	No	Yes	Yes
Tunisia	No	No	Yes	No	No	No
Turkey	Yes	No	Yes	Yes	Yes	Yes

Source: [2]

5. Population and demographics

5.1 Population

Figure 5.1.1: Total population (millions), 1990-2015



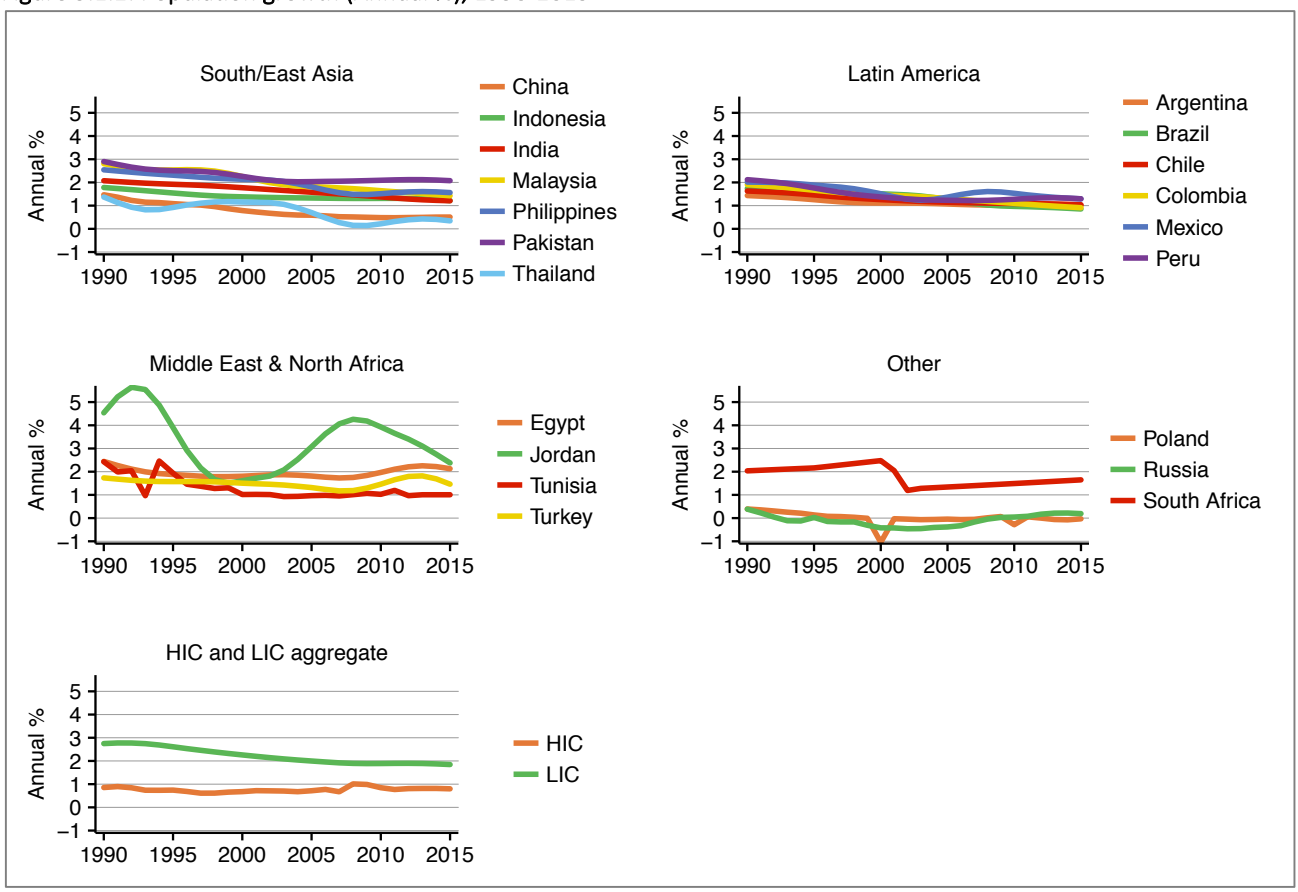
Source: [17]

Table 5.1.1: Total population (millions), 1990-2015

Country	Population (millions)			
	1990	2000	2010	2015
Argentina	32.7	37.1	41.2	43.4
Brazil	150.4	175.8	198.6	207.8
Chile	13.1	15.2	17.0	17.9
China	1135.2	1262.6	1337.7	1371.2
Colombia	34.3	40.4	45.9	48.2
Egypt	56.4	68.3	82.0	91.5
India	870.6	1053.5	1231.0	1311.1
Indonesia	181.4	211.5	241.6	257.6
Jordan	3.4	4.8	6.5	7.6
Malaysia	18.2	23.4	28.1	30.3
Mexico	85.6	102.8	118.6	127.0
Pakistan	107.6	138.3	170.0	188.9
Peru	21.8	25.9	29.4	31.4
Philippines	61.9	77.9	93.0	100.7
Poland	38.1	38.3	38.0	38.0
Russia	148.3	146.6	142.8	144.1
South Africa	35.2	44.0	50.8	55.0
Thailand	56.6	62.7	66.7	68.0
Tunisia	8.2	9.6	10.5	11.1
Turkey	54.0	63.2	72.3	78.7

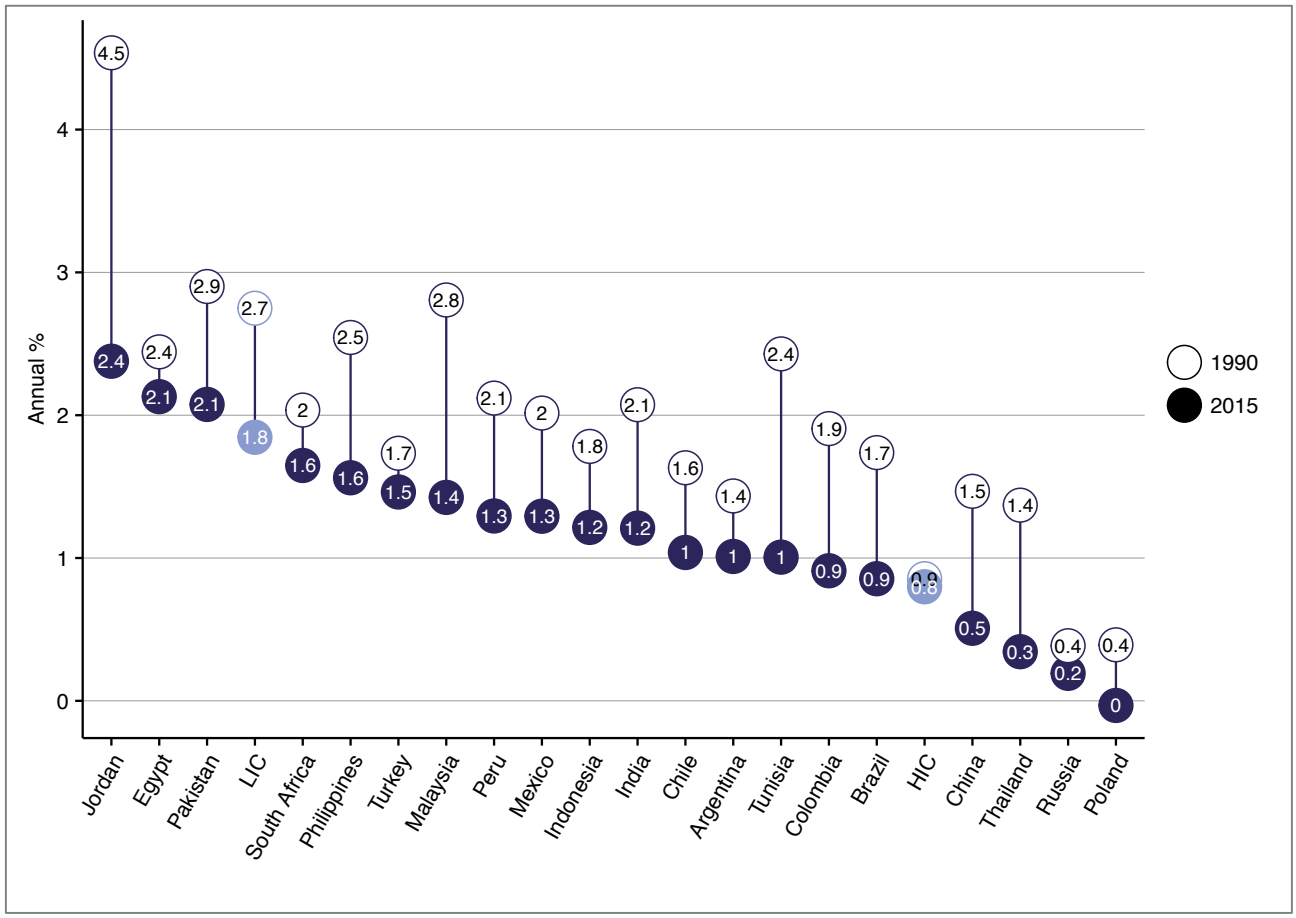
Source: [17]

Figure 5.1.2: Population growth (Annual %), 1990-2015



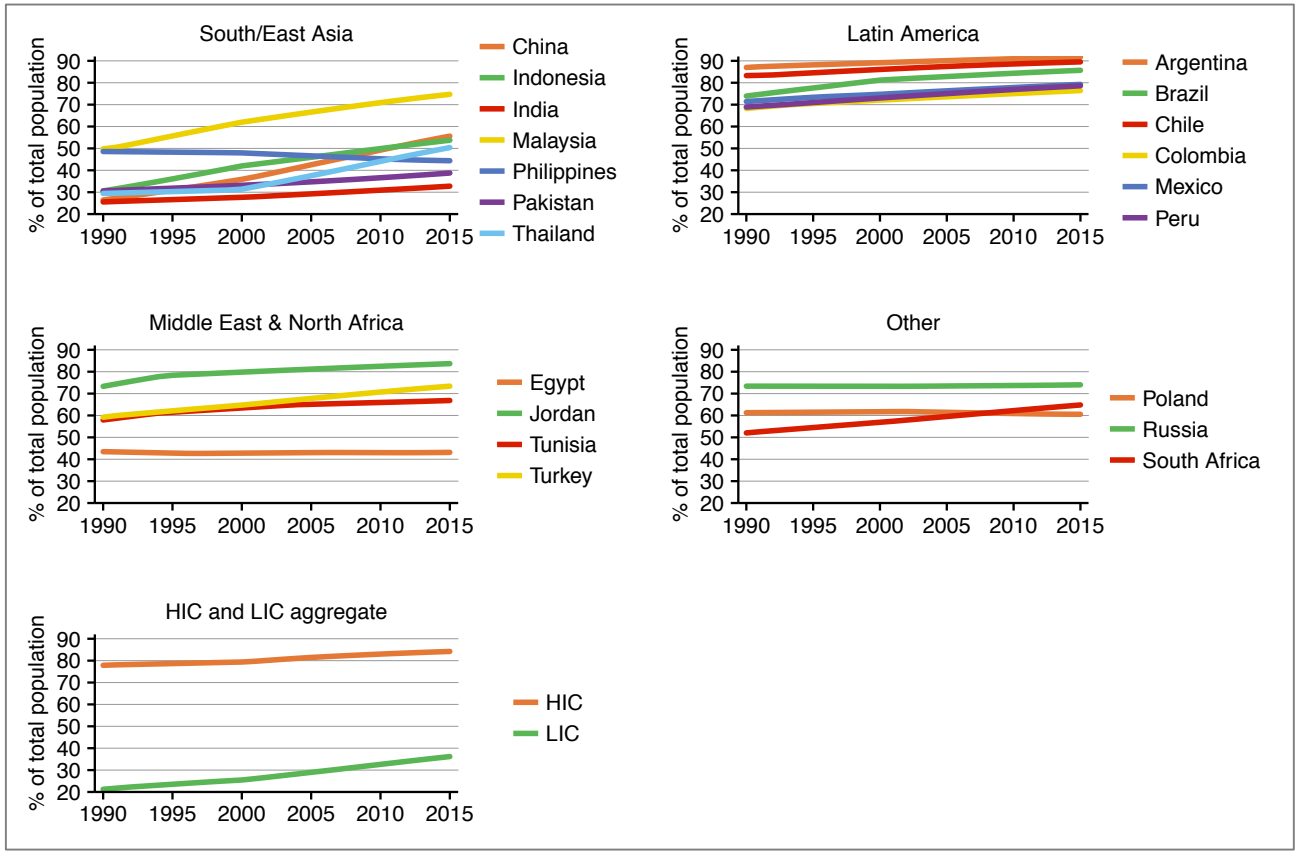
Source: [17]

Figure 5.1.3: Population growth (Annual %), change between 1990-2015



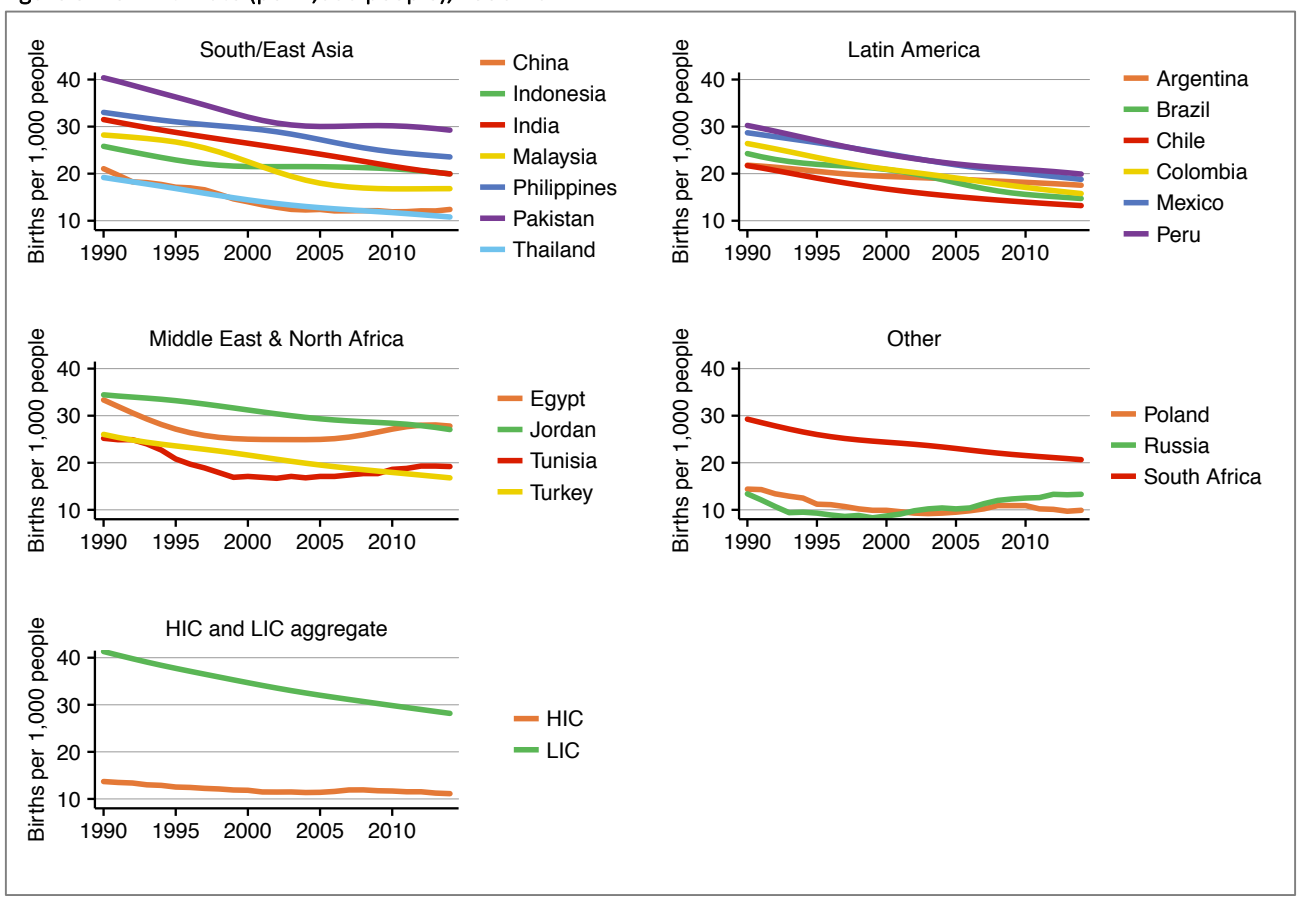
Source: [17]

Figure 5.1.4: Urban population (% of total), 1990-2015



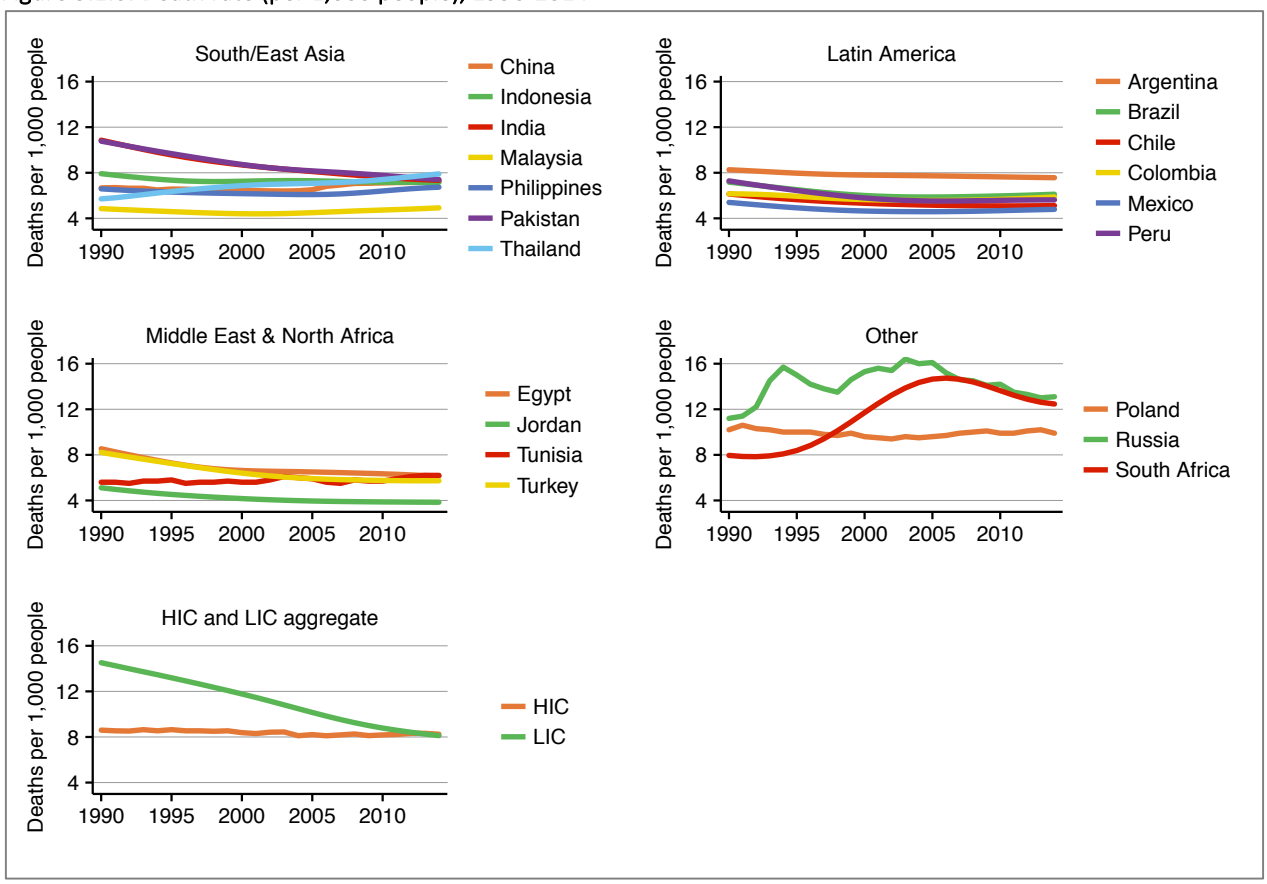
Source: [25]

Figure 5.1.5: Birth rate (per 1,000 people), 1990-2014



Source: [17]

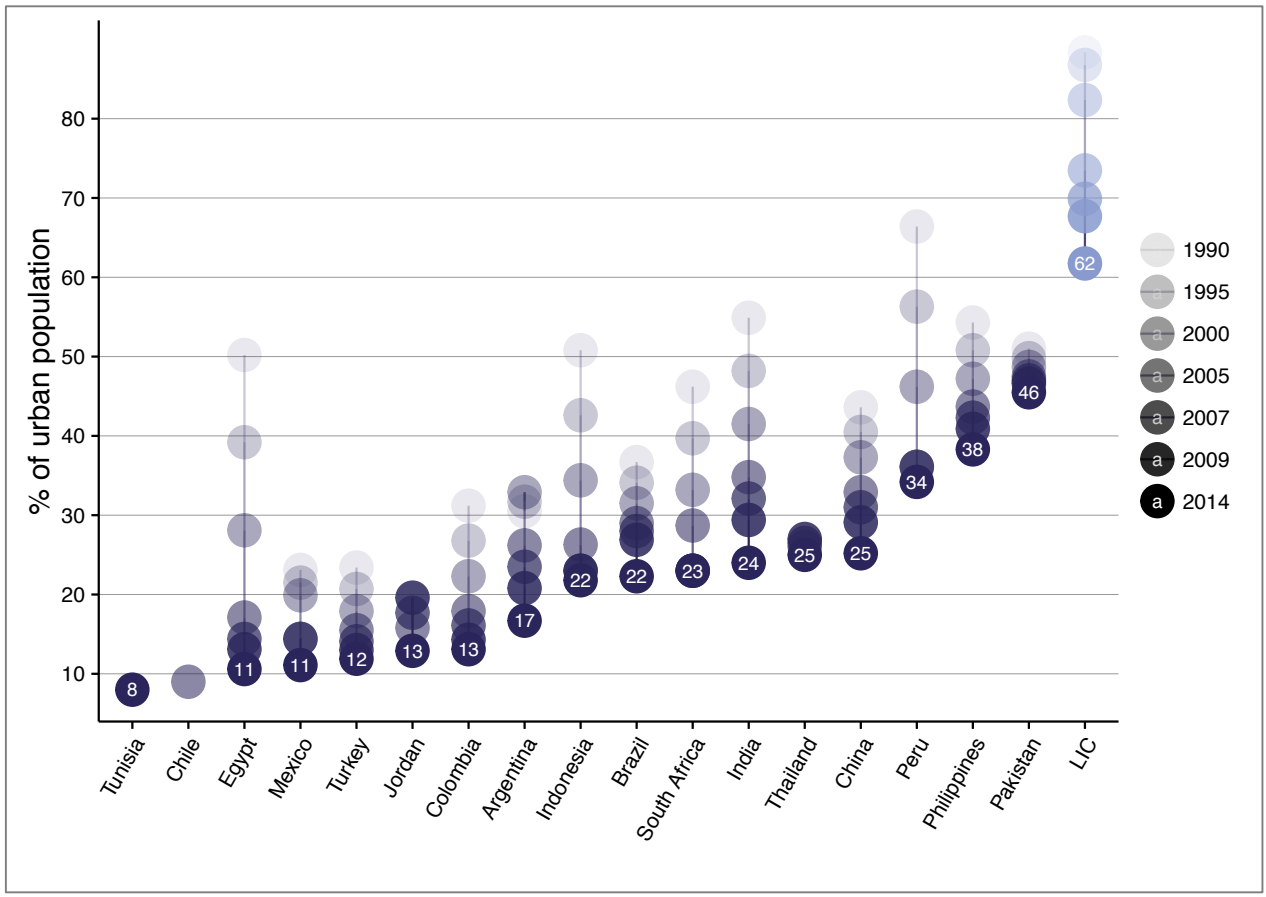
Figure 5.1.6: Death rate (per 1,000 people), 1990-2014



Source: [17]

5.2 Living conditions

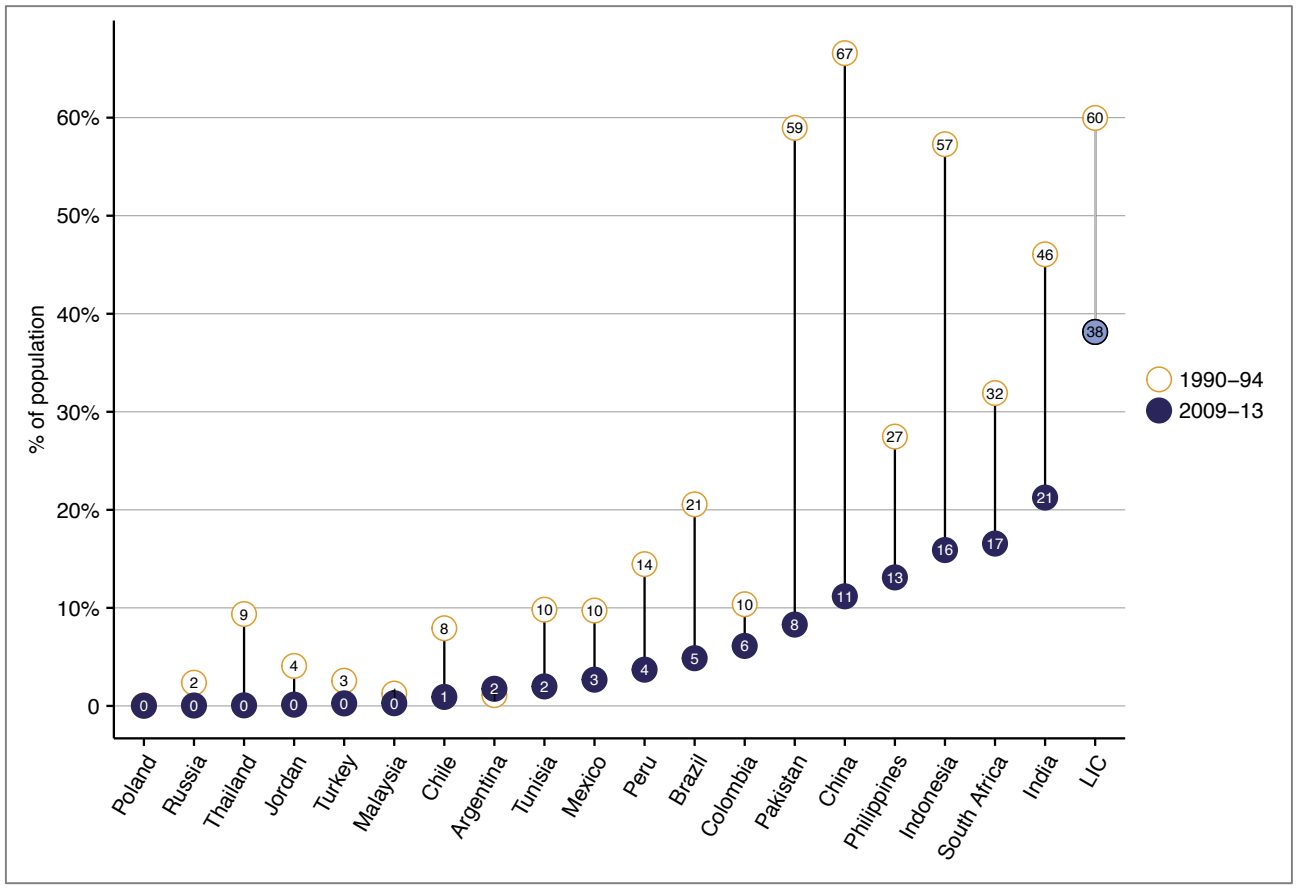
Figure 5.2.1: Urban population living in slums (% of urban population), 1990-2014



Source: [26]

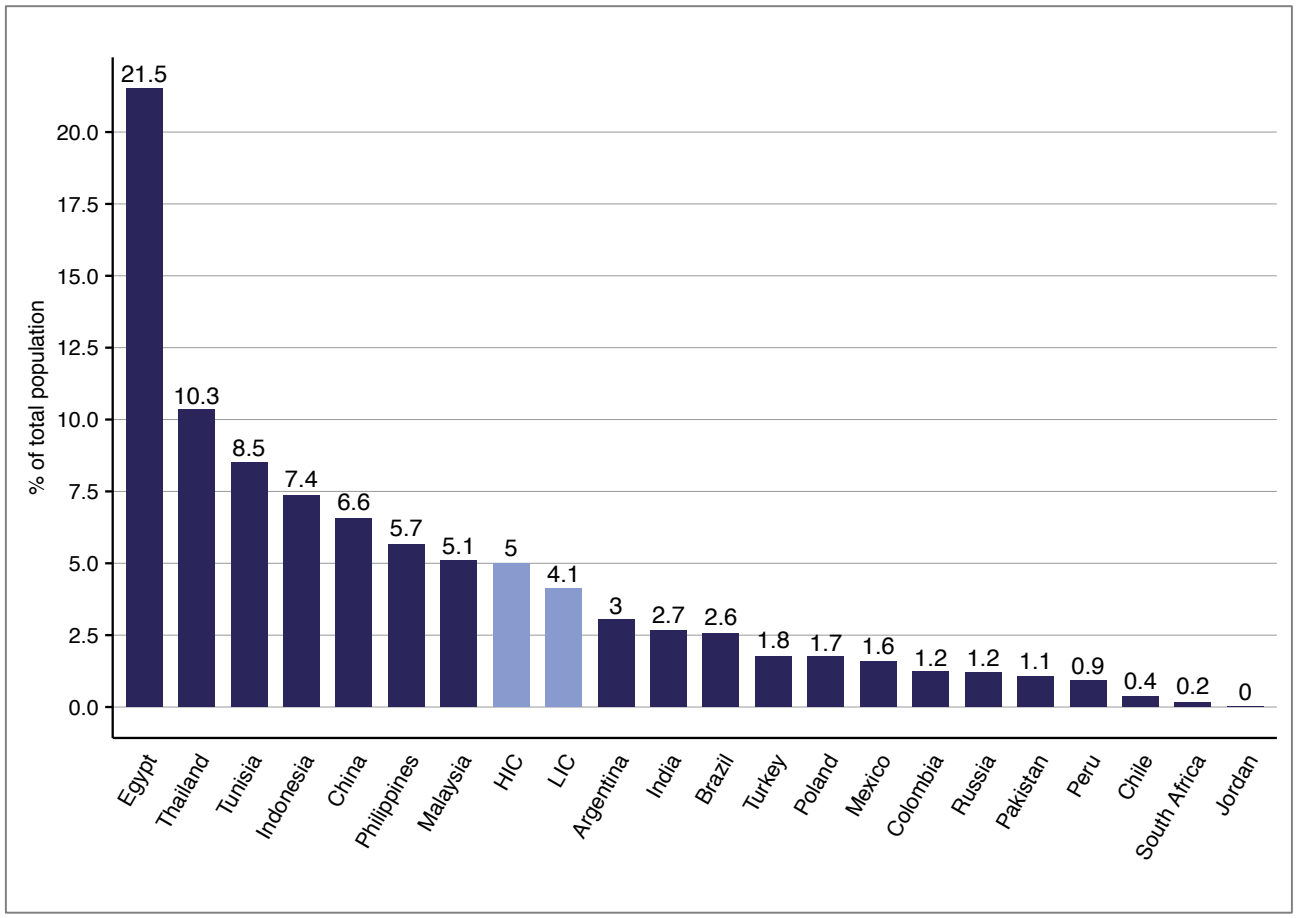
Figure 5.2.2: Poverty at $1.90 a day (2011 PPP) (% of population), 1990-94 and 2009-13

Displaying most earliest available value, between 1990-94, and most recent available value, between 2009-13



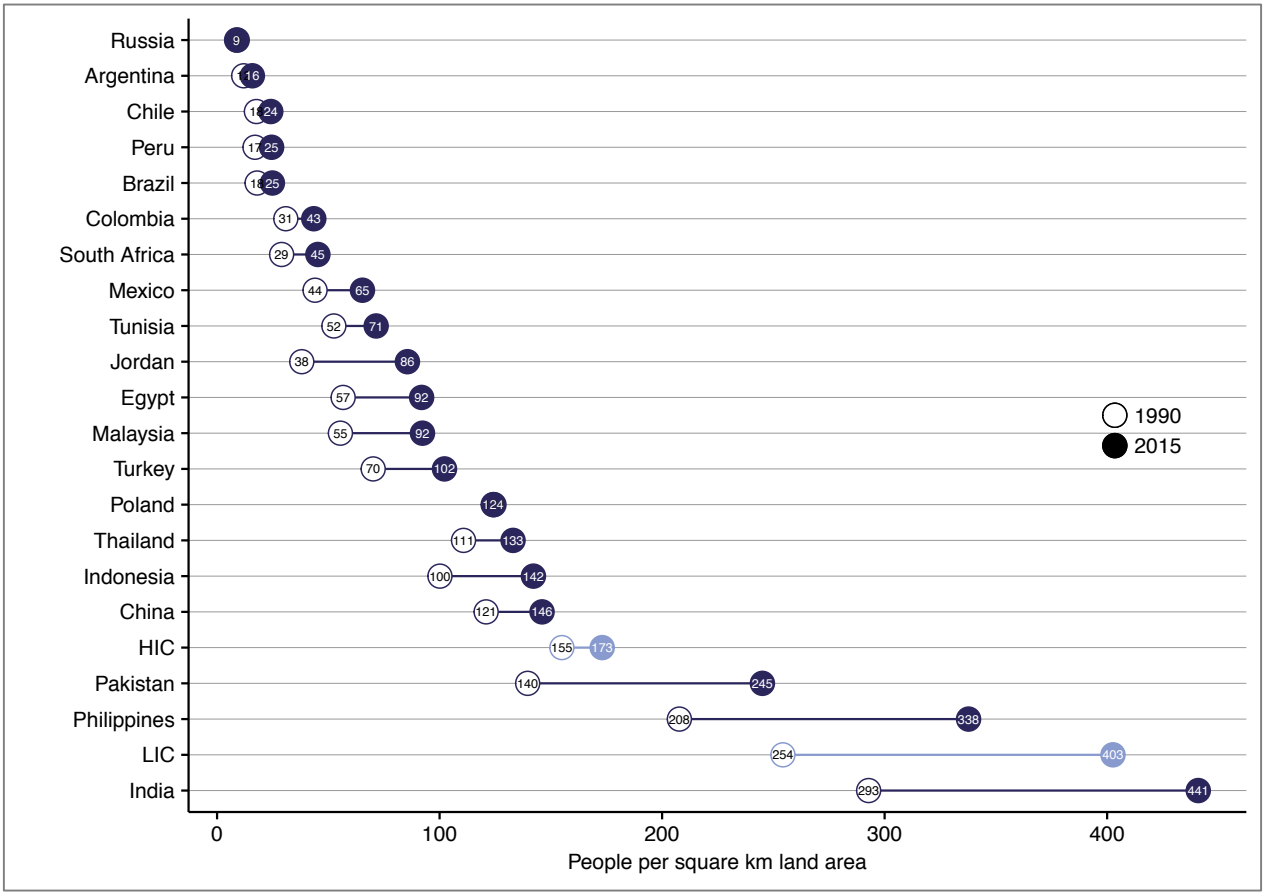
Source: [27]

Figure 5.2.3: Population living in areas where elevation is below 5 meters (% of total population), 2010



Source: [28]

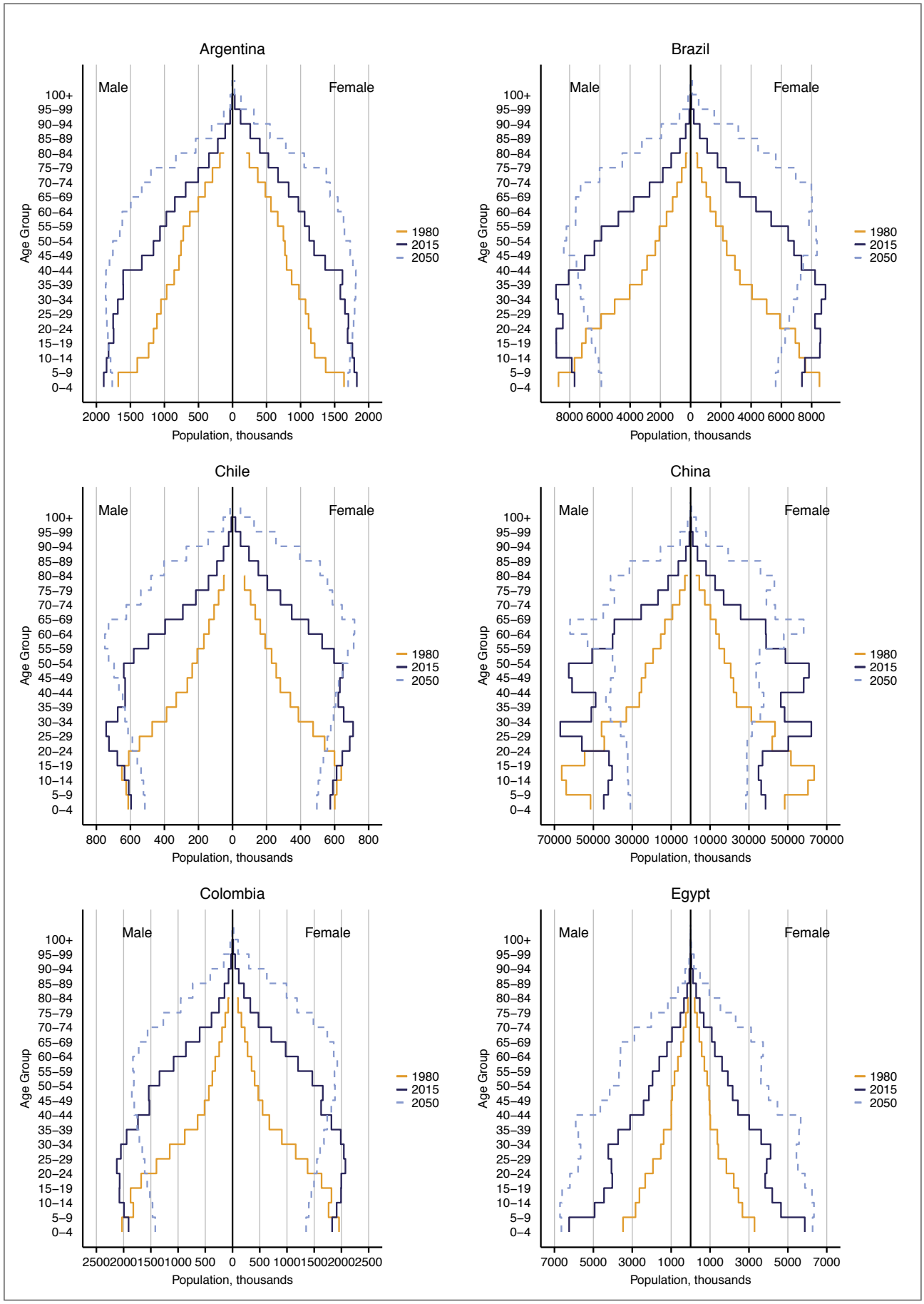
Figure 5.2.4: Population density (people per square km land area), 1990 and 2015



Source: [29]

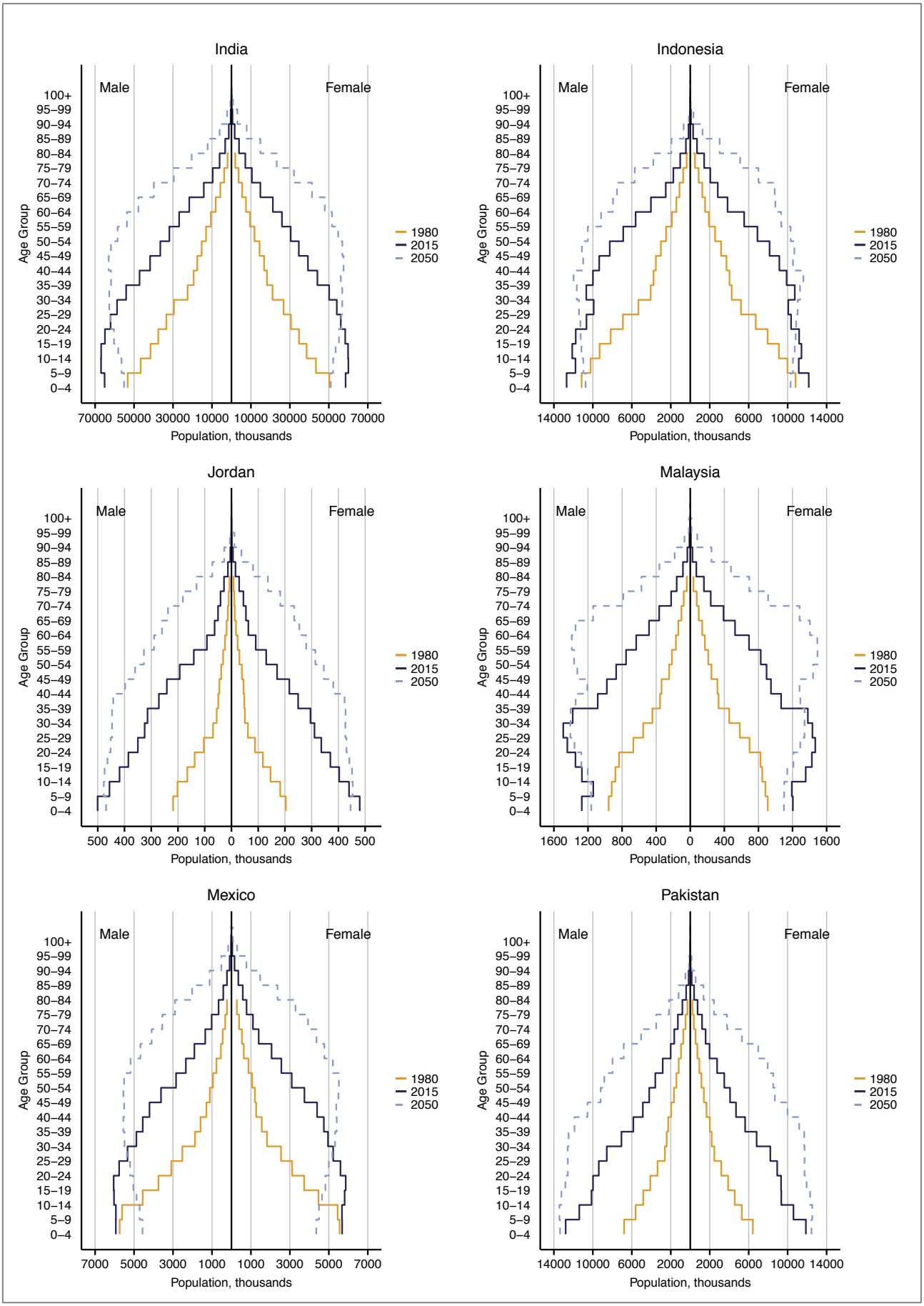
5.3 Demographics

Figure 5.3.1: Population pyramids, 1980-2015-2050 (projection)



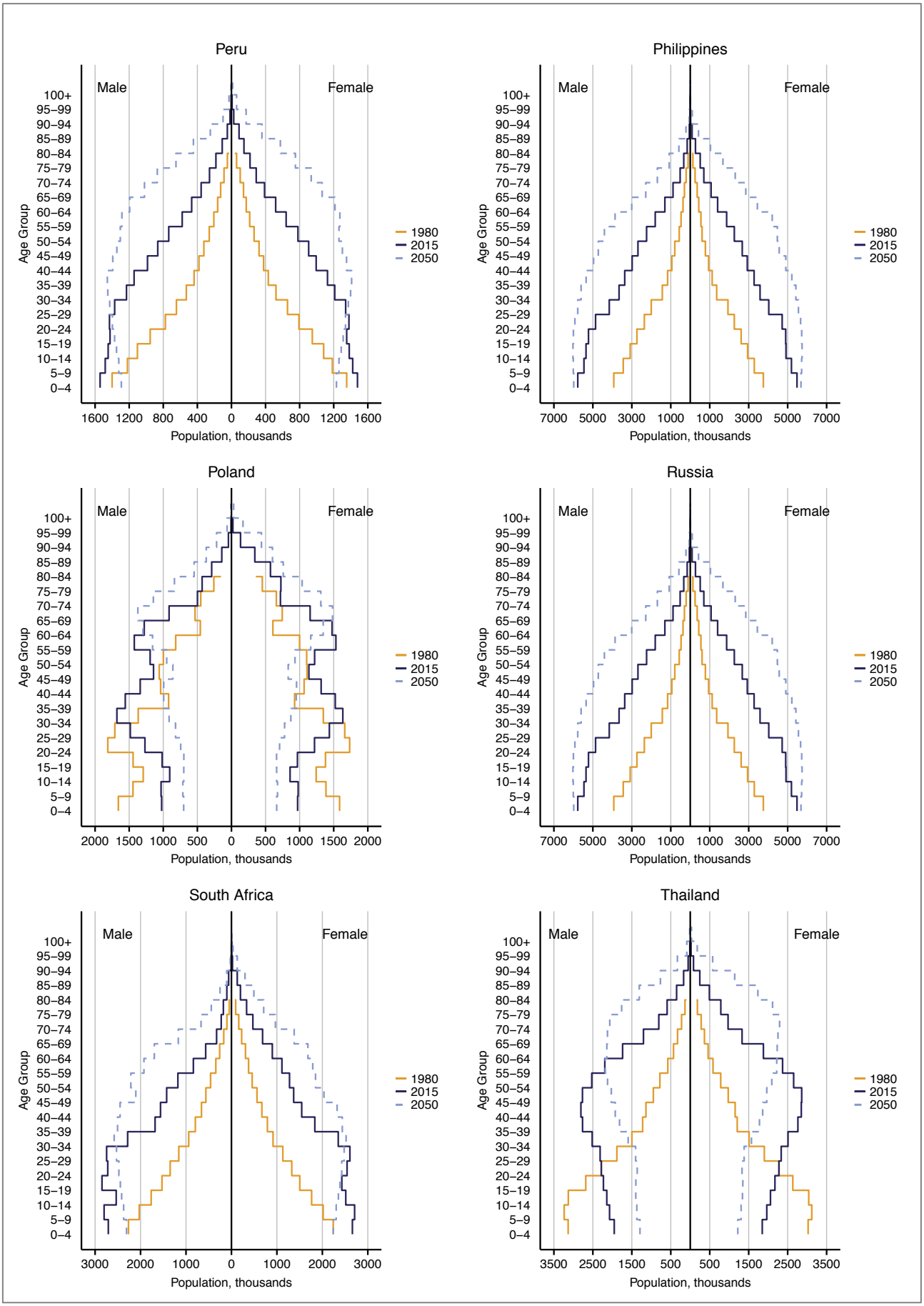
Source: [30]

Figure 5.3.1 (continued): Population pyramids, 1980-2015-2050 (projection)



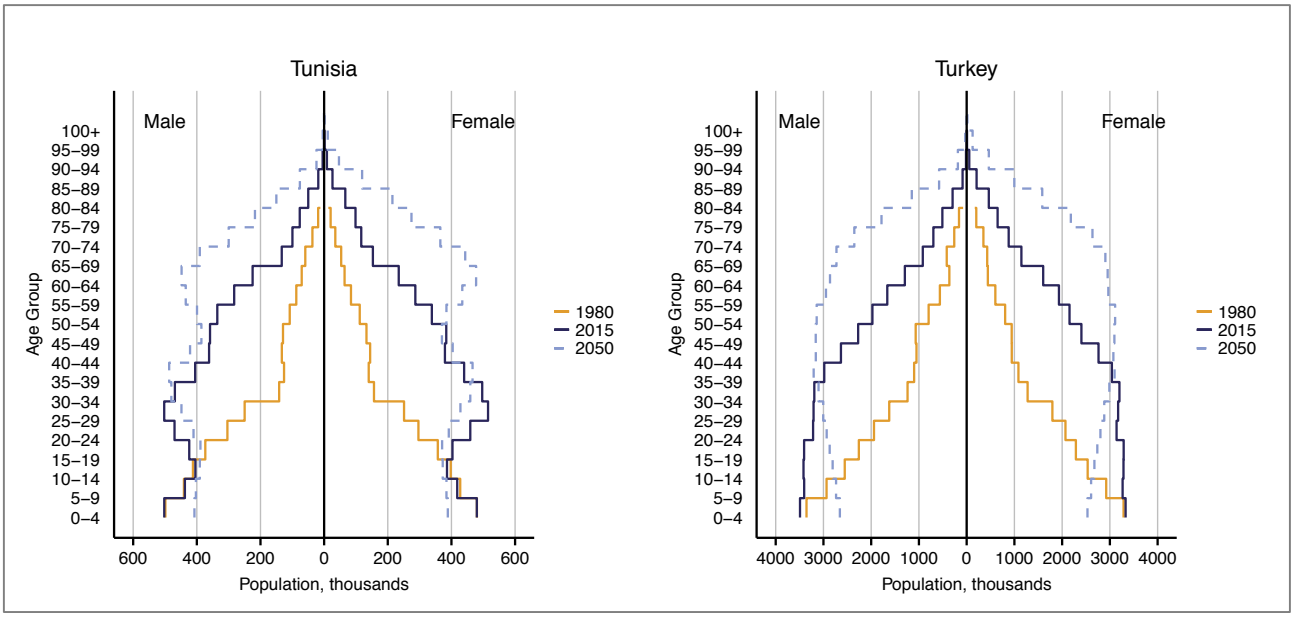
Source: [30]

Figure 5.3.1 (continued): Population pyramids, 1980-2015-2050 (projection)



Source: [30]

Figure 5.3.1 (continued): Population pyramids, 1980-2015-2050 (projection)

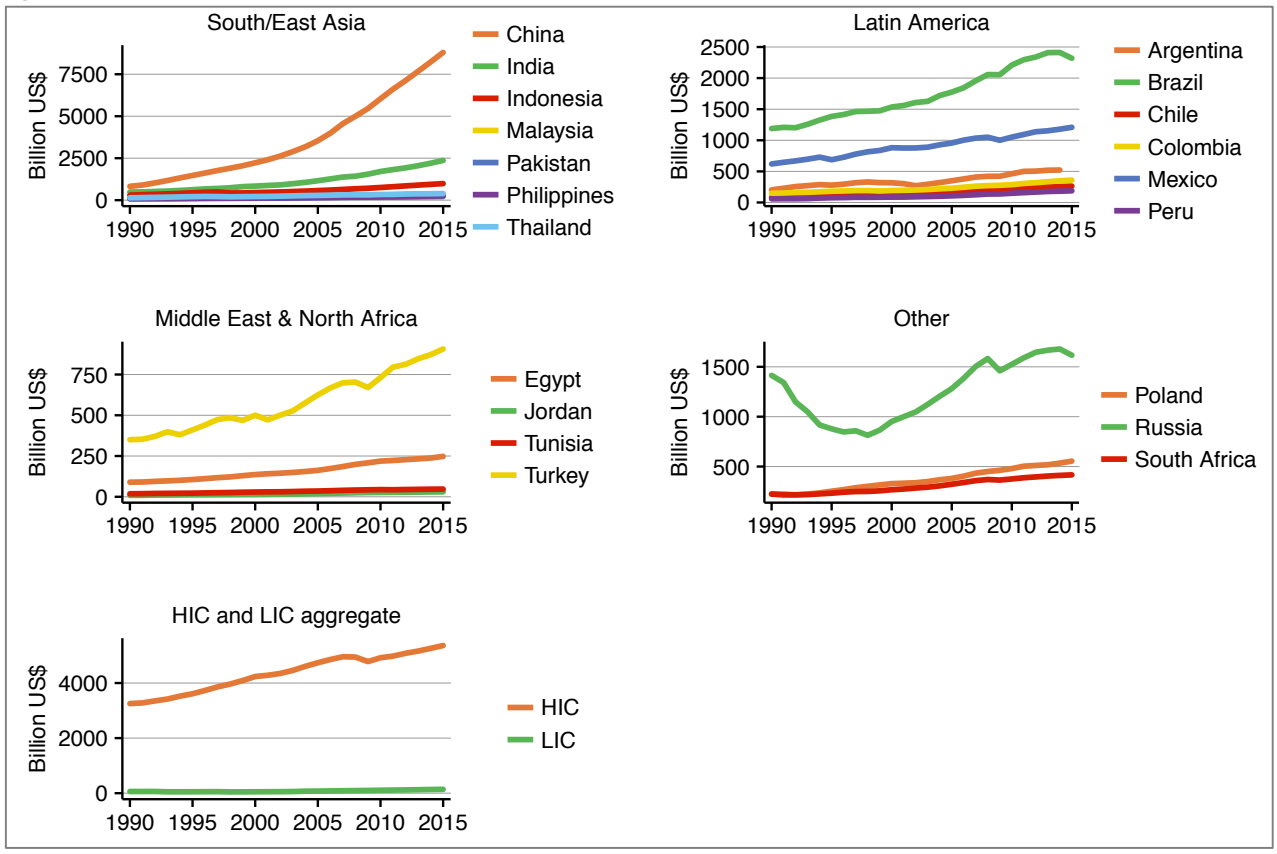


Source: [30]

6. Economy

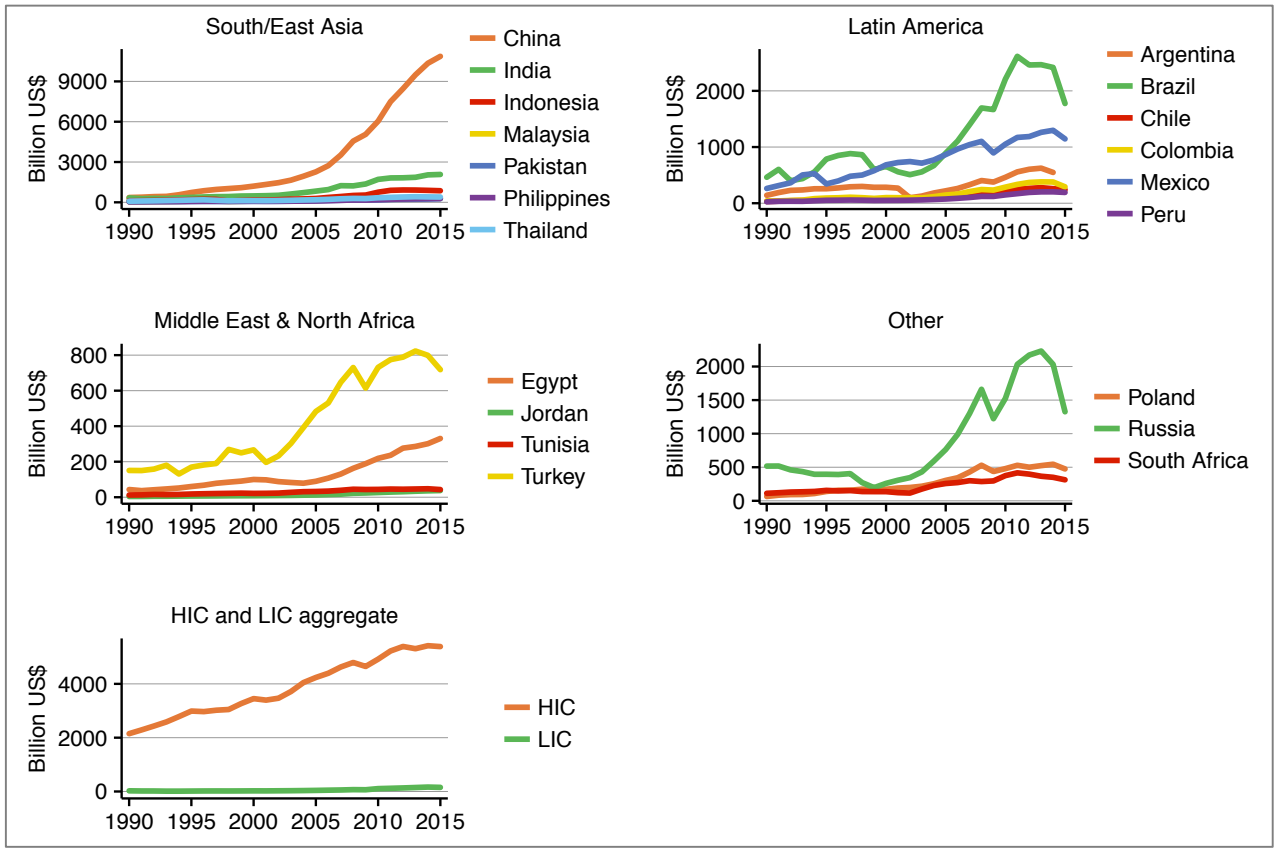
6.1 Gross Domestic Product (GDP) and National Expenditure Indicators

Figure 6.1.1: Total GDP (constant 2010 US$, billion), 1990-2015



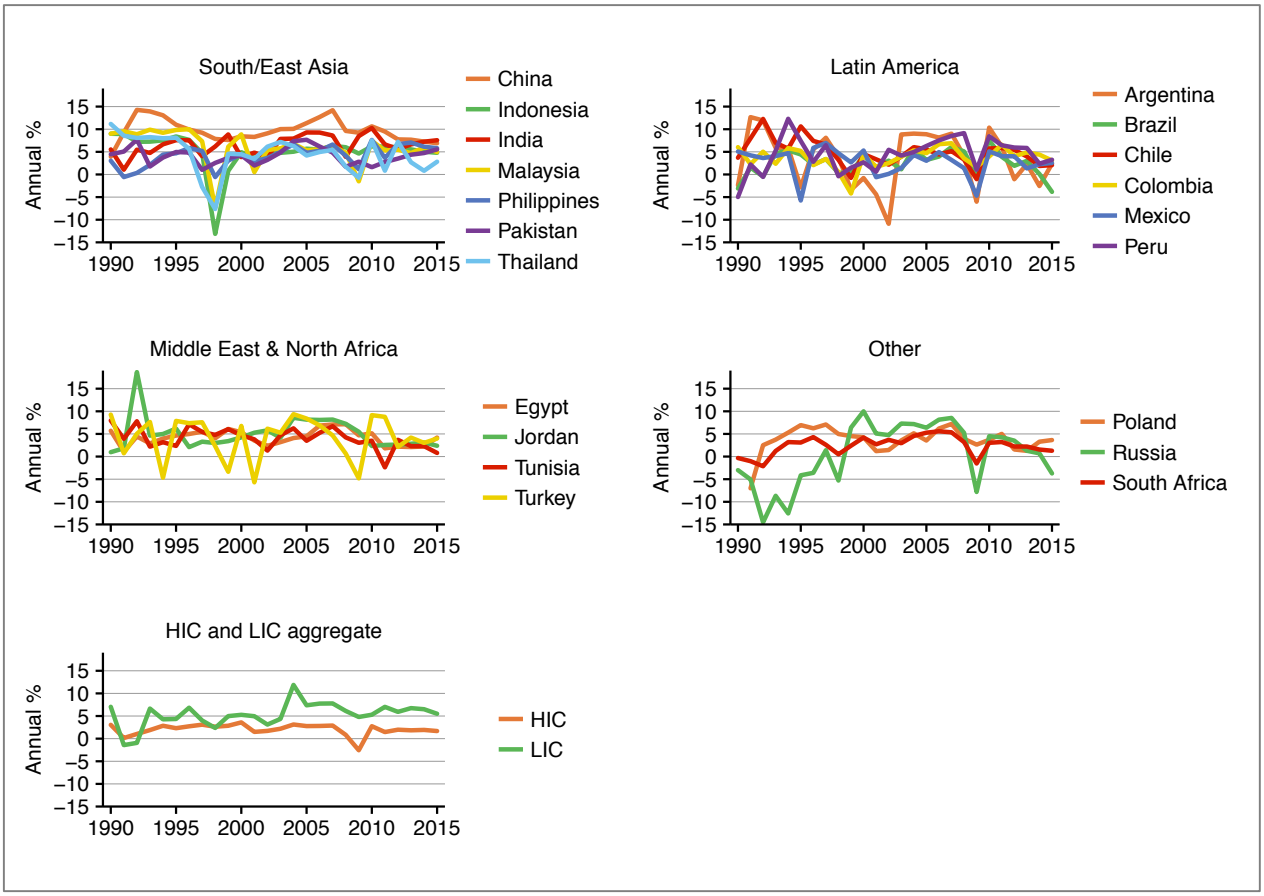
Source: [31]

Figure 6.1.2: Total GDP (current US$, billion), 1990-2015



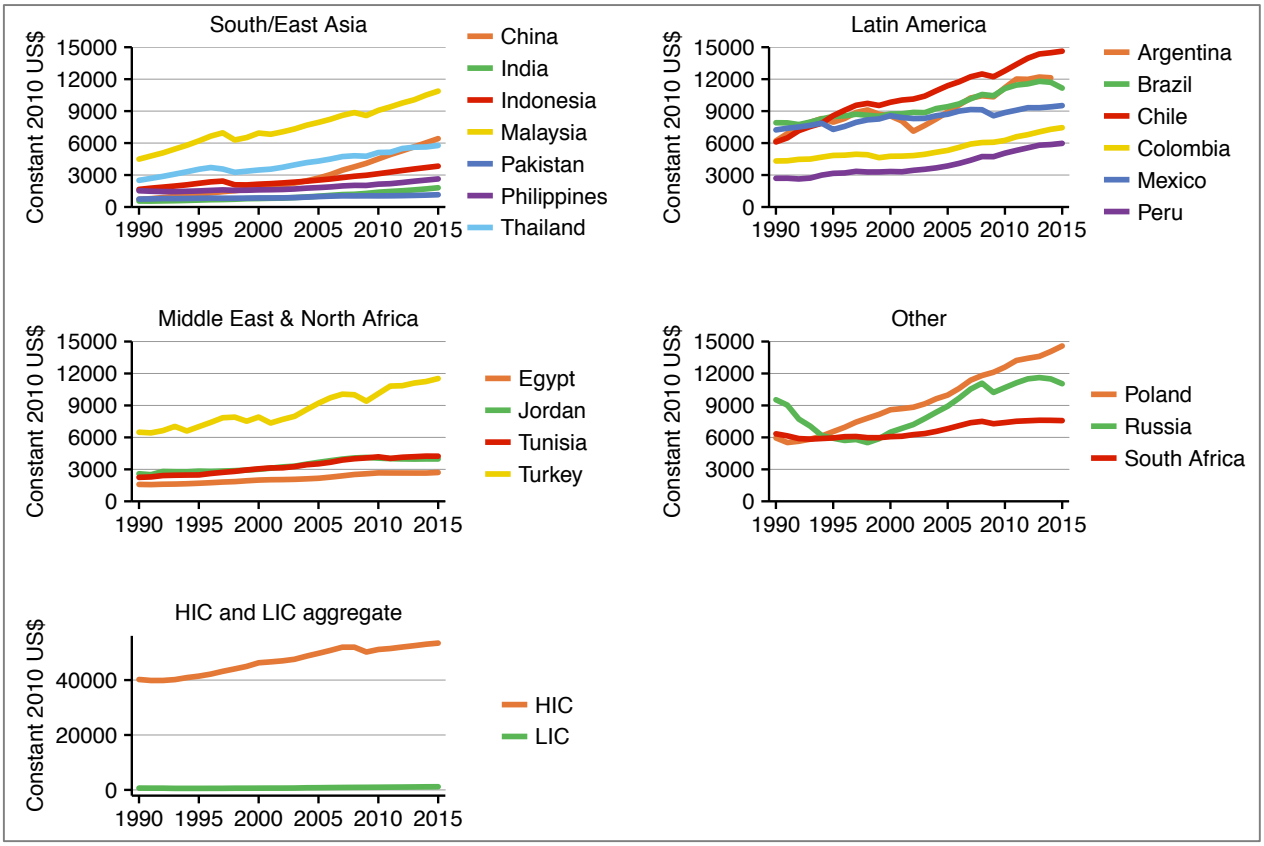
Source: [31]

Figure 6.1.3: GDP growth (annual %), 1990-2015



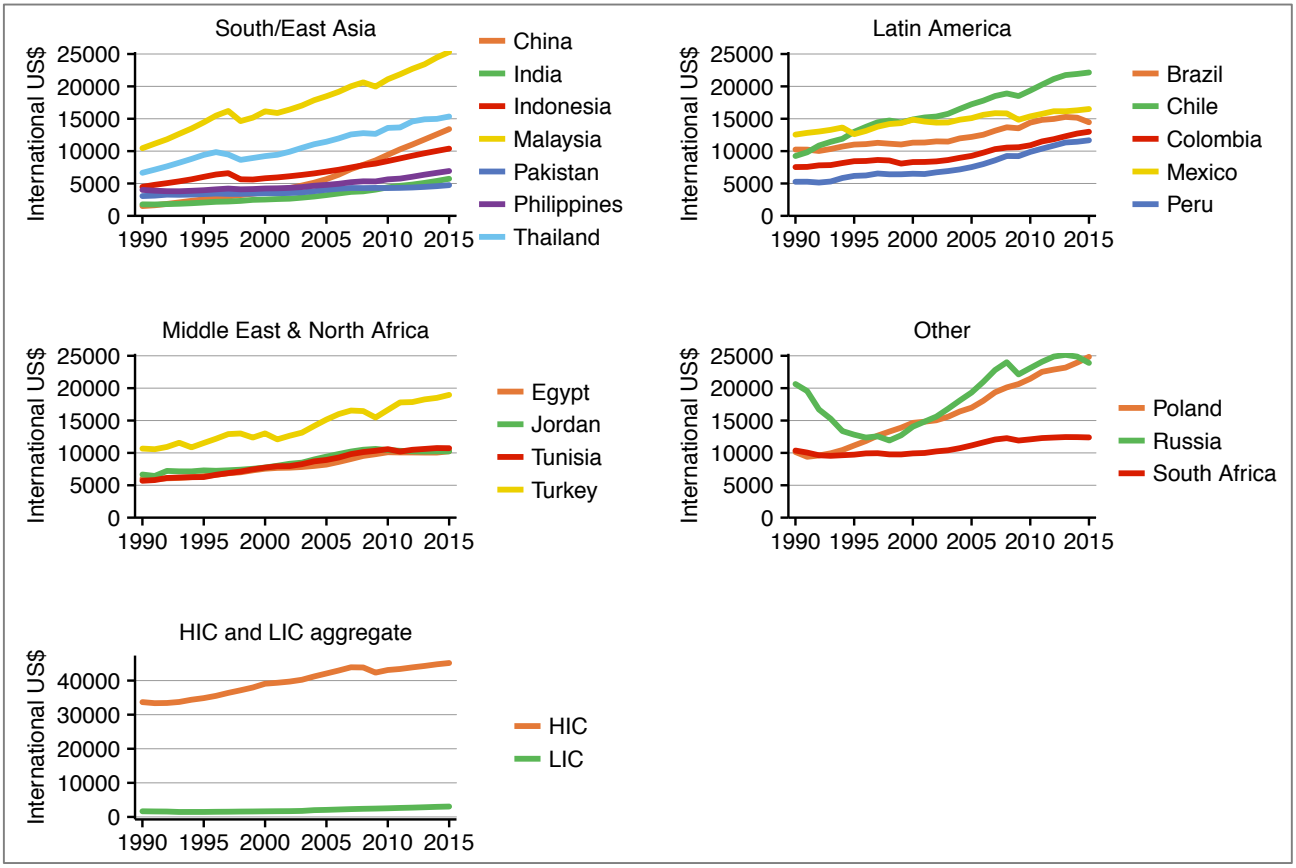
Source: [31]

Figure 6.1.4: GDP per Capita (constant 2010 US$), 1990-2015



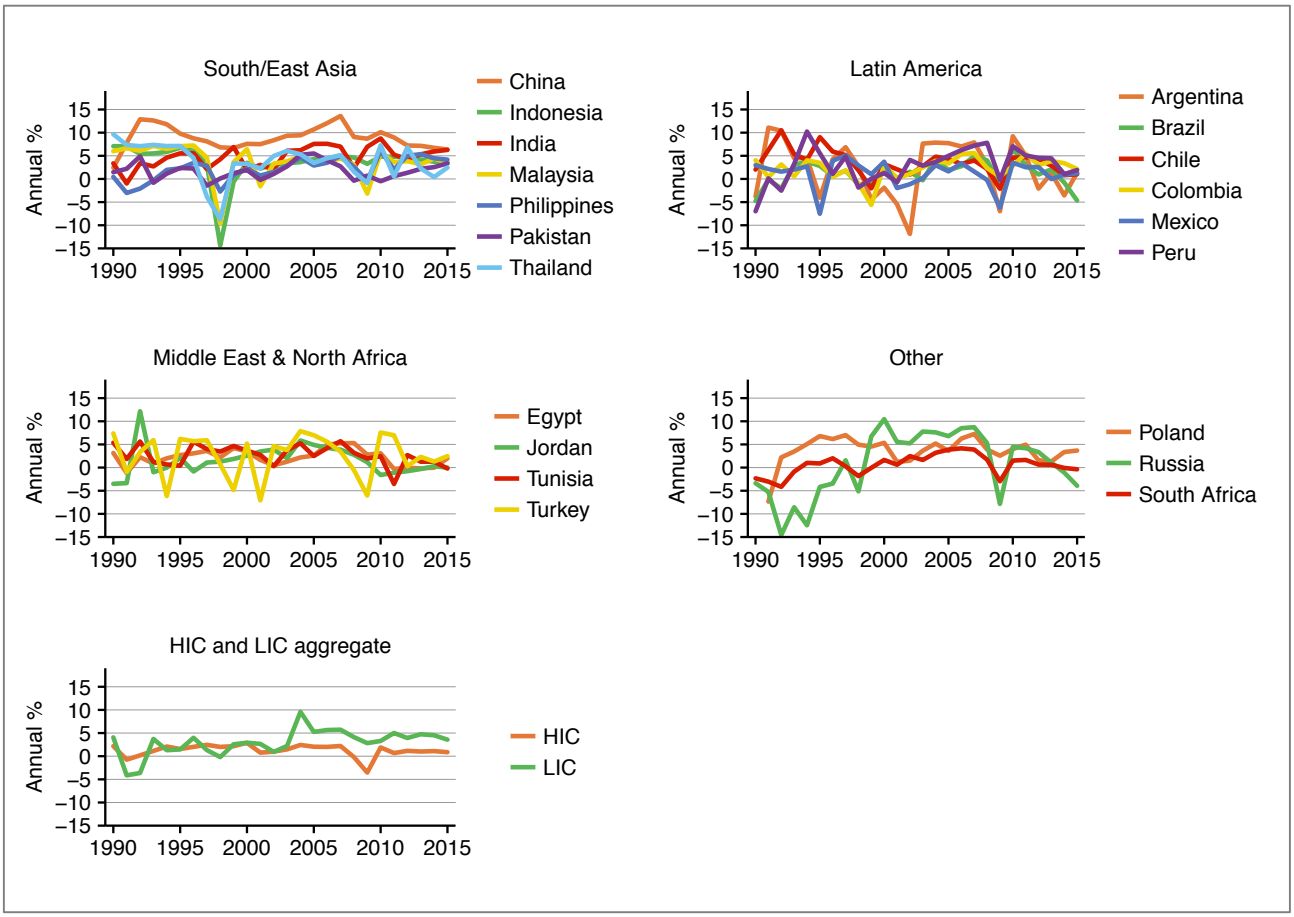
Source: [31]

Figure 6.1.5: GDP per Capita, Purchasing Power Parity (PPP) (Constant 2011 Dollars, 1990-2015



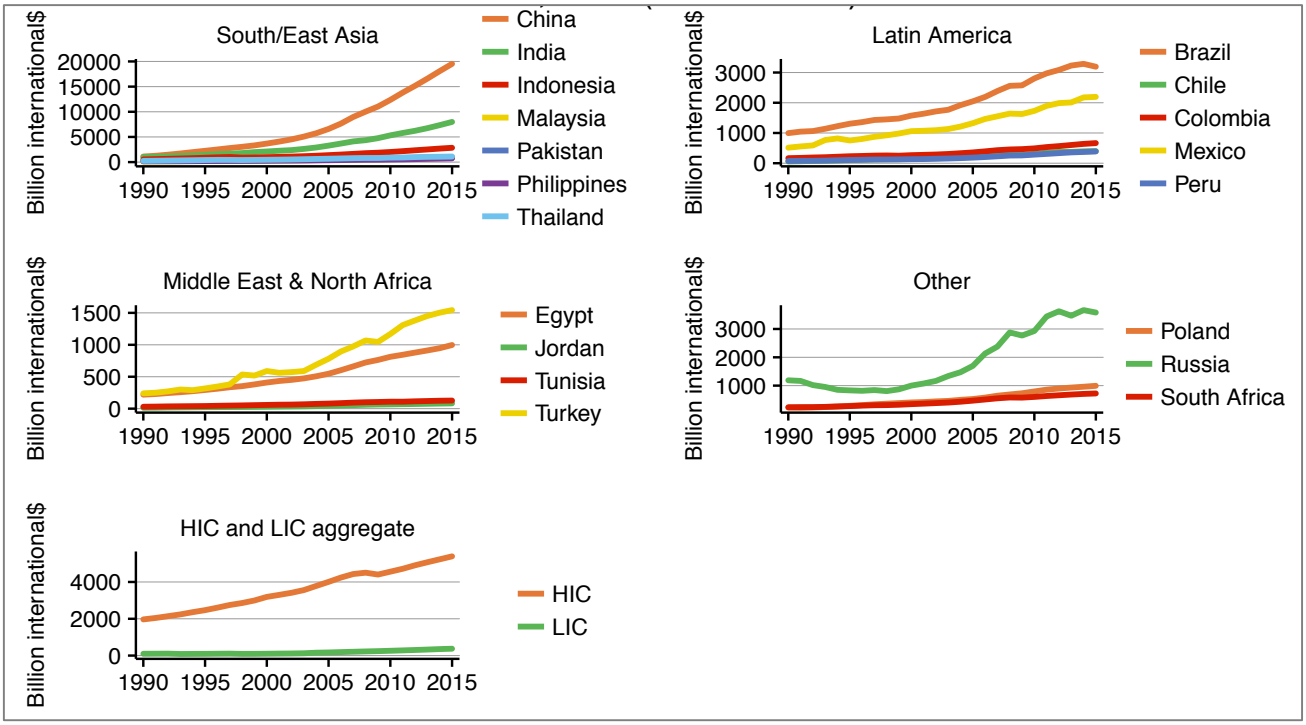
Source: [31]

Figure 6.1.6: GDP per capita growth (annual %)



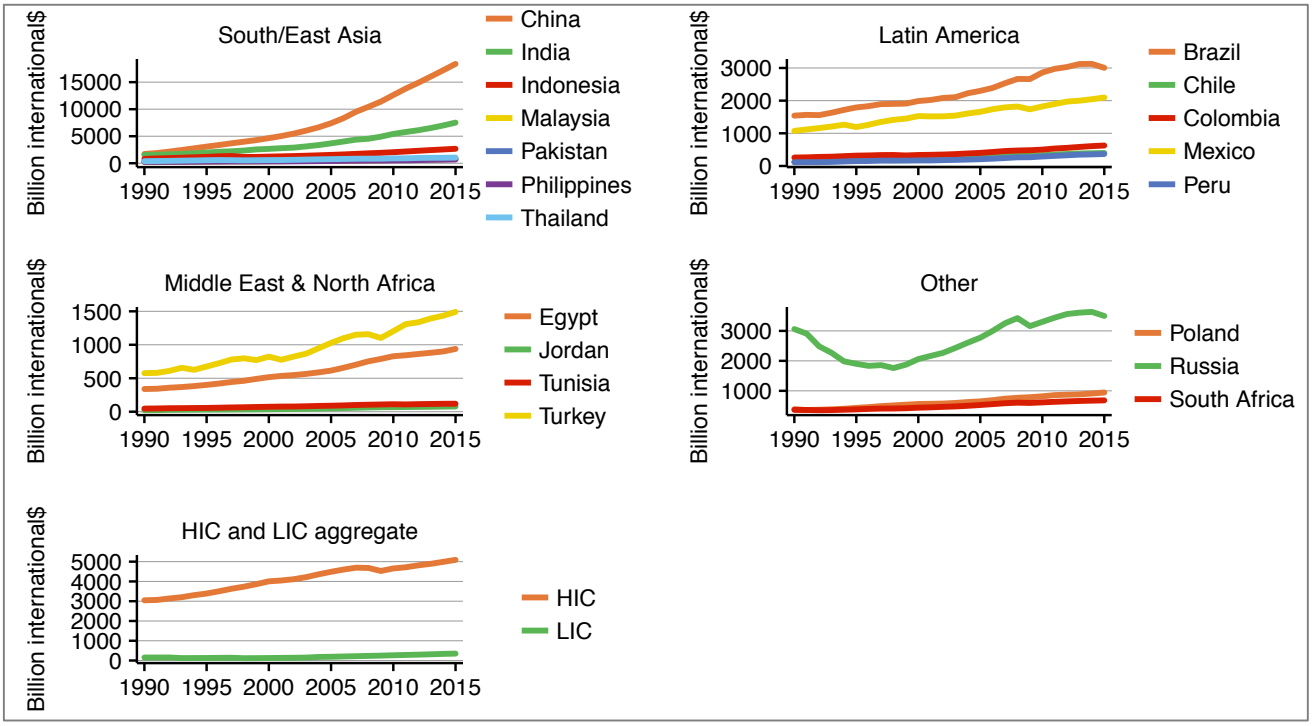
Source: [31]

Figure 6.1.7: Total GDP, PPP (current international $, billion), 1990-2015



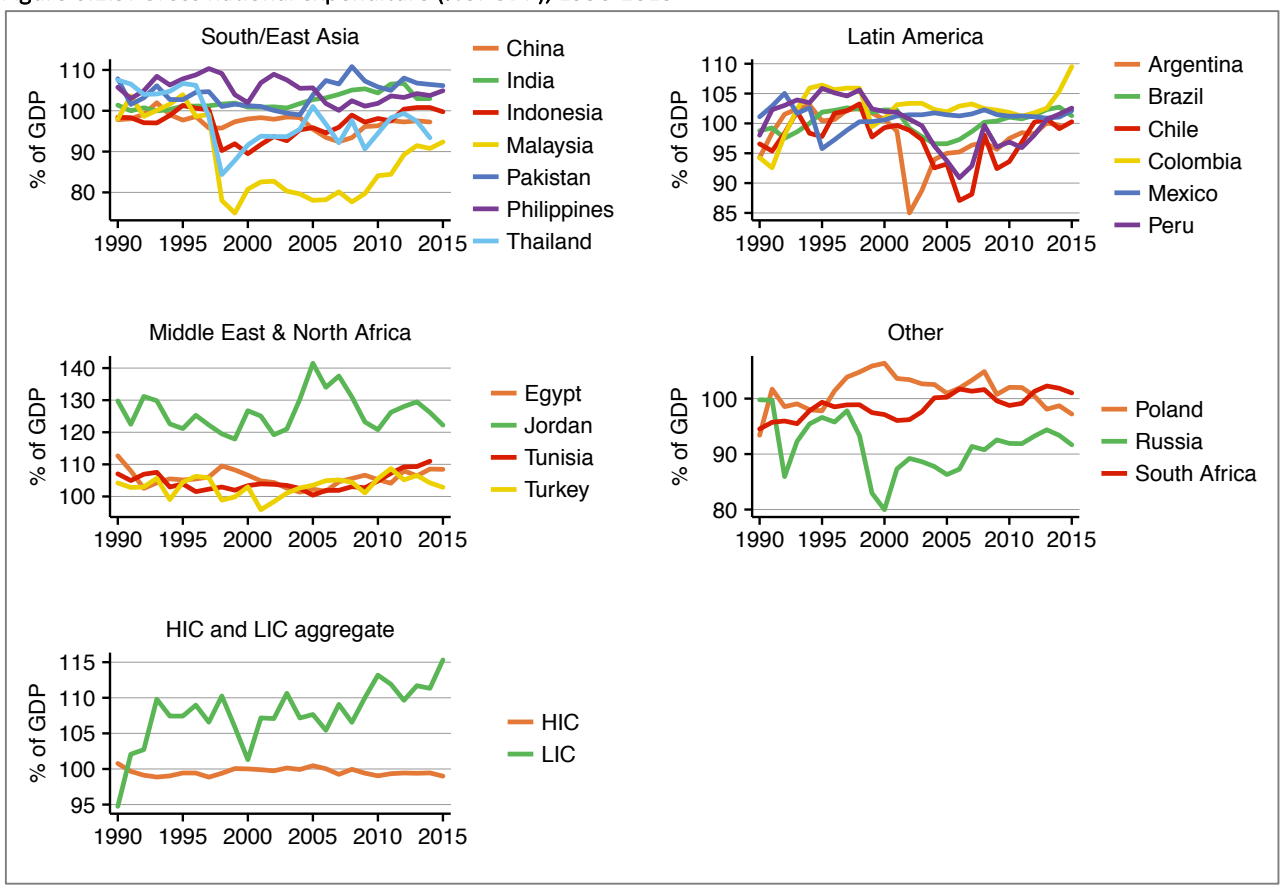
Source: [31]

Figure 6.1.8: Total GDP, PPP (constant 2011 international $, billion), 1990-2015



Source: [31]

Figure 6.1.9: Gross national expenditure (%of GDP), 1990-2015

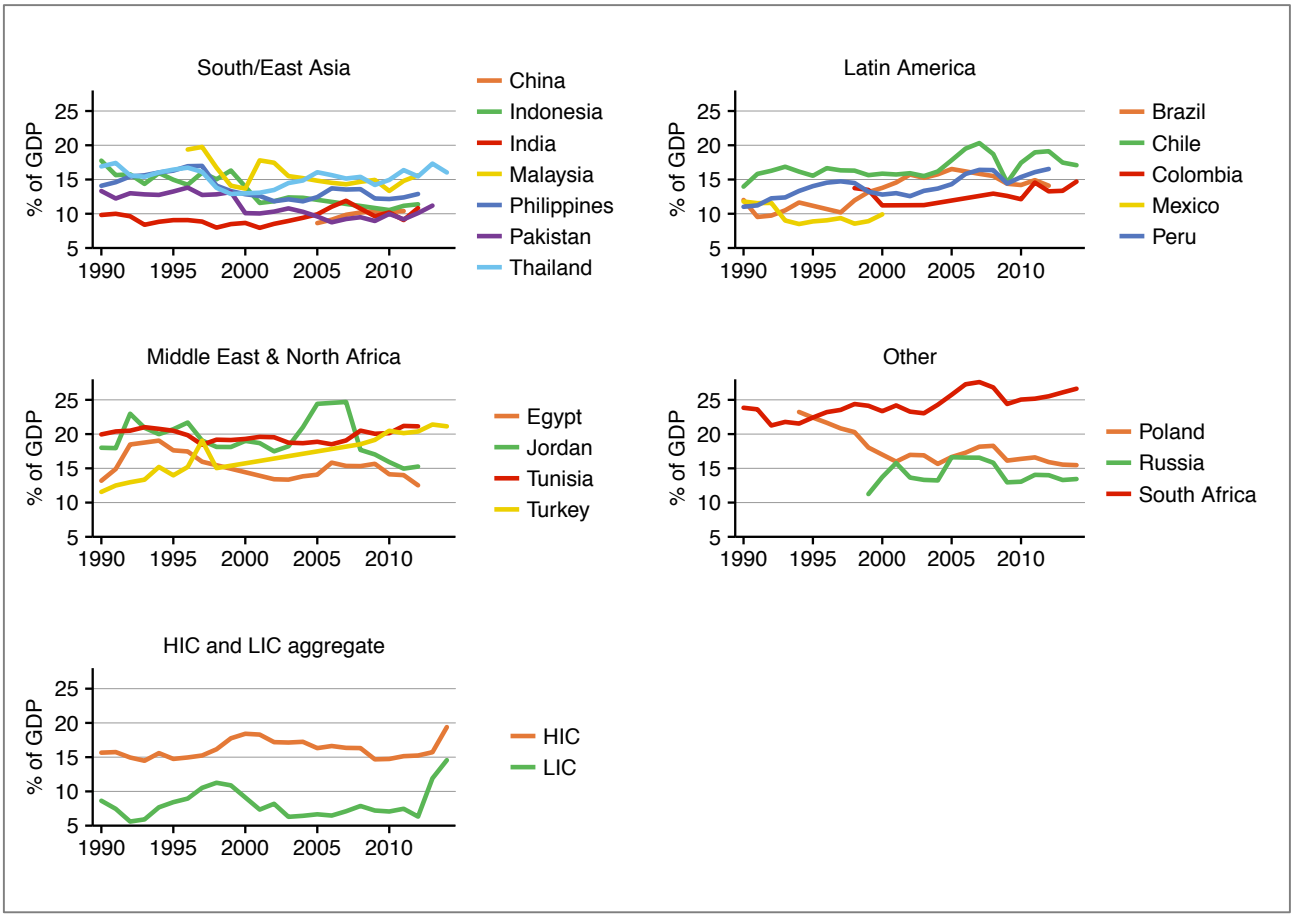


Source: [31]

Figure 6.1.10: Inflation, GDP deflator (annual %), 2000-2015

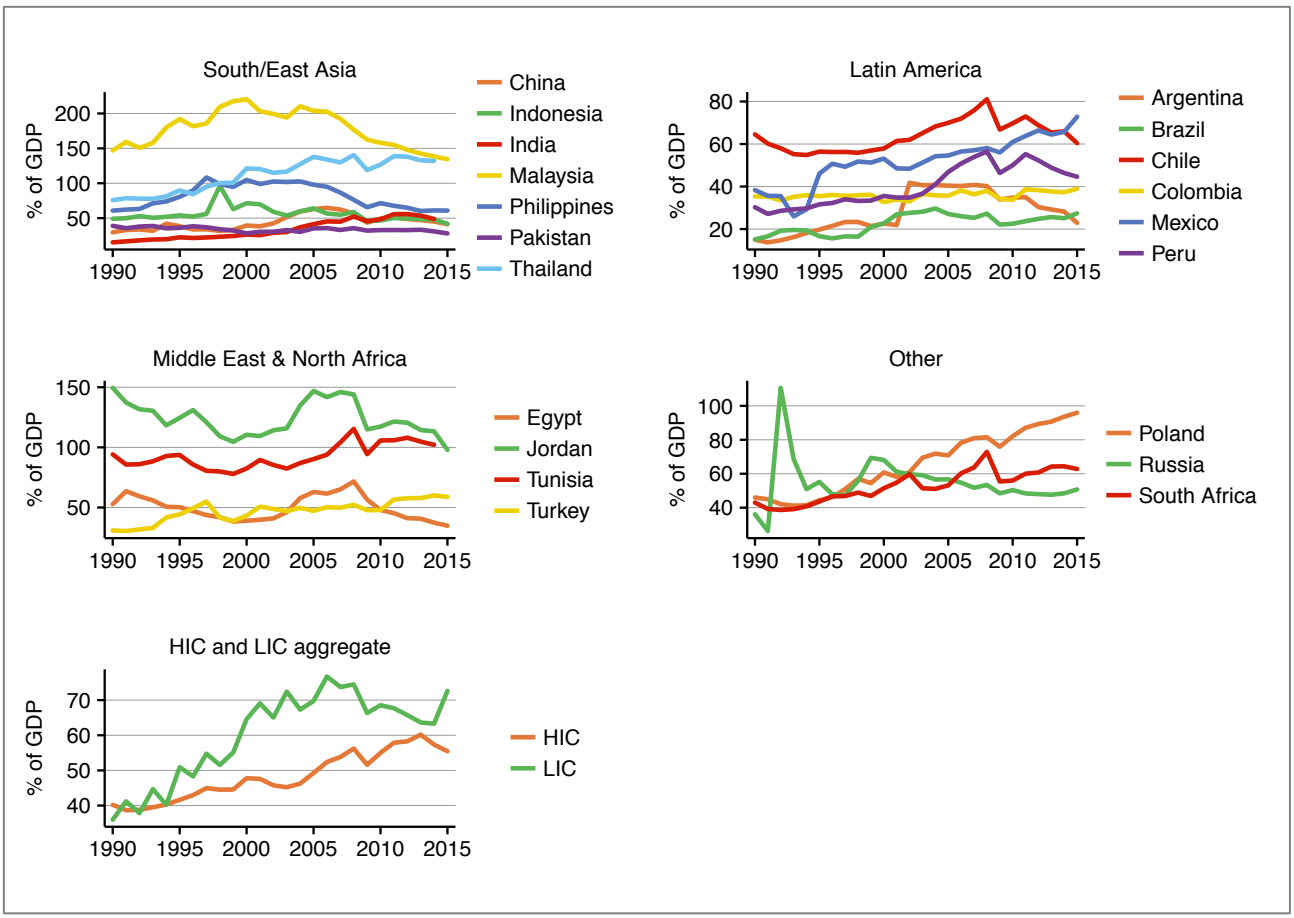
Source: [31]

Figure 6.1.11: Tax revenue (% of GDP), 1990-2014



Source: [31]

Figure 6.1.12: Trade (% of GDP), 1990-2015



Source: [31]

Full list of figures and tables

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