# Congo

# Factsheets of Health Statistics 2010

World Health Organization
REGIONAL OFFICE FOR Africa

Figure 1 : Congo and neighboring countries

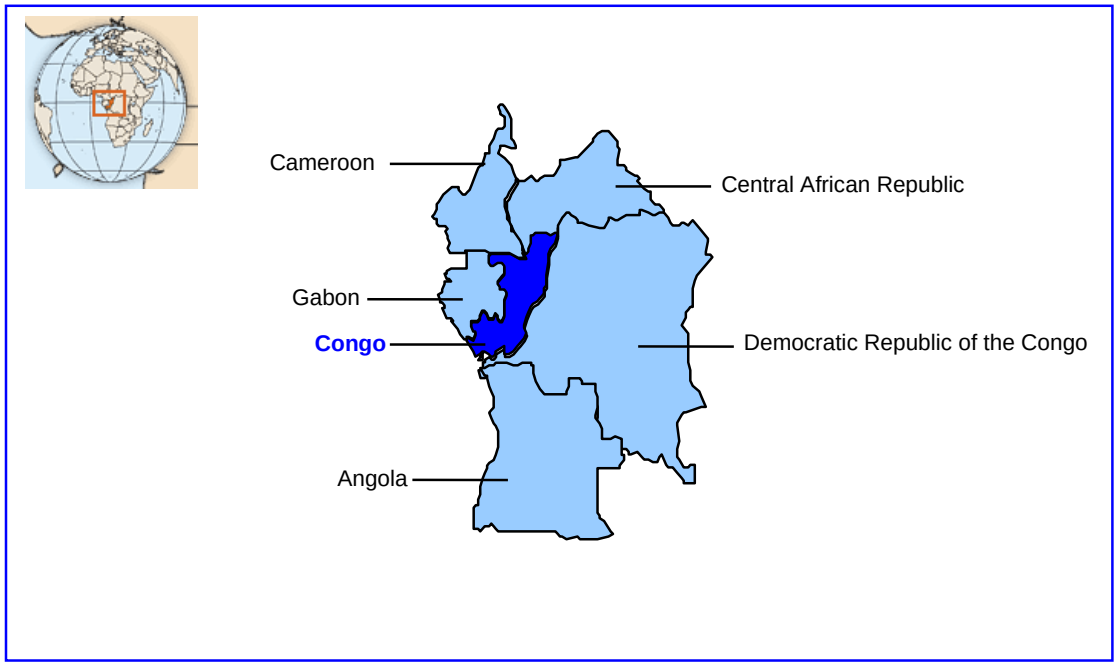
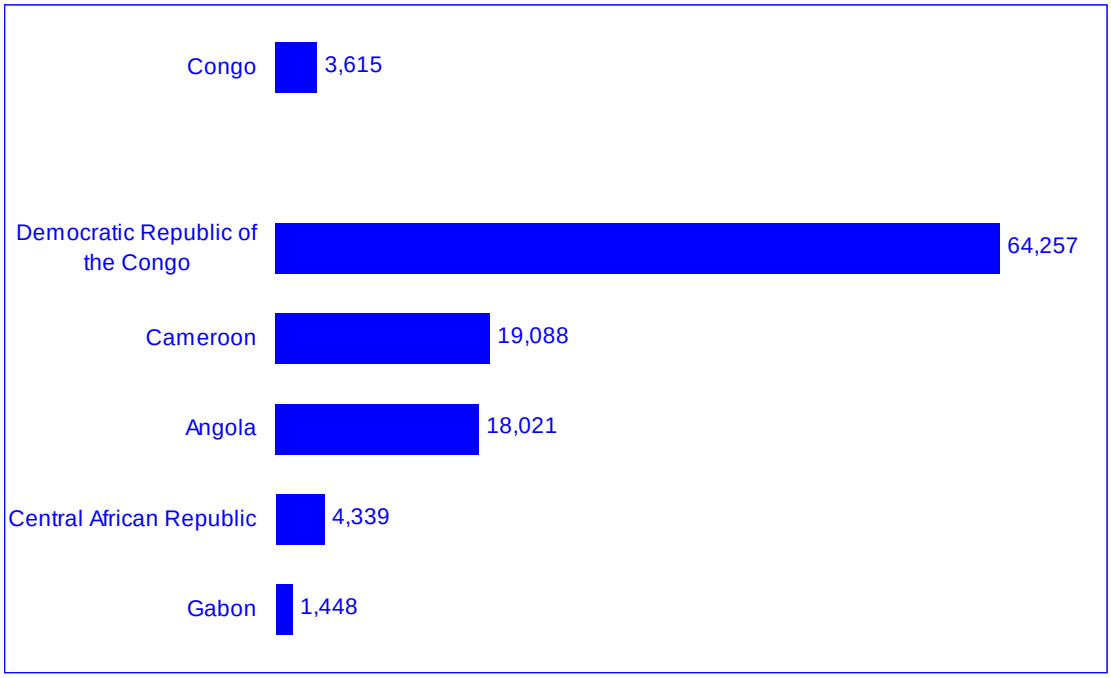



Figure 2 : Population size (in thousands) in Congo and neighboring countries, 2008



# 1. Health Status

## *Life expectancy*

Figure 3 : Life expectancy[i] at birth in years, in Congo and neighboring countries, 2008 and 1990

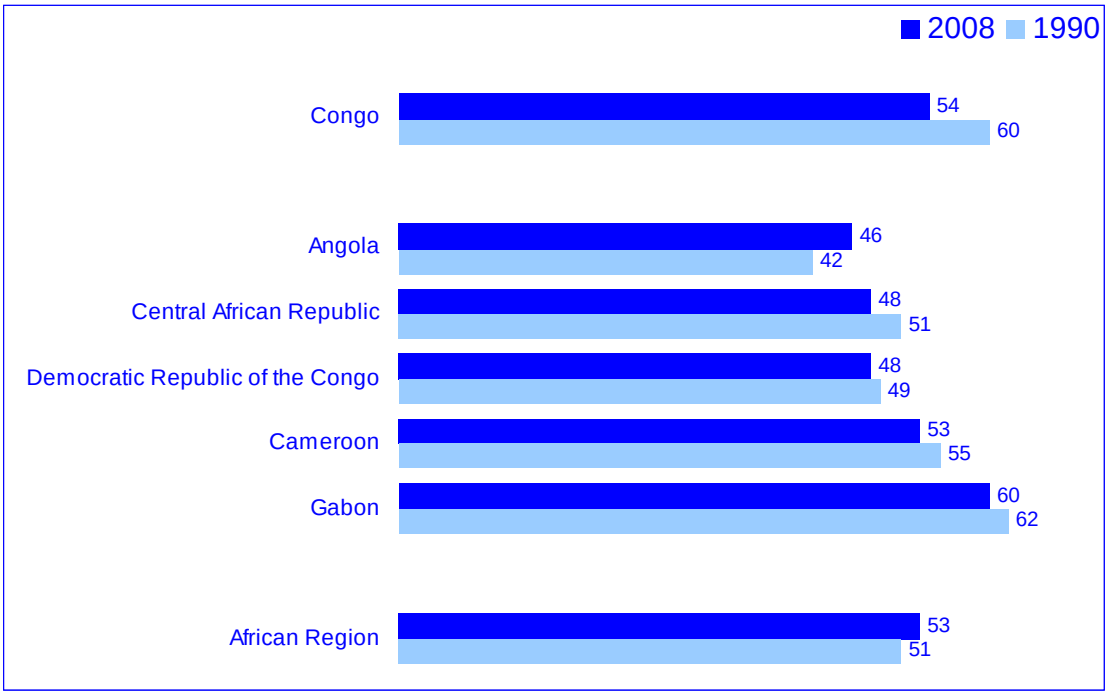
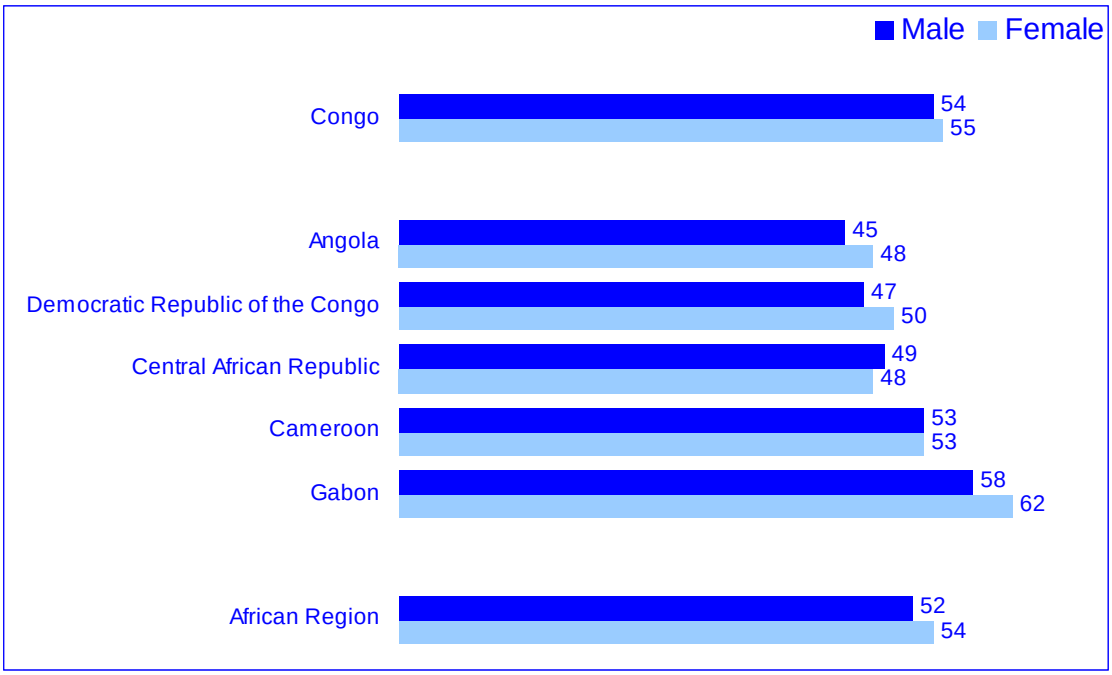
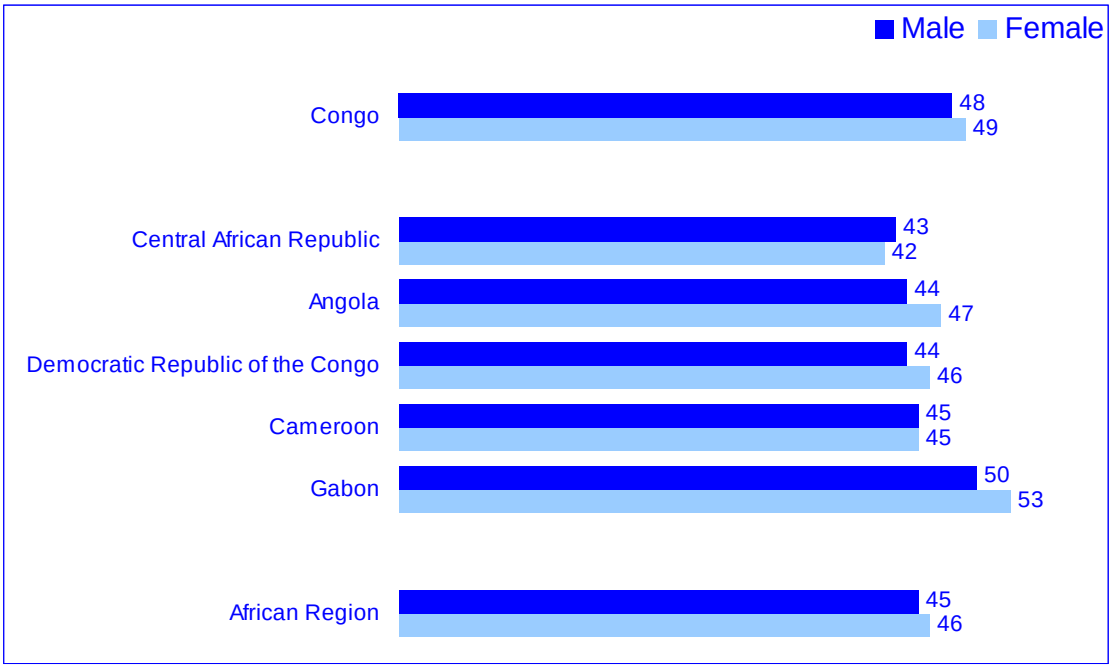



Figure 4 : Life expectancy at birth in years, in Congo and neighboring countries, by sex, 2008



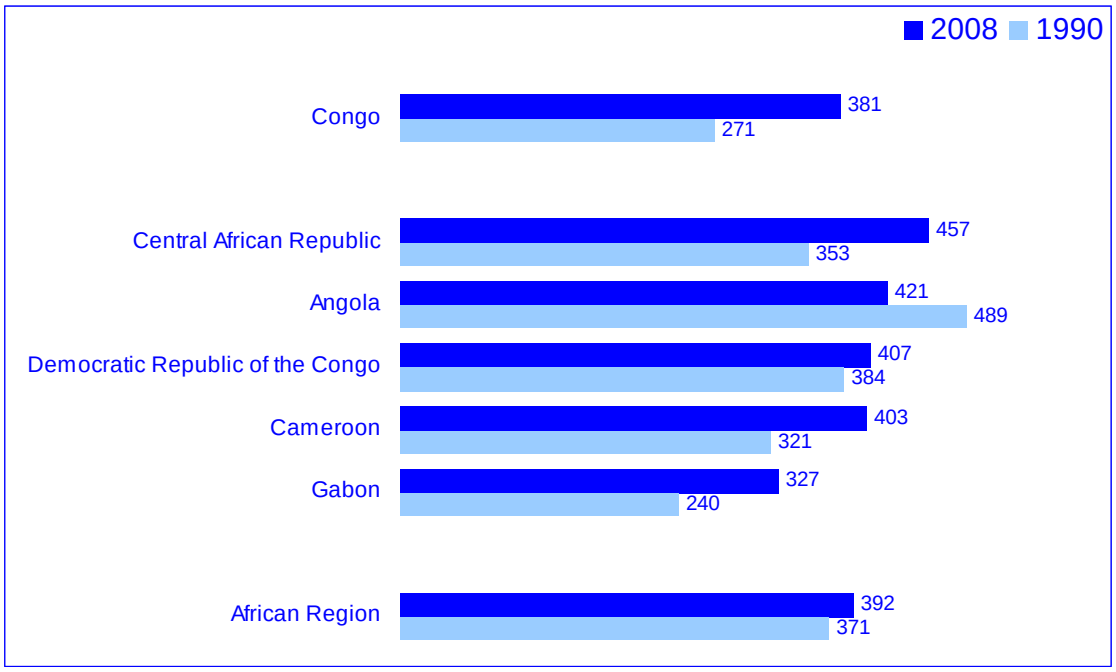

[i] Definition: average number of years that a newborn is expected to live if current mortality rates continue to apply

Figure 5 : Healthy life expectancy[ii] at birth in years, in Congo and neighboring countries, by sex, 2007




## *Mortality*

Figure 6 : Adult mortality rate[iii] per 1,000 population in Congo and neighboring countries, 2008 and 1990




[ii] Definition: 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

[iii] Definition: probability that a 15-year-old person will die before reaching his/her 60th birthday. Mortality data. Geneva, World Health Organization, 2010 (www.who.int/healthinfo/statistics/mortality/en/)

Figure 7 : Adult mortality rate per 1,000 population in Congo and neighboring countries, by sex, 2008

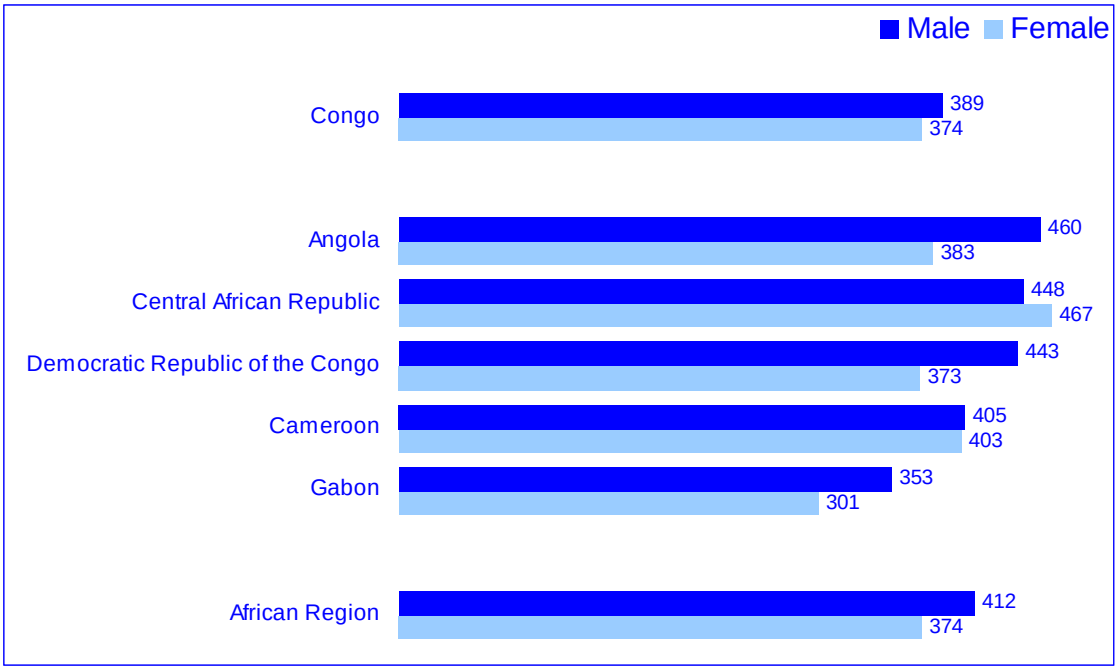
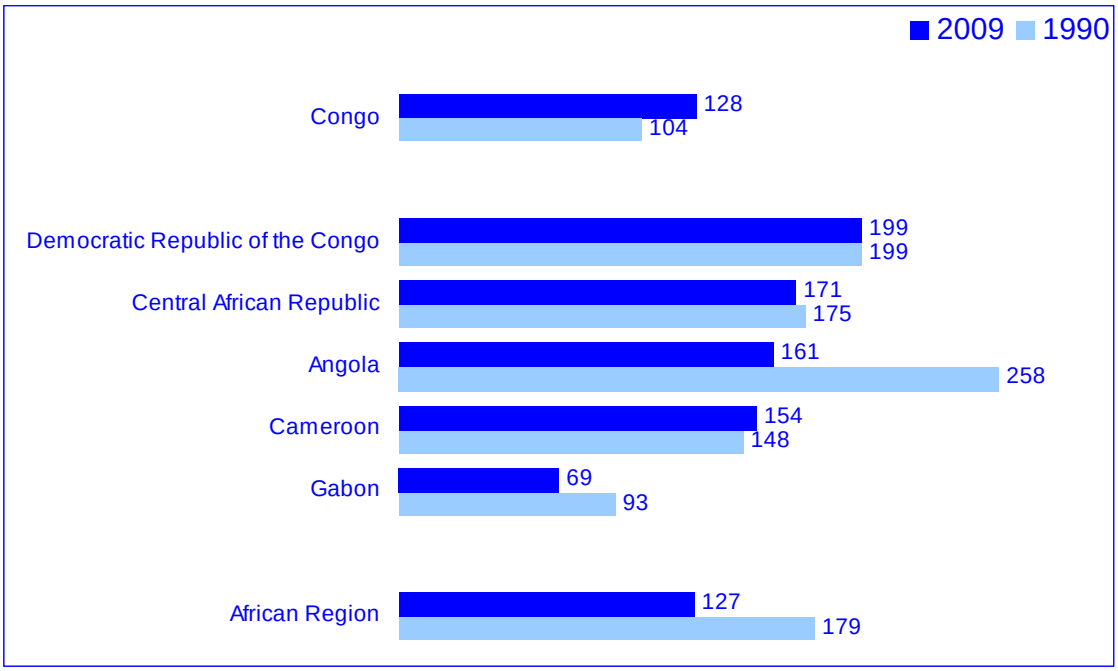


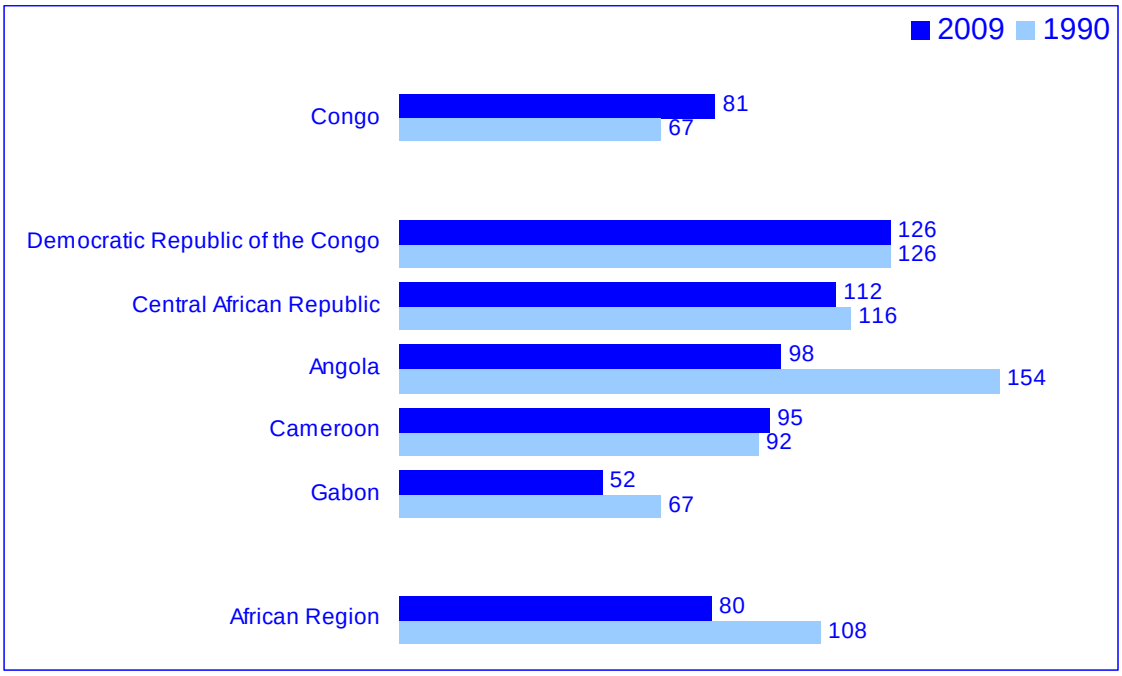

Figure 8 : Under-five mortality rate[iv] (per 1, 000 live births) in Congo and neighboring countries, both sexes, 2009 and 1990




Source: IGME 2009 Estimates

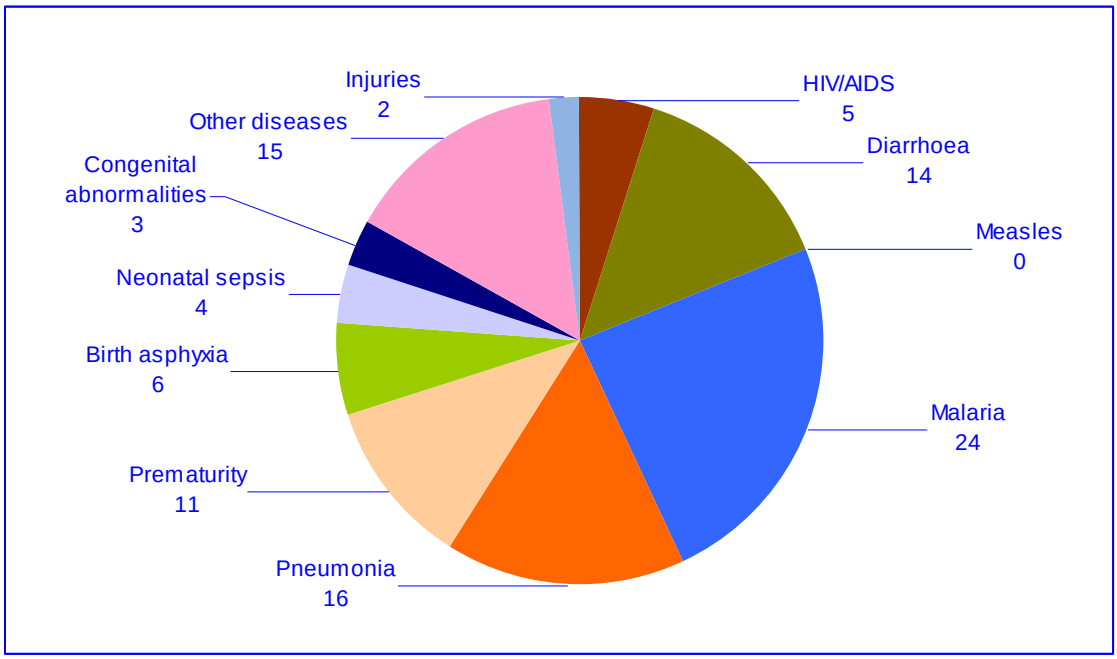
[iv] Definition: under-five mortality rate is the probability of a child born in a specific year or period dying before reaching the age of five, if subject to age-specific mortality rates of that period

Figure 9 : Infant mortality rate[v] per 1,000 lives births in Congo and neighboring countries, 2009 and 1990



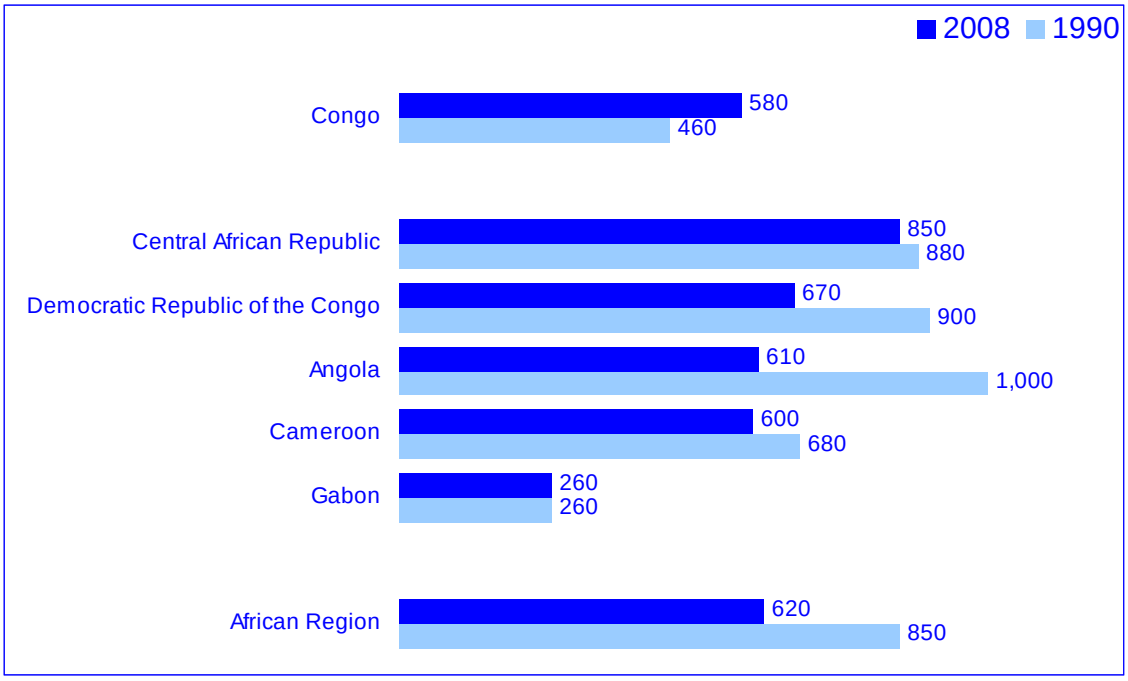

Source: IGME 2009 Estimates

Figure 10 : Distribution of causes of death among children aged <5 years (%) in Congo, 2008




[v] Infant mortality rate is the probability of a child born in a specific year or period dying before reaching the age of one, if subject to age-specific mortality rates of that period.

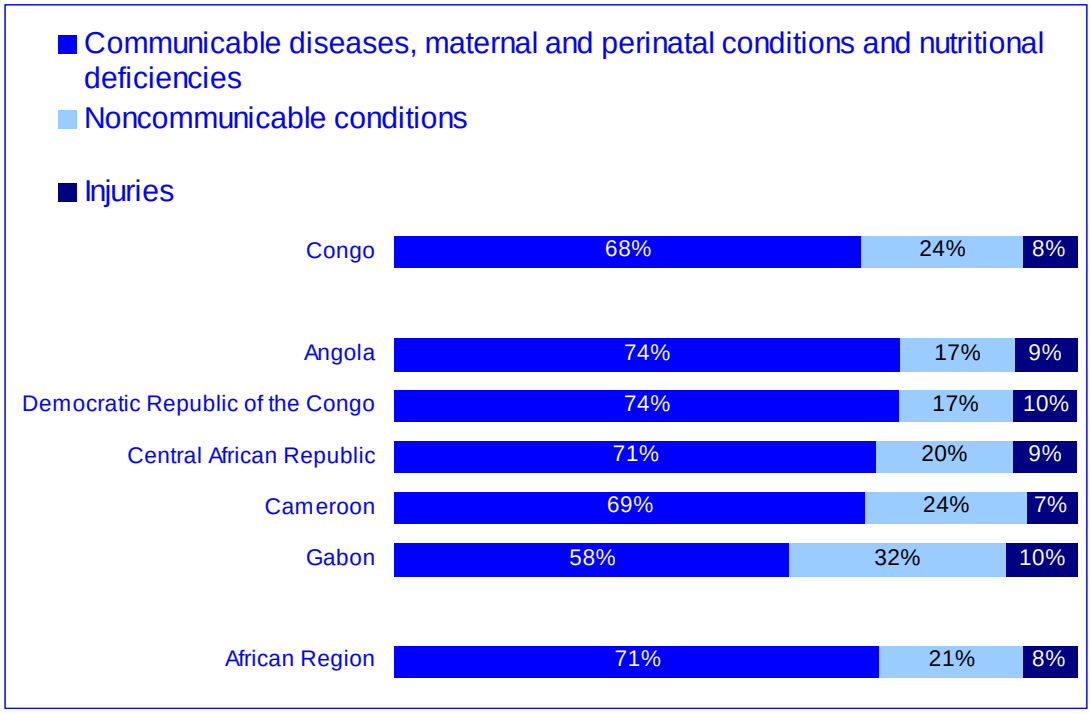
Figure 11 : Maternal mortality ratio[vi] per 100,000 live births in Congo and neighboring countries, 2008 and 1990




Source: IGME 2009 Estimates

## *Burden of Disease*

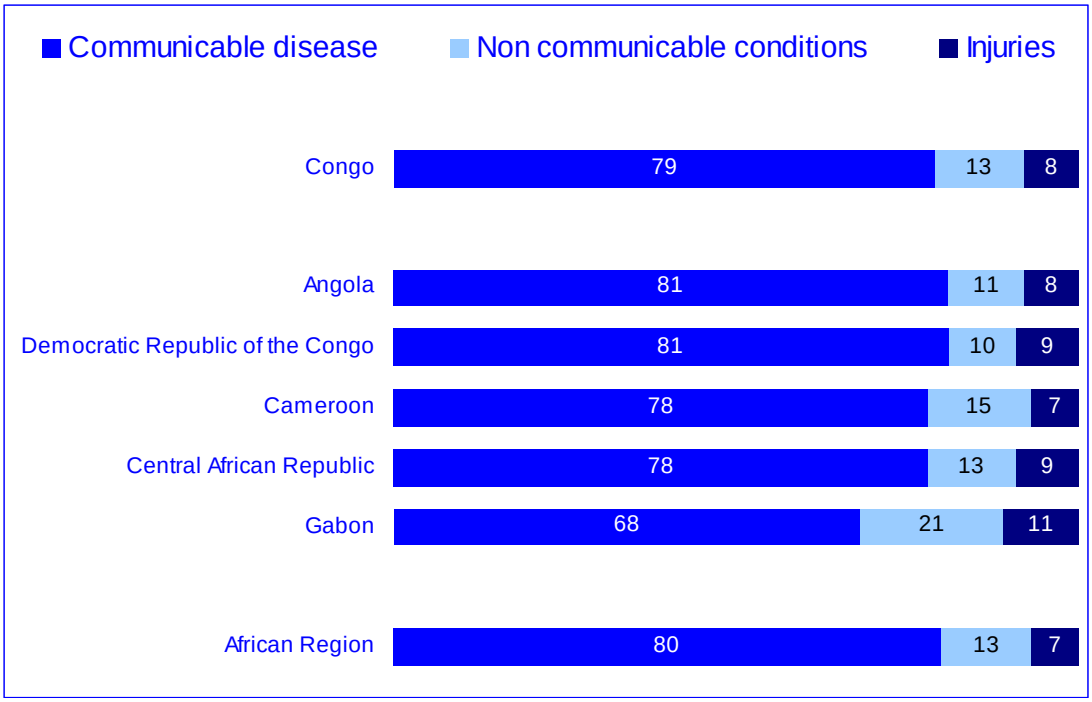
Figure 12 : Distribution burden of diseases as % of total DALYs[vii] by broader causes in Congo and neighboring countries, by country, 2004




[vi] Definition: number of maternal deaths per 100 000 live births during a specified time period, usually one year.

[vii] DALY is a health gap measure that extends the concept of potential years of life lost due to premature death (PYLL) to include equivalent years of "healthy" life lost by virtue of being in states of poor health or disability (1). DALYs for a disease or health condition are calculated as the sum of the years of life lost due to premature mortality (YLL) in the population and the years lost due to disability (YLD) for incident cases of the health condition.

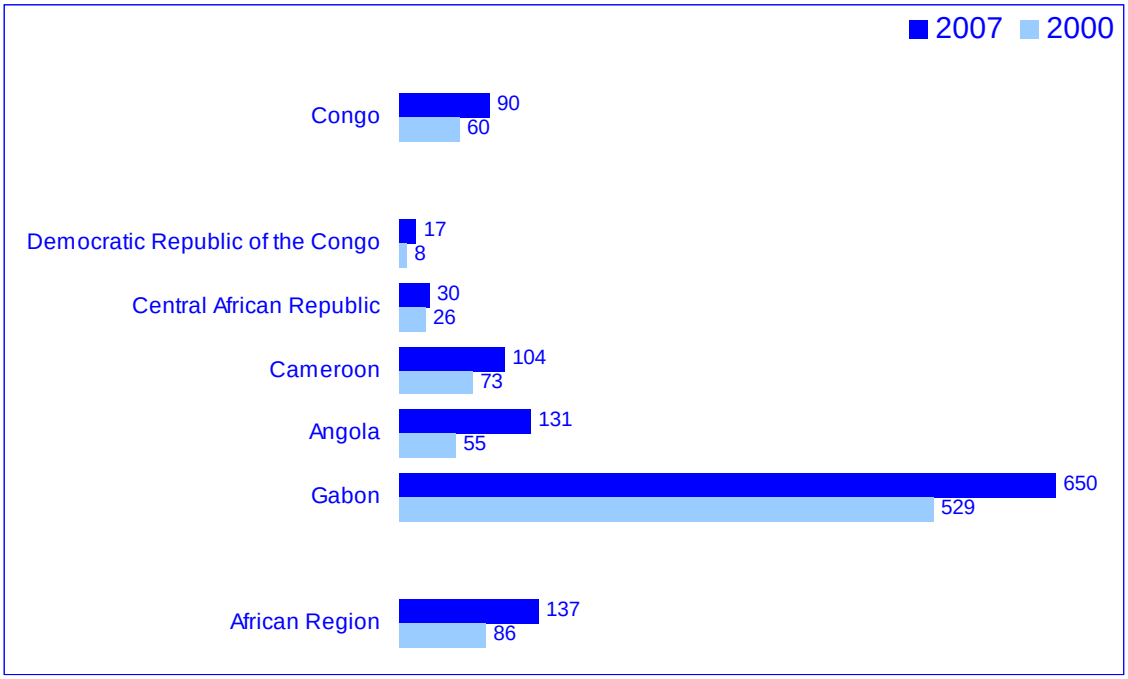
Figure 13 : Distribution of years of life lost[viii] by broader causes in Congo and neighboring countries, 2004




# 2. The Health System

## *Health financing*

Figure 14 : Per capita total expenditure on health (PPP int. $) in Congo and neighboring countries, 2007 and 2000




[viii] Definition: YLL are calculated from the number of deaths multiplied by a standard life expectancy at the age at which death occurs. The standard life expectancy used for YLL at each age is the same for deaths in all regions of the world and is the same as that used for the calculation of disability-adjusted-life years (DALY). Additionally 3% time discounting and non-uniform age weights which give less weight to years lived at young and older ages were used as for the DALY. With non-uniform age weights and 3% discounting, a death in infancy corresponds to 33 YLL, and deaths at ages 5 to 20 to around 36 YLL.

Figure 15 : Total expenditure on health as percent of GDP[ix] in Congo and neighboring countries, 2007 and 2000

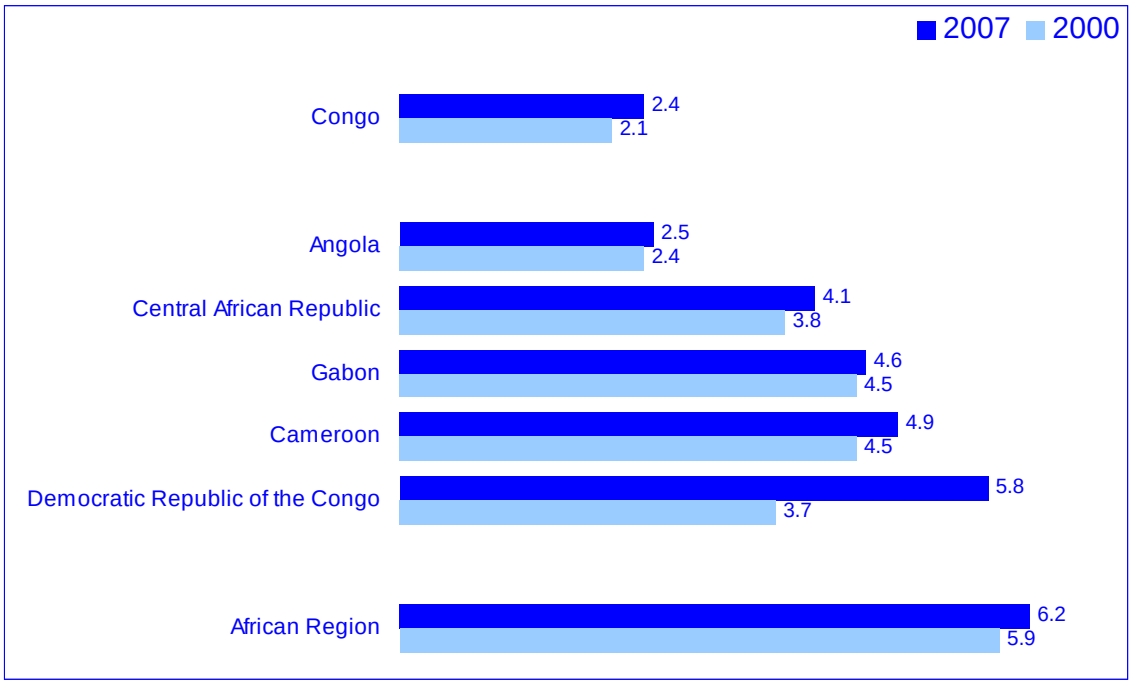
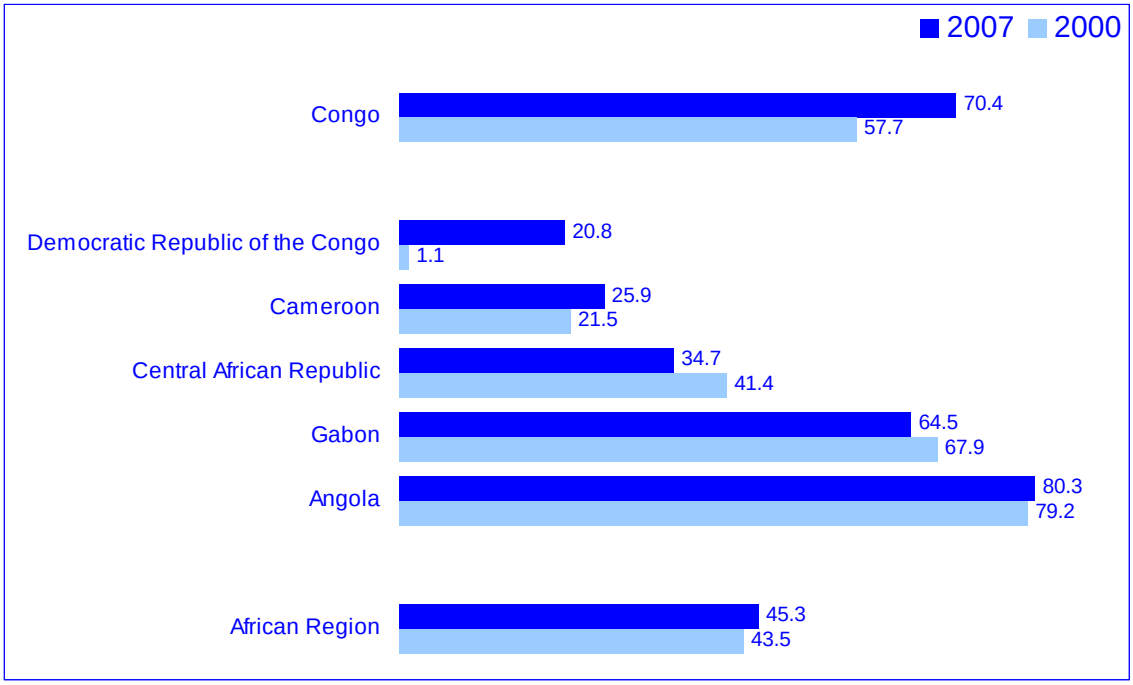



Figure 16 : General government expenditure on health as % of total expenditure on health in Congo and neighboring countries, 2007 and 2000




[ix] Gross domestic product (GDP) is the value of all goods and services provided in a country by residents and non-residents. This corresponds to the total sum of expenditure (consumption and investment) of the private and government agents of the economy during the reference year.

Figure 17 : General government expenditure on health as % of total government expenditure in Congo and neighboring countries, 2007 and 2000

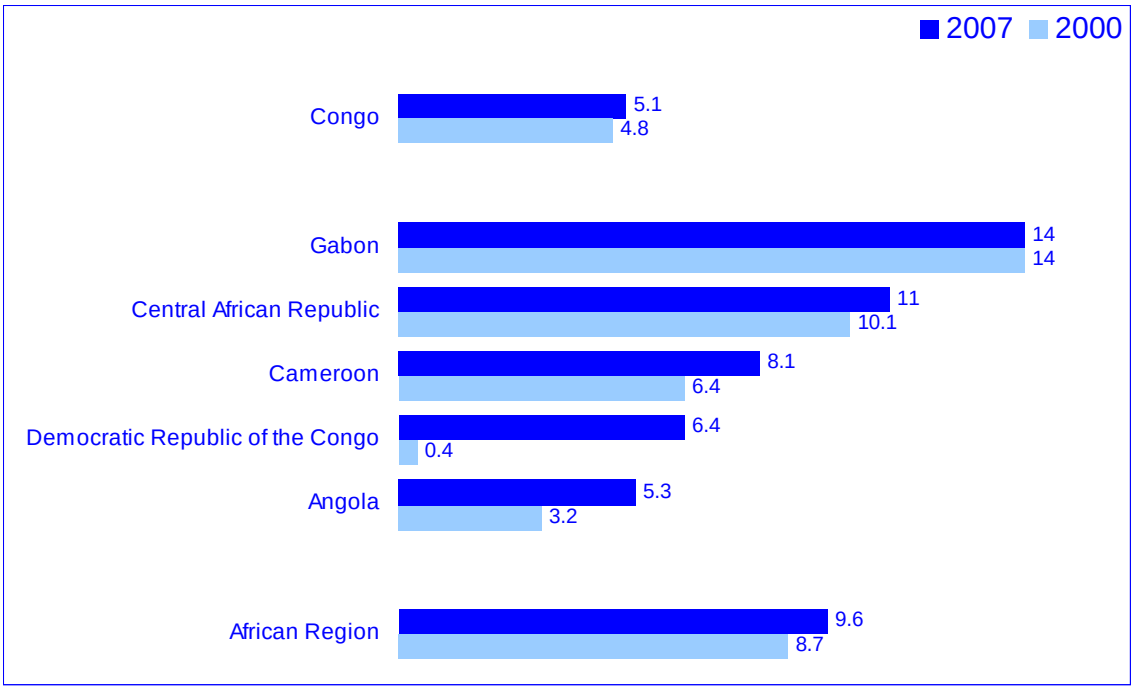



Figure 18 : External resources for health as percent of total expenditure on health in Congo and neighboring countries, 2007 and 2000

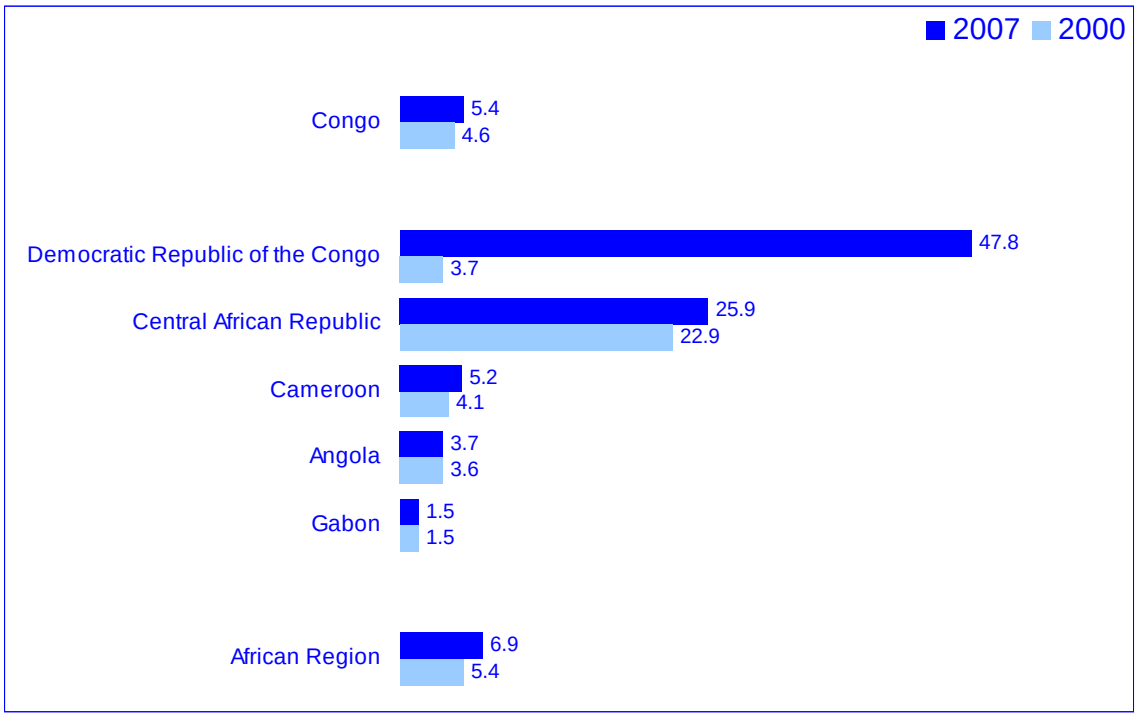


Figure 19 : Private expenditure on health as percent of total expenditure on health in Congo and neighboring countries, 2007 and 2000

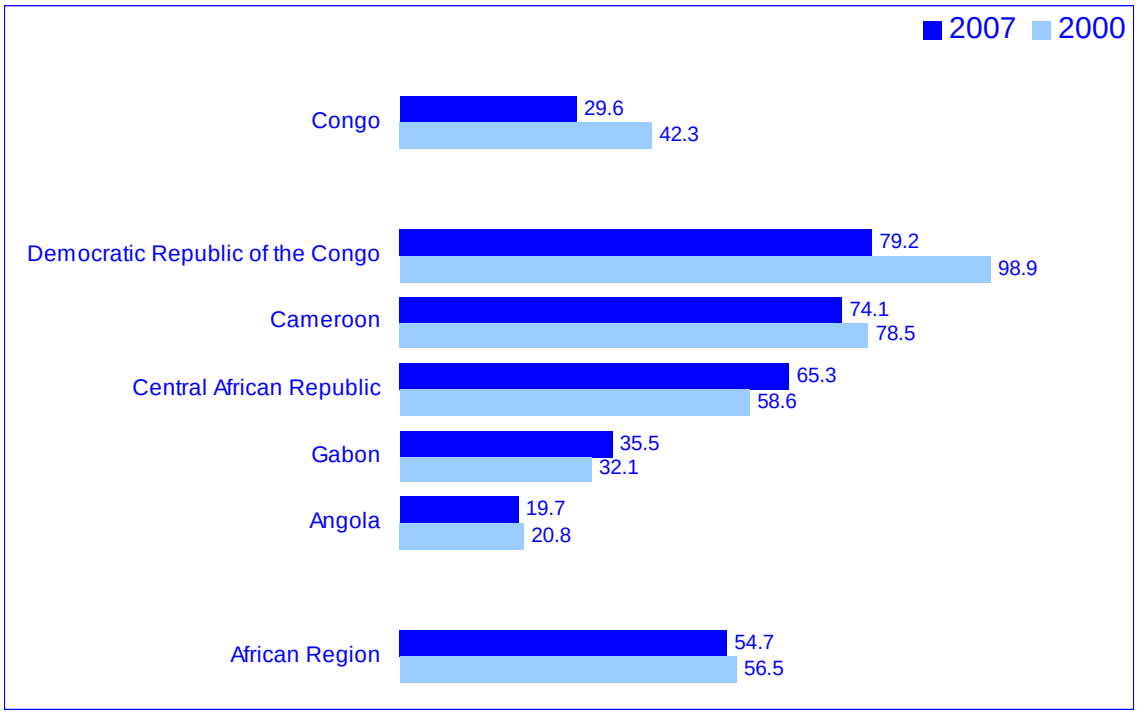
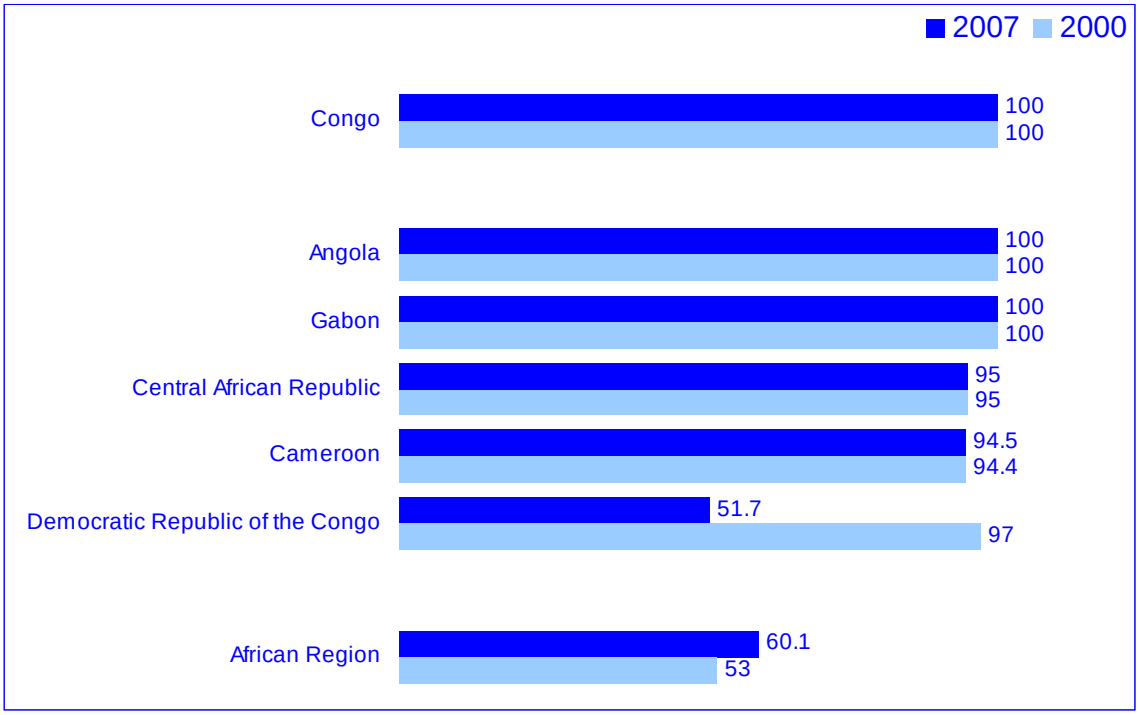
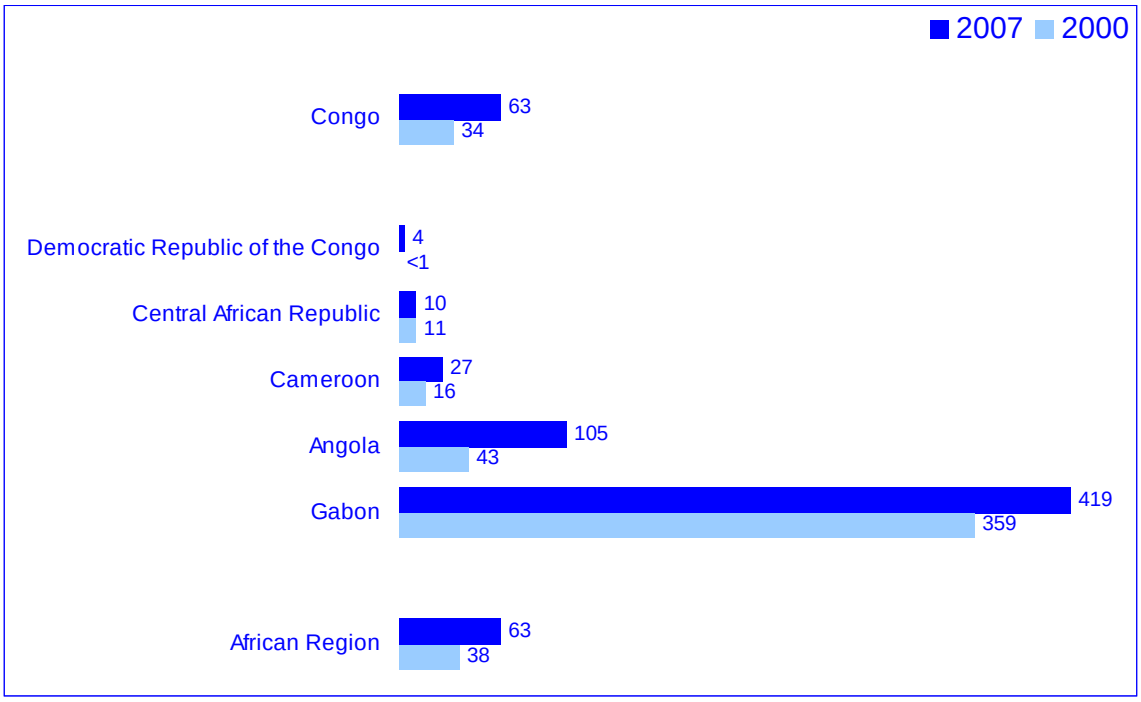



Figure 20 : Out-of-Pocket expenditure[x] as % of private expenditure on health in Congo and neighboring countries, 2007 and 2000




[x] Household out-of-pocket spending (OOPS): the direct outlays of households, including gratuities and in-kind payments made to health practitioners and to suppliers of pharmaceuticals, therapeutic appliances and other goods and services. This includes household direct payments to public and private providers of health care services, non-profit institutions, and non-reimbursable cost sharing, such as deductibles, copayments and fee for services

Figure 21: Per capita government expenditure on health (PPP int.$) in Congo and neighboring countries, 2007 and 2000




## *Health workforce*

Figure 22 : The physician to population ratio (per 10,000 population) in Congo and neighboring countries, 2000-2009

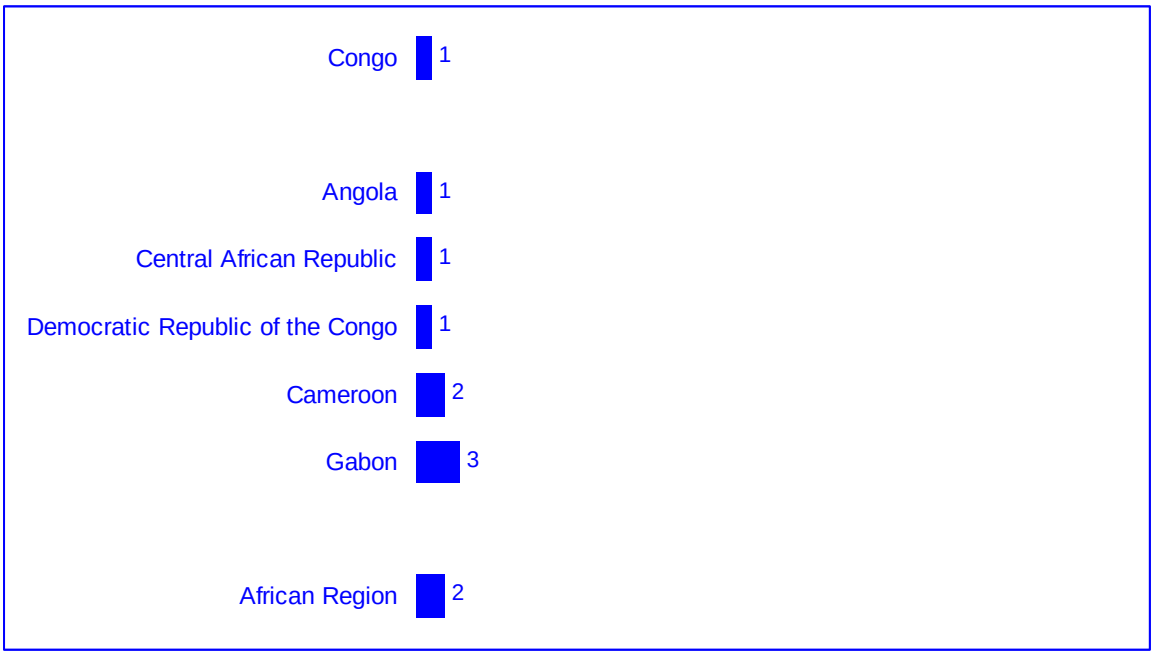
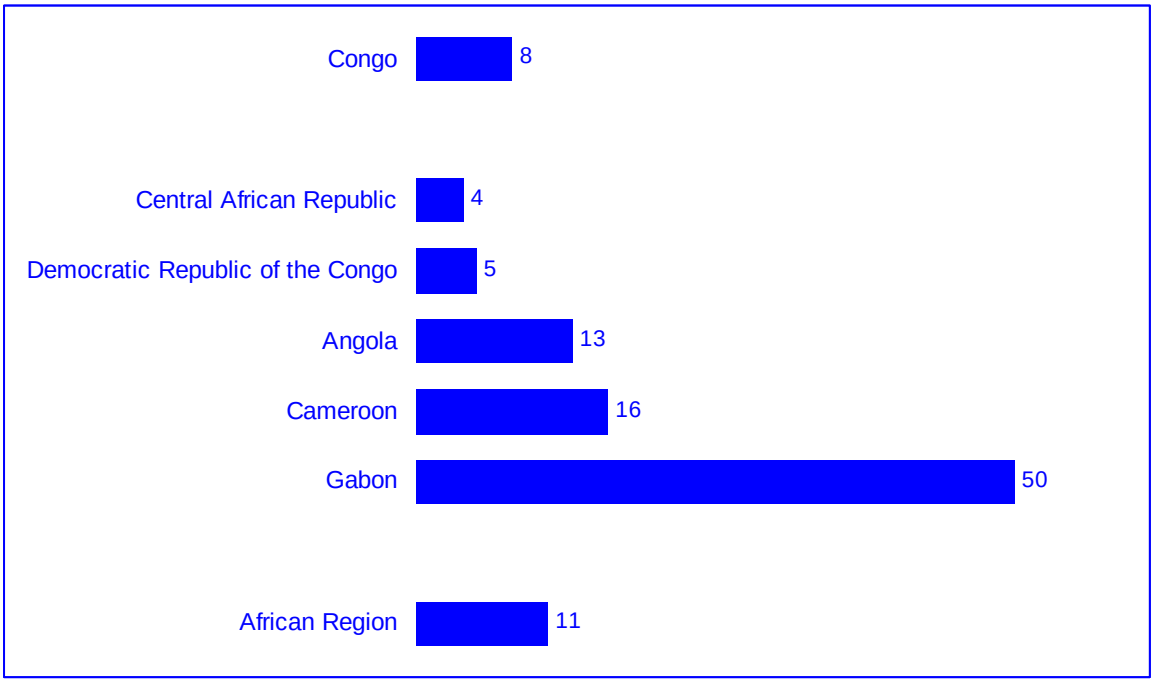


Figure 23 : The nursing and midwifery personnel to population ratio (per 10,000 population) in Congo and neighboring countries, 2000-2009




## *Medical products and equipment*

Figure 24 : Median percent availability of selected generic medicines in a sample of health facilities in Congo and neighboring countries with data in 2001-2008

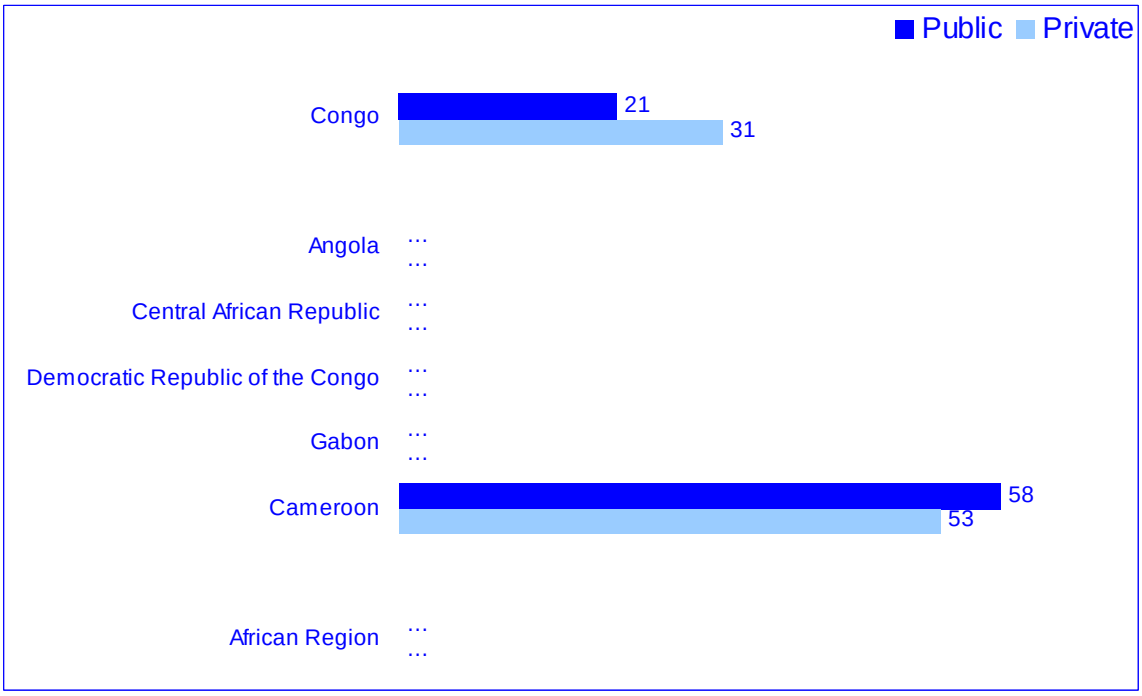



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Figure 25 : Median consumer price ratio of selected generic medicines (ratio of median local unit price to management sciences for health international reference price), Congo and neighboring countries, 2001 - 2008

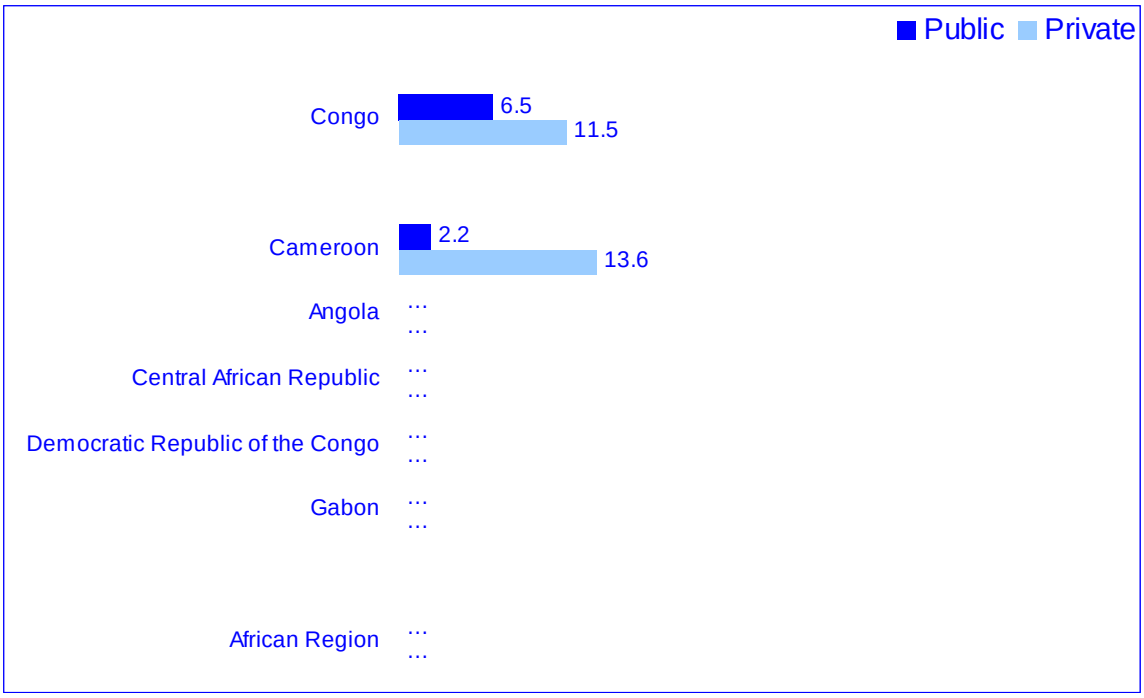


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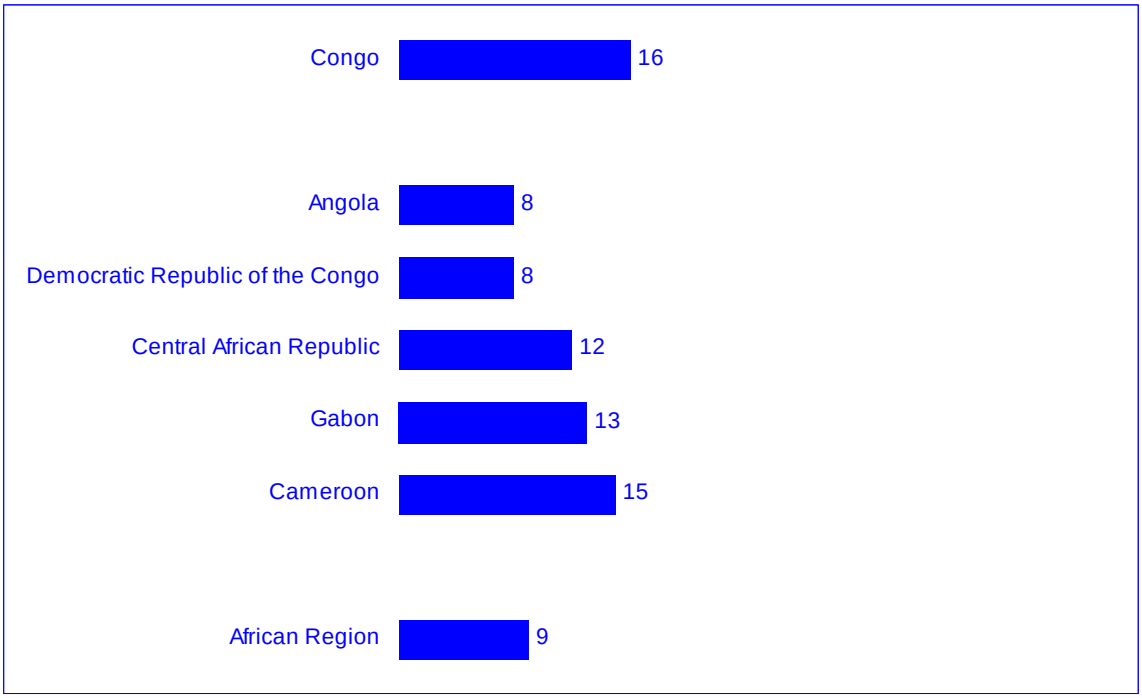
Figure 26 : Hospital beds[xi] per 10,000 population in Congo and neighboring countries, 2000-2009




[xi] Definition: number of inpatient beds per 10 000 population

## *Health information – Civil registration coverage*

Figure 27 : Percentage of civil registration coverage for births[xii] in Congo and neighboring countries, 2000-2008

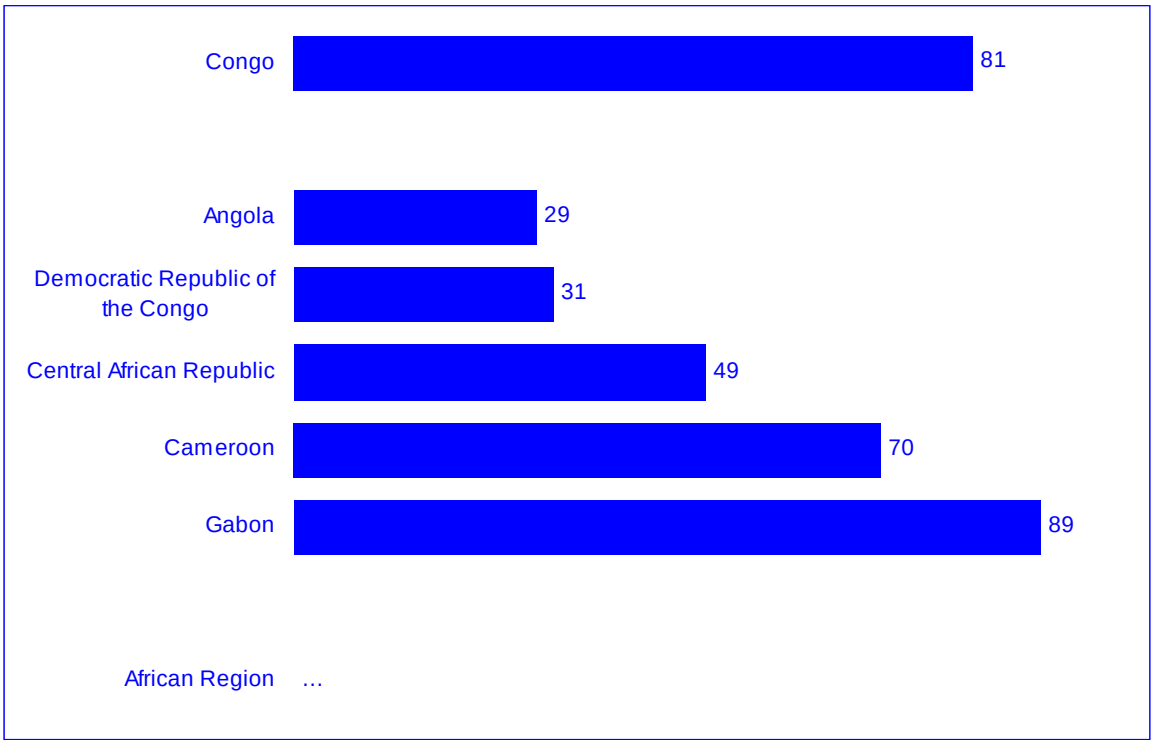
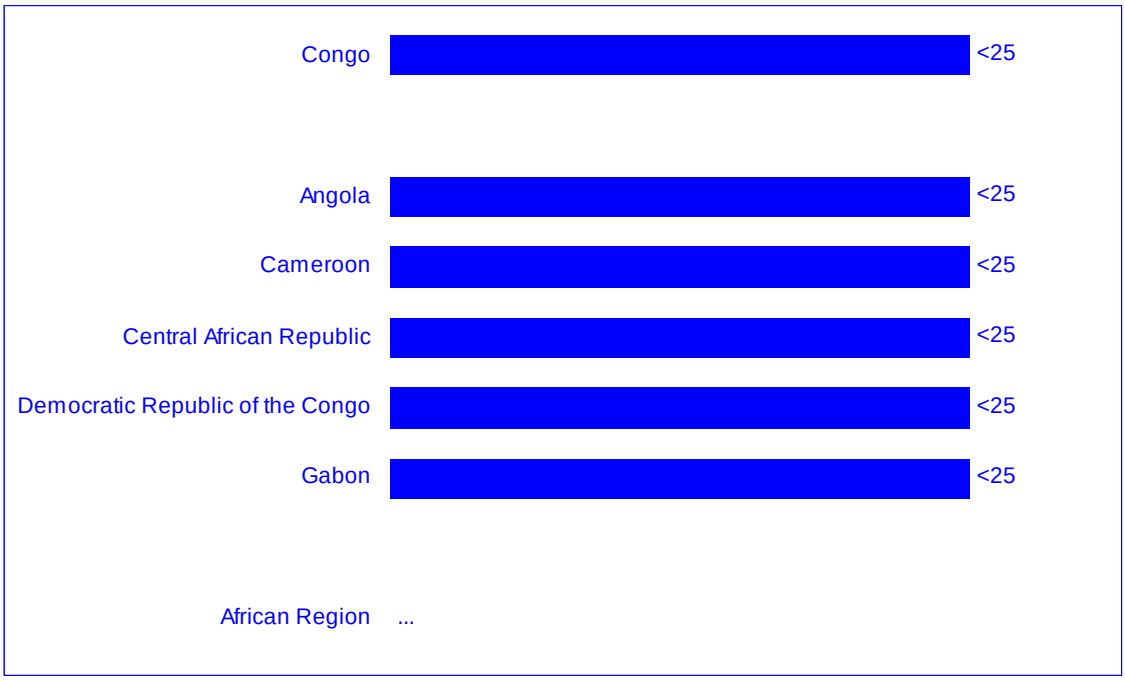



Figure 28 : Percentage of civil registration coverage of deaths[xiii] in Congo and neighboring countries, 2000-2008

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[xii] Definition: percentage of estimated total births that are "counted" through civil registration system.
[xiii] Definition: percentage of estimated total deaths that are "counted" through civil registration system.

# 3. Specific Programs and Services

## *HIV/AIDS*

Figure 29 : HIV/AIDS mortality rate (per 100 000 populations) in Congo and neighboring countries, 2007

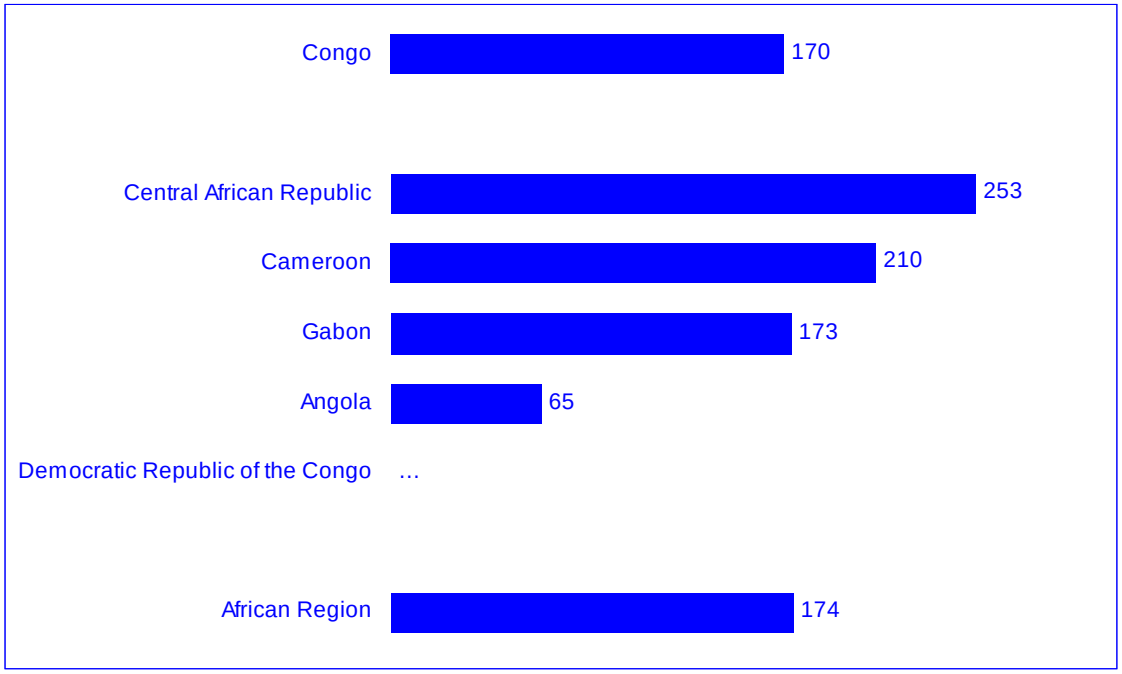


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Figure 30 : Percentage of people with advanced HIV infection receiving antiretroviral (ARV) combination therapy in Congo and neighboring countries, 2009 and 2007

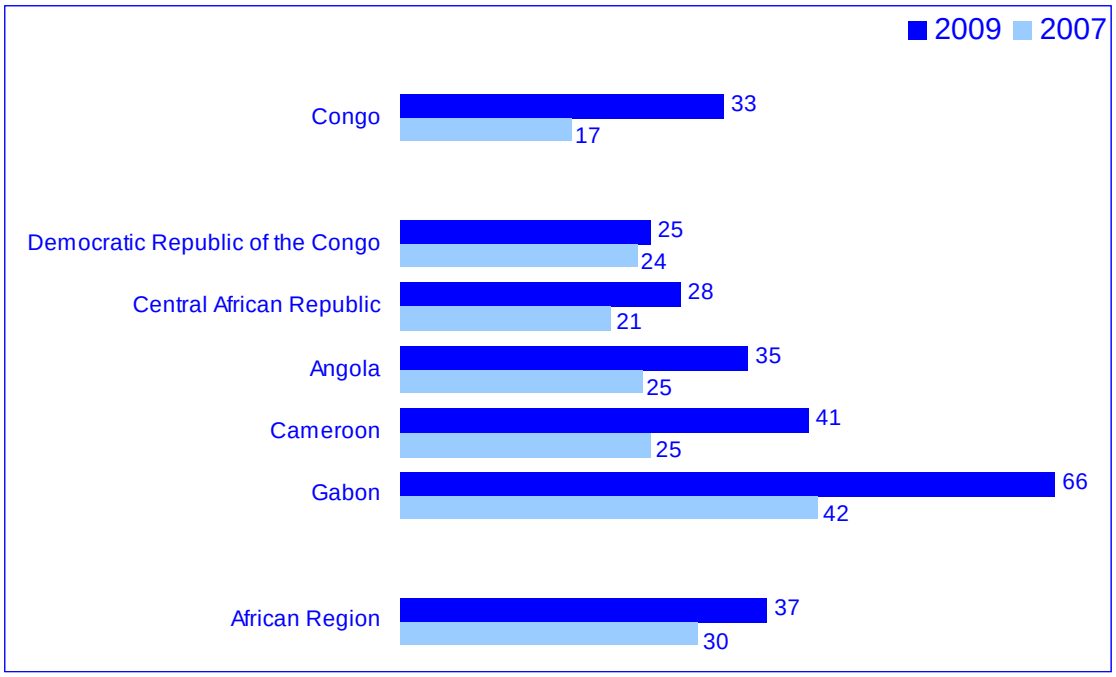


Figure 31 : Percentage of people 15-49 years of age living with HIV in Congo and neighboring countries, 2007 and 2001

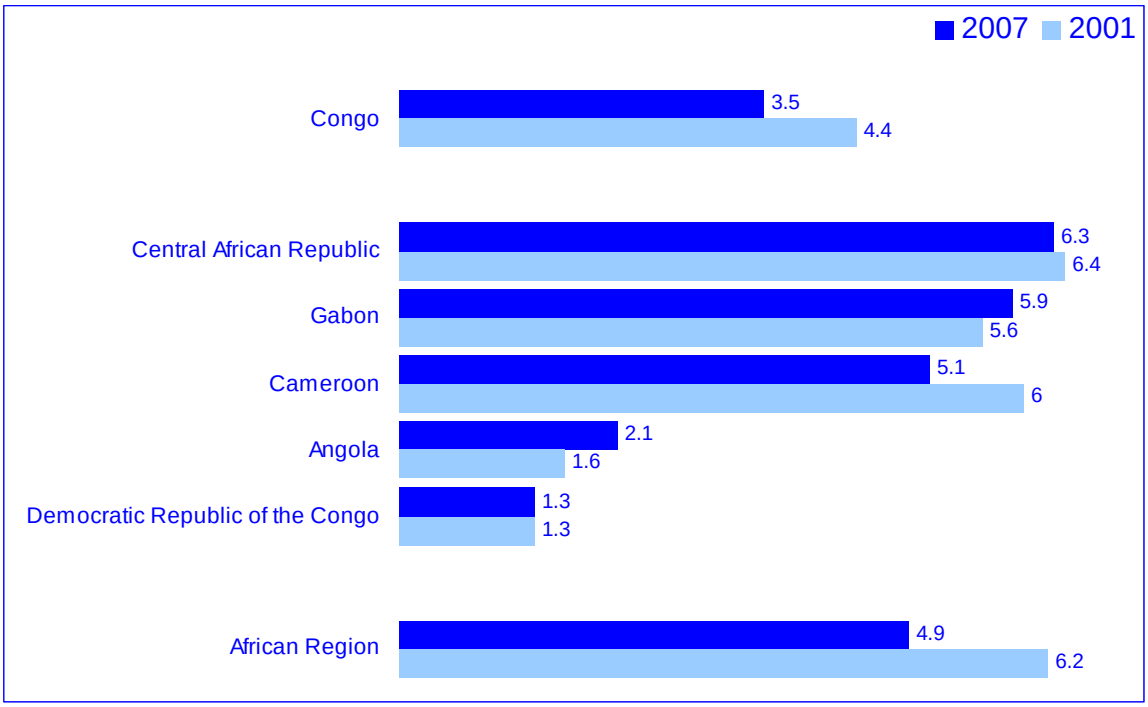
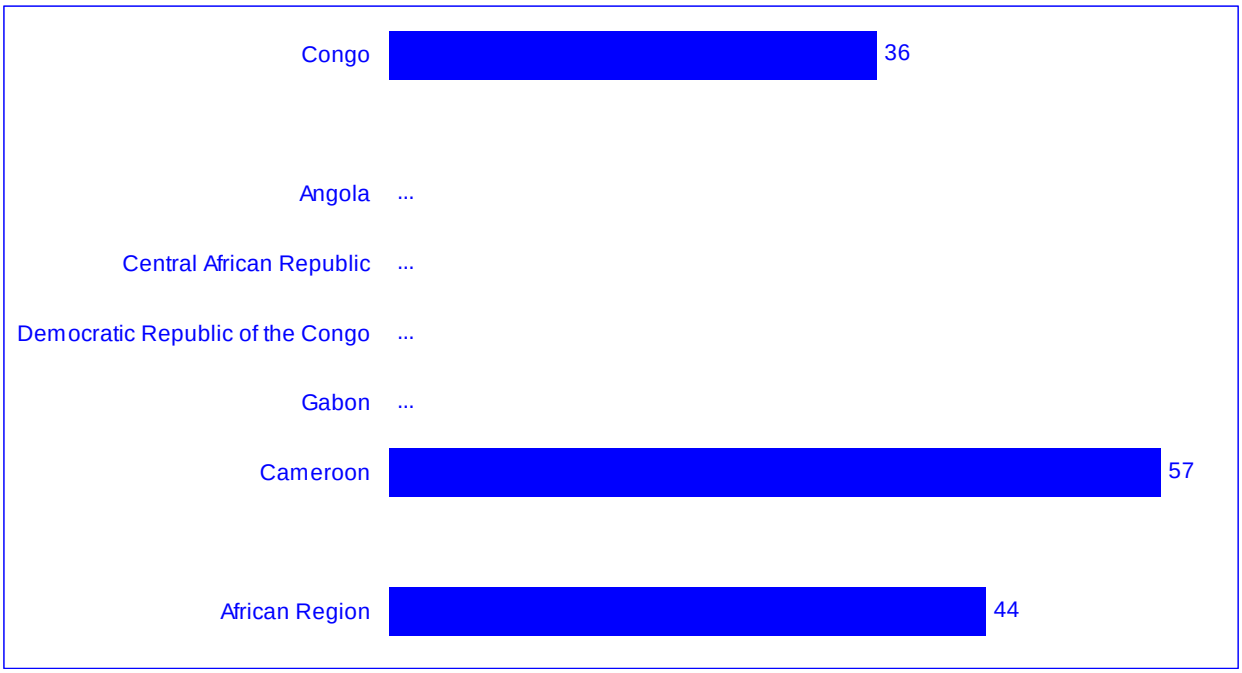



Figure 32 : Percentage of men aged 15-24 years who used a condom at last high-risk sex in Congo and neighboring countries, 2002-2006

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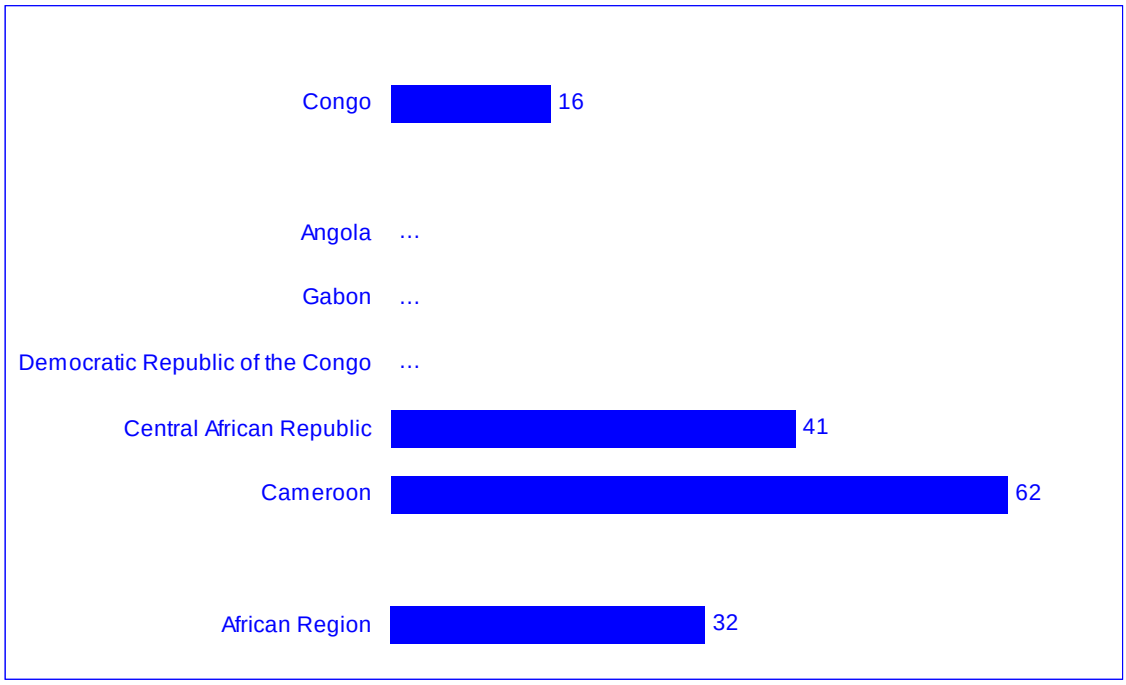
Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

Figure 33 : Percentage of women aged 15-24 years who used a condom at last high-risk sex in Congo and neighboring countries, 2002-2006

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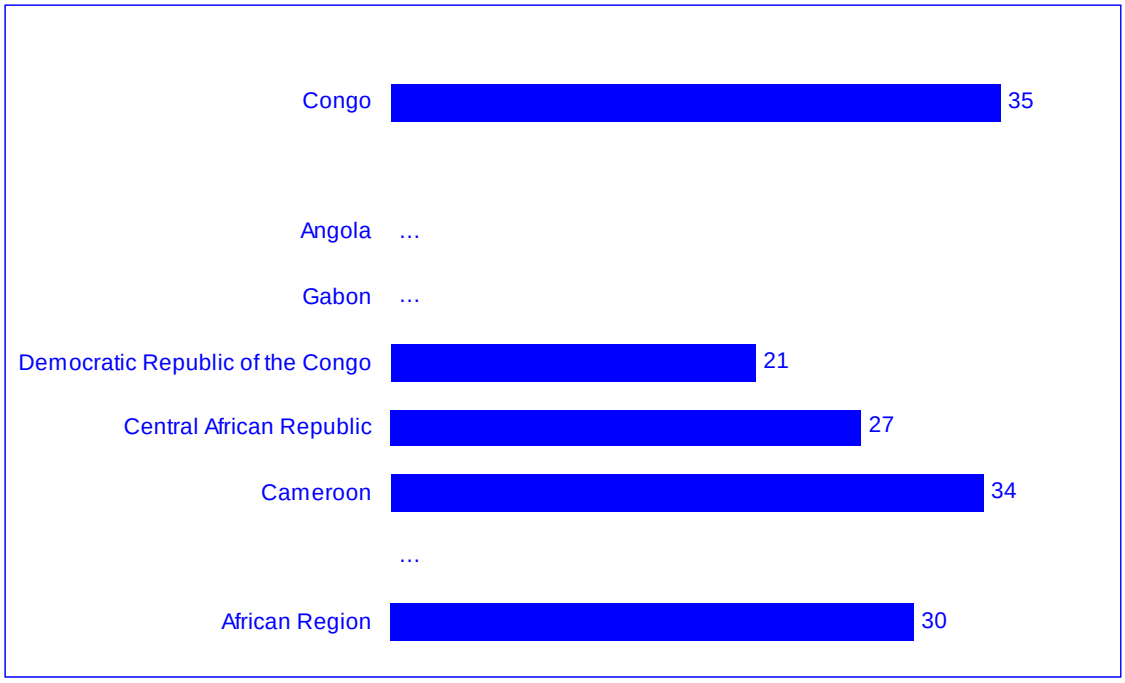
Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

Figure 34 : Proportion of men 15-24 years old with comprehensive correct knowledge of HIV/AIDS in Congo and neighboring countries, 2000-2007

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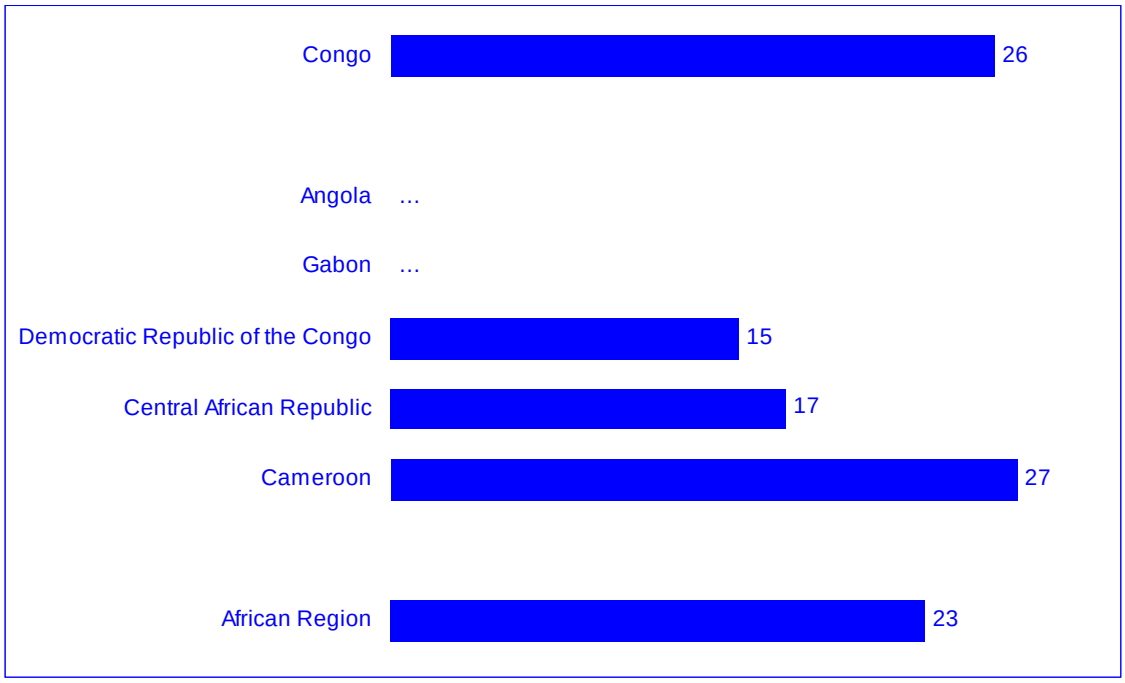
Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

Figure 35 : Proportion of women 15-24 Years age with comprehensive correct knowledge of HIV/AIDS in Congo and neighboring countries, 2000-2007

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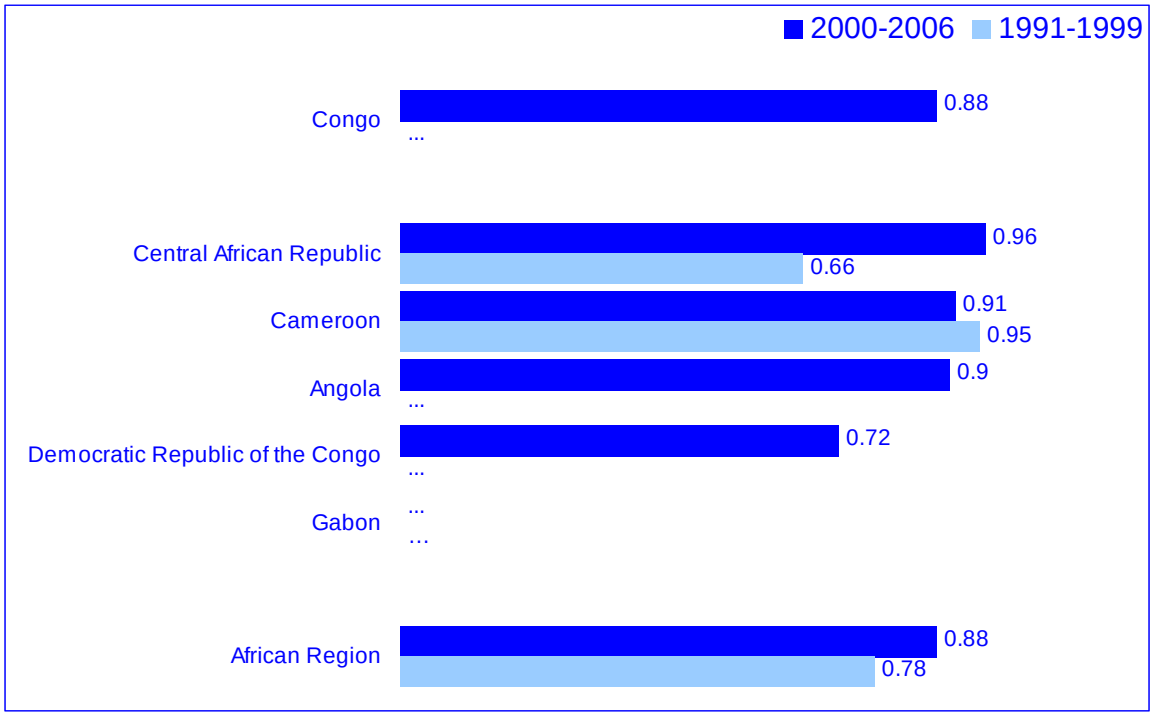
Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

Figure 36 : Ratio of orphans to non-orphans school attendance, 2000-2006 and 1991-1999 in Congo and neighboring countries

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Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

## *Tuberculosis*

Figure 37 : Tuberculosis incidence rate per 100,000 population per year in Congo and neighboring countries, 2008 et 2000

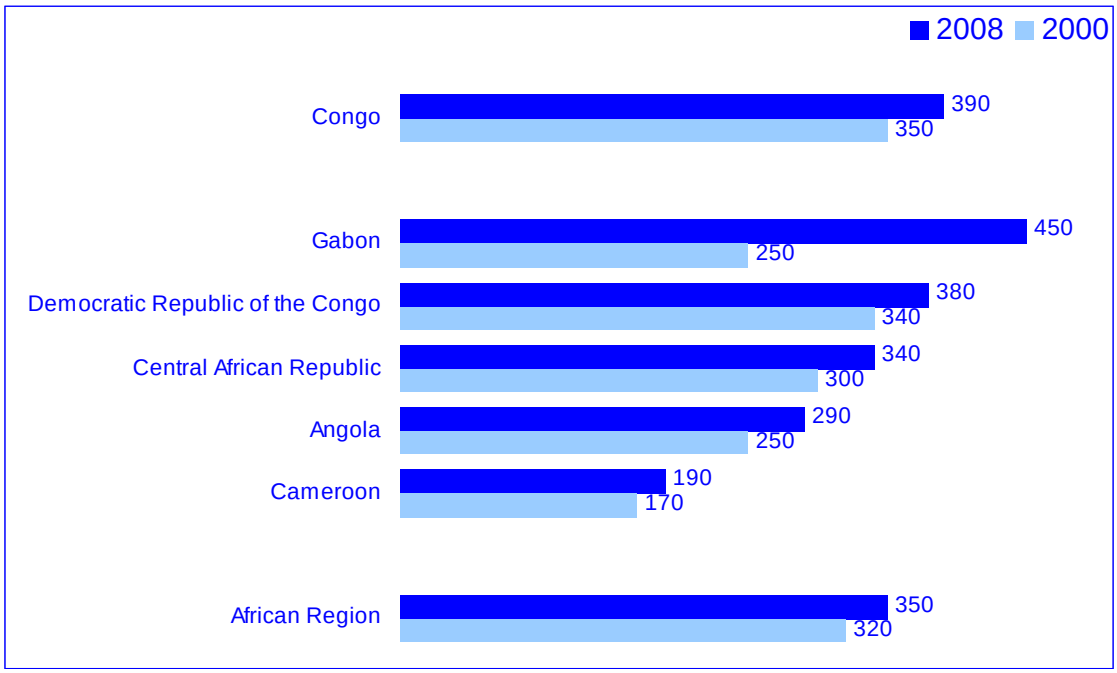



Figure 38 : Tuberculosis prevalence per 100,000 per year population in Congo and neighboring countries, 2008 and 2000

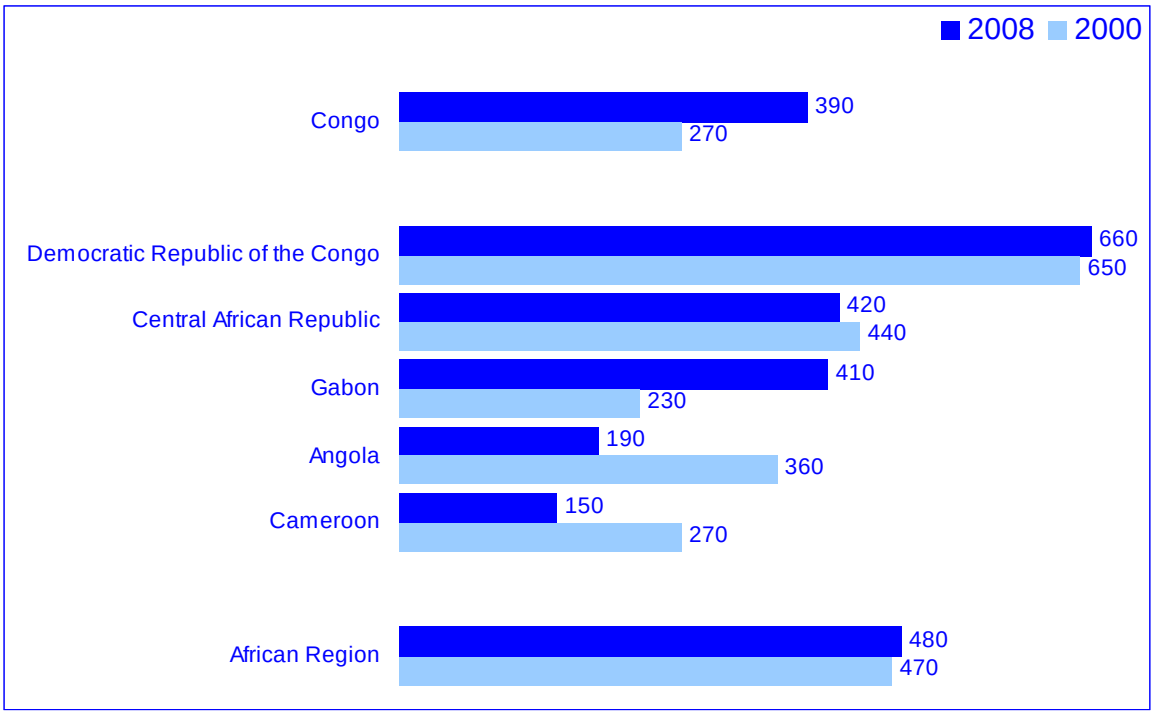
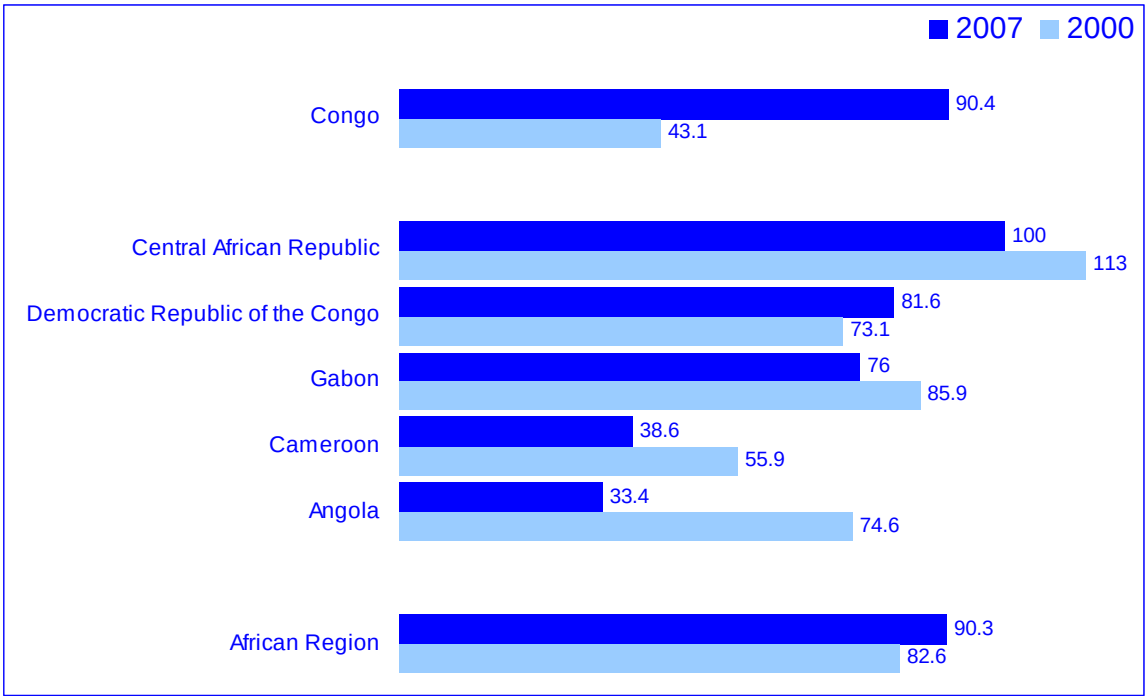
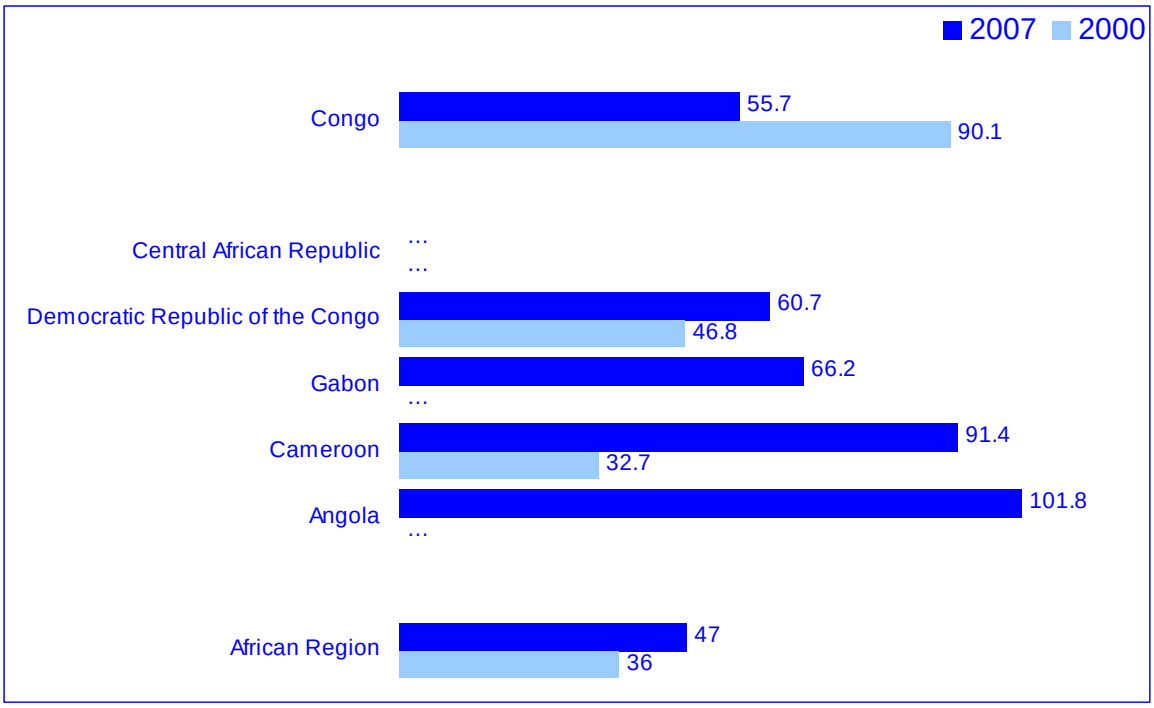


Figure 39 : Tuberculosis death rate (per 100,000 population per year) in Congo and neighboring countries, 2007 and 2000




Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

Figure 40 : Percentage of tuberculosis detection under DOTS[xiv] in Congo and neighboring countries, 2007 and 2000




… : No data

Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

[xiv] Definition: the proportion of new smear-positive TB cases registered under DOTS in a given year that successfully completed treatment, whether with bacteriologic evidence of success ("cured") or without ("treatment completed")

## *Malaria*

Figure 41 : Notified cases of malaria, in thousands, in Congo and neighboring countries, 2008

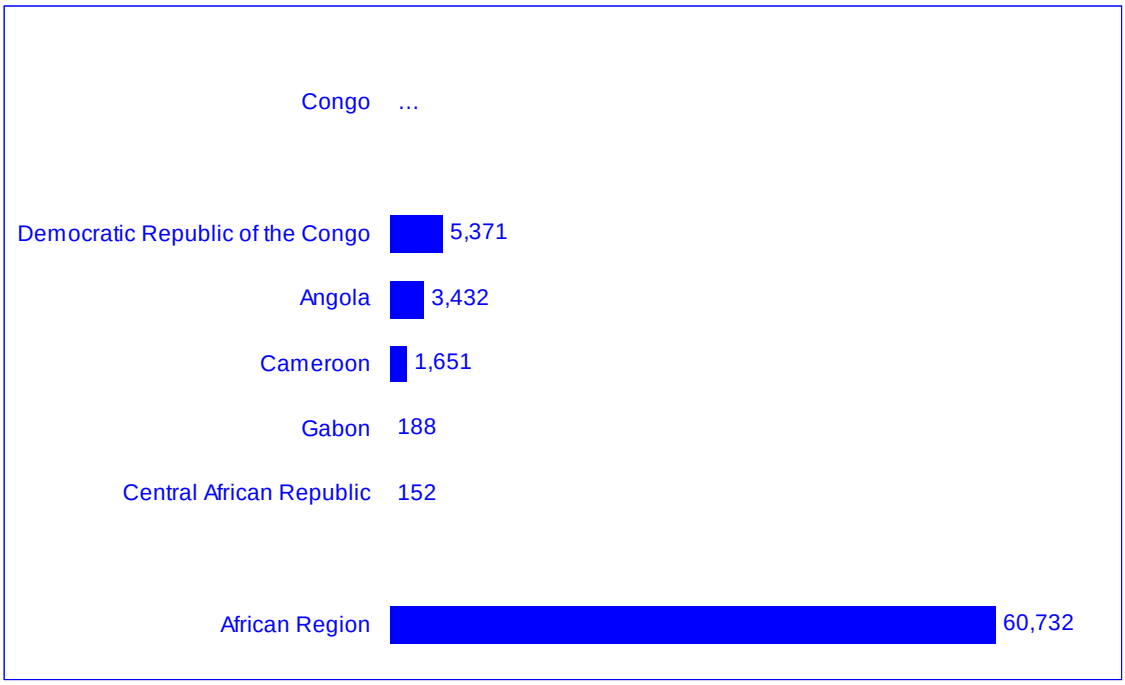



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Figure 42 : Percentage of under five children sleeping an insecticide-treated bed nets in 2005-2009 and 2000-2004 in Congo with neighboring countries

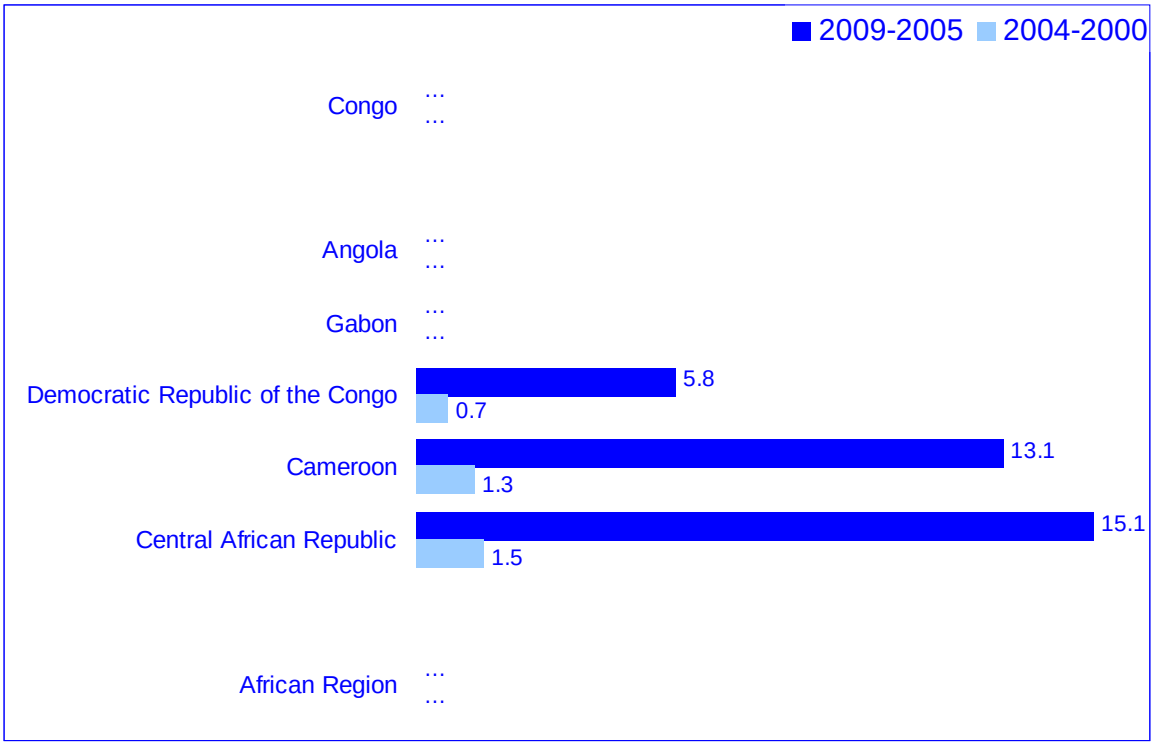


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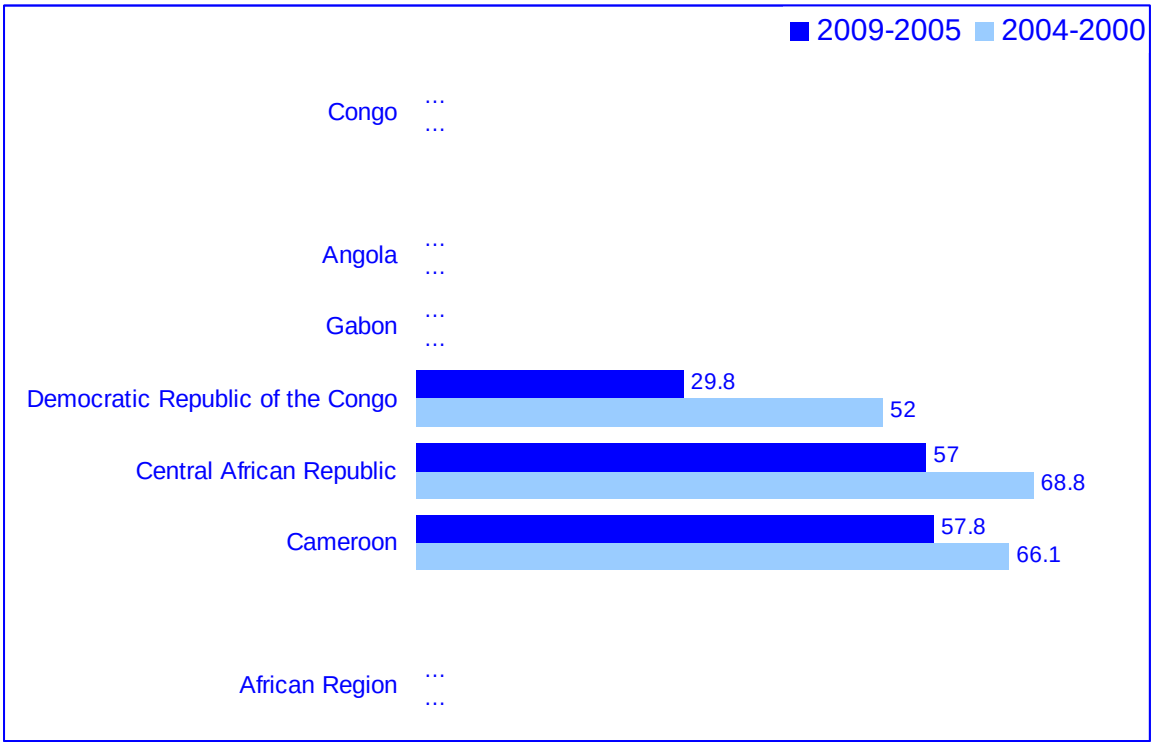
Figure 43 : Percentage of under five children with fever being treated with anti-malarial drugs in 2005-2009 and 2000-2004 in Congo with neighboring countries




… : No data

## *Vaccine preventable diseases*

Figure 44 : Percentage of neonates protected at birth against neonatal tetanus in Congo and neighboring countries, 2008 and 1990

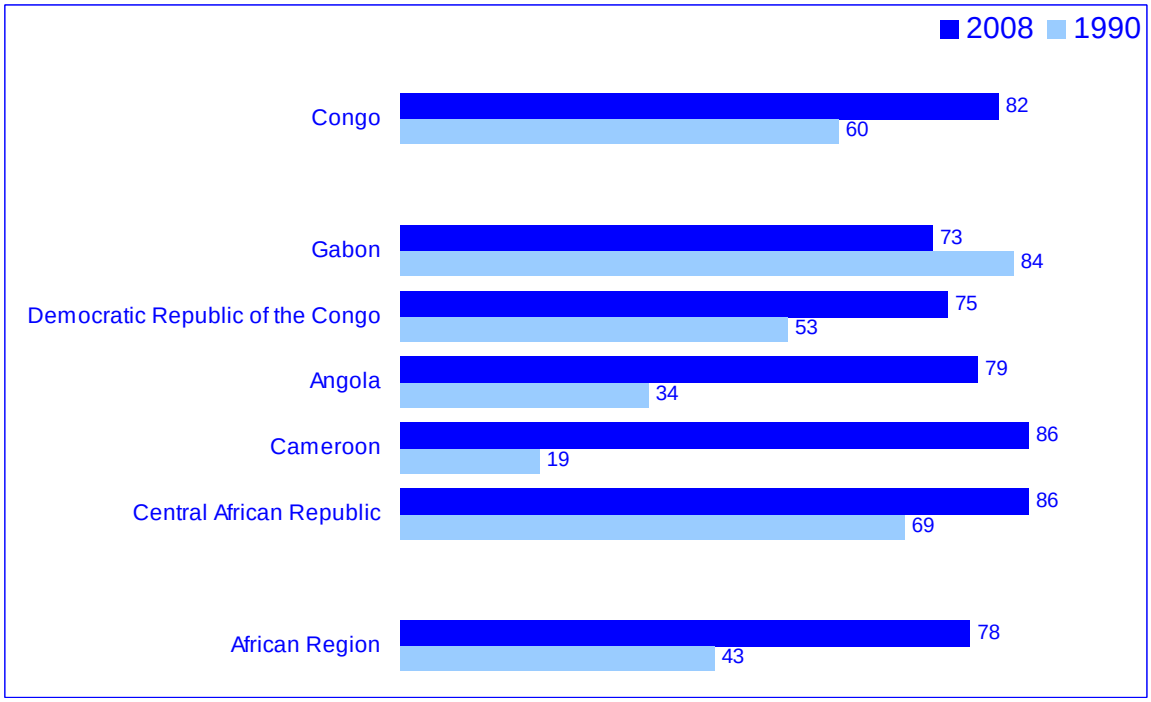


Figure 45 : Percent immunization coverage among 1-year-olds for DTP3 in Congo and neighboring countries, 2008 and 1990

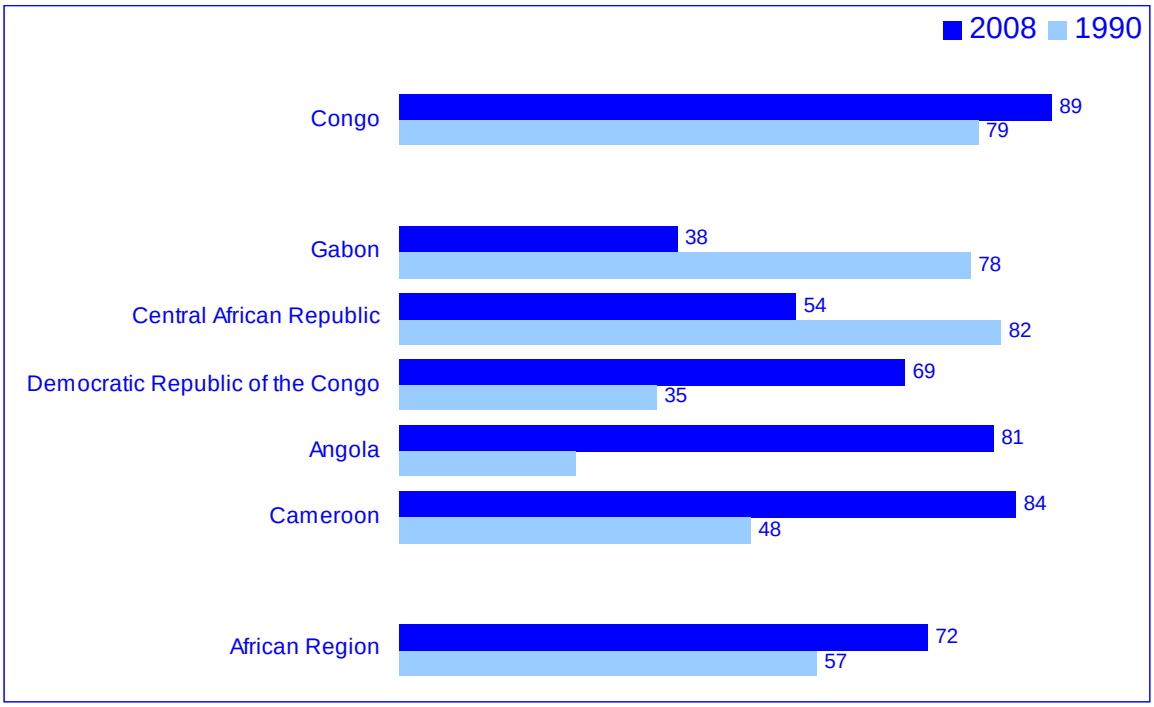
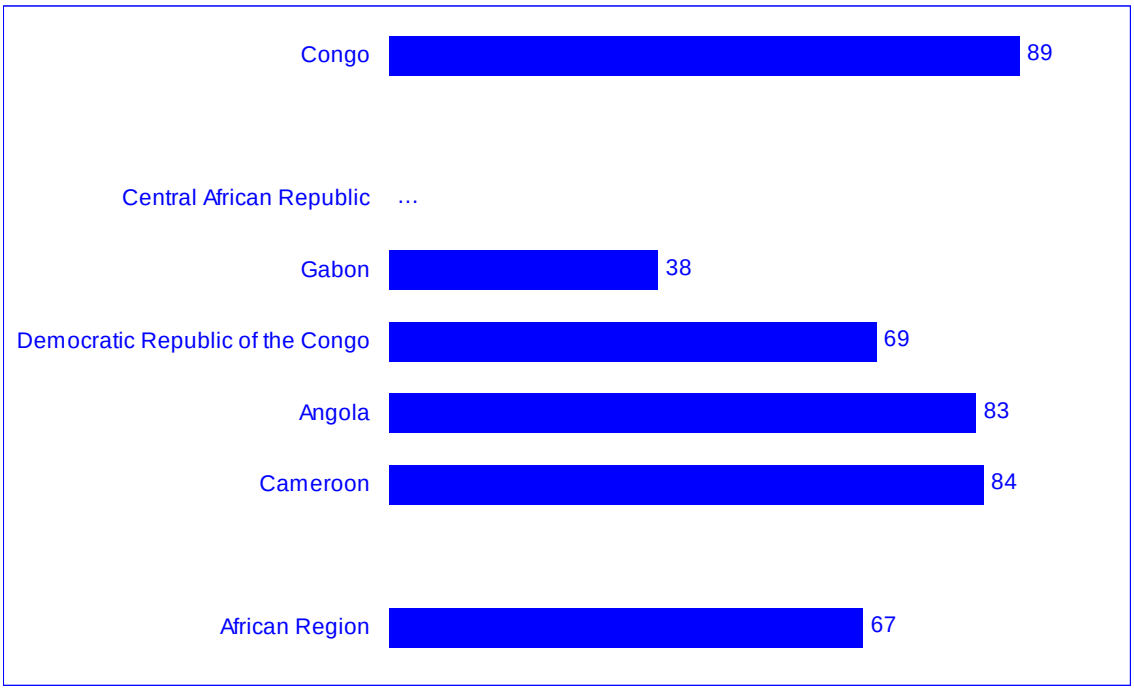



Figure 46 : Immunization coverage among 1-year-olds for HepB3 in Congo and neighboring countries, 2008




… : No data

## *Maternal and newborn health*

Figure 47 : Percentage of infants exclusively breastfed for the first 6 months of life in Congo and neighboring countries, 2000-2009

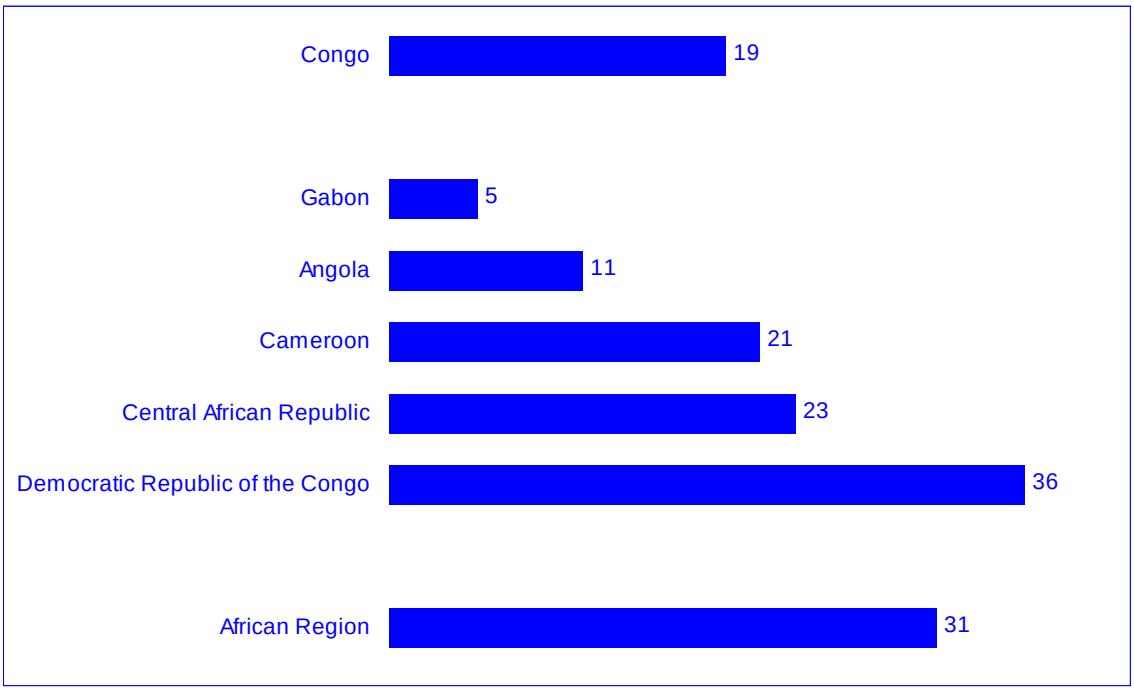



Figure 48 : Percentage of low-birth-weight newborns in Congo and neighboring countries, 2000-2008

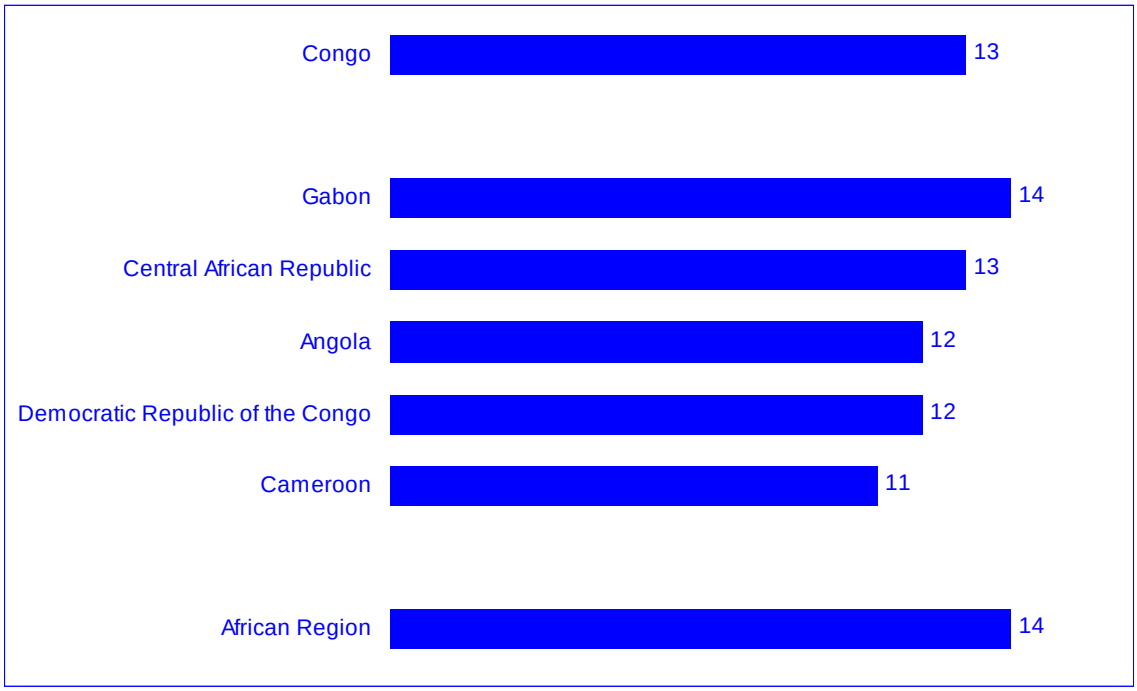


Figure 49 : Percentage of births attended by skilled health personnel in Congo and neighboring countries, 1990-1999 and 2000-2008

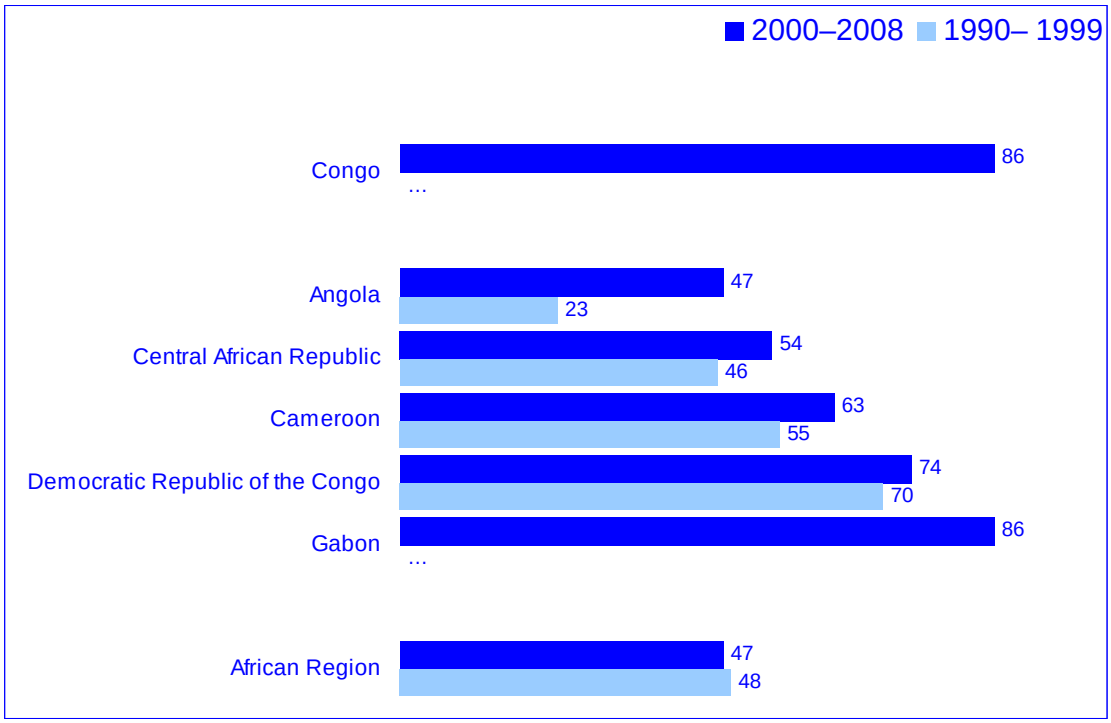



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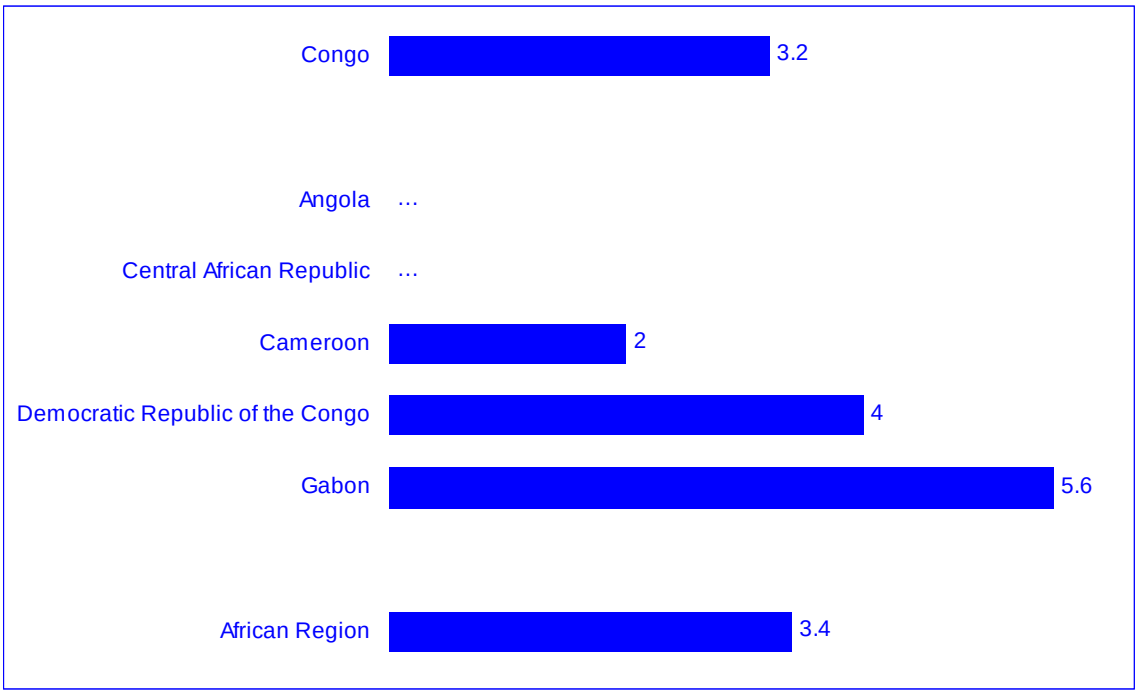
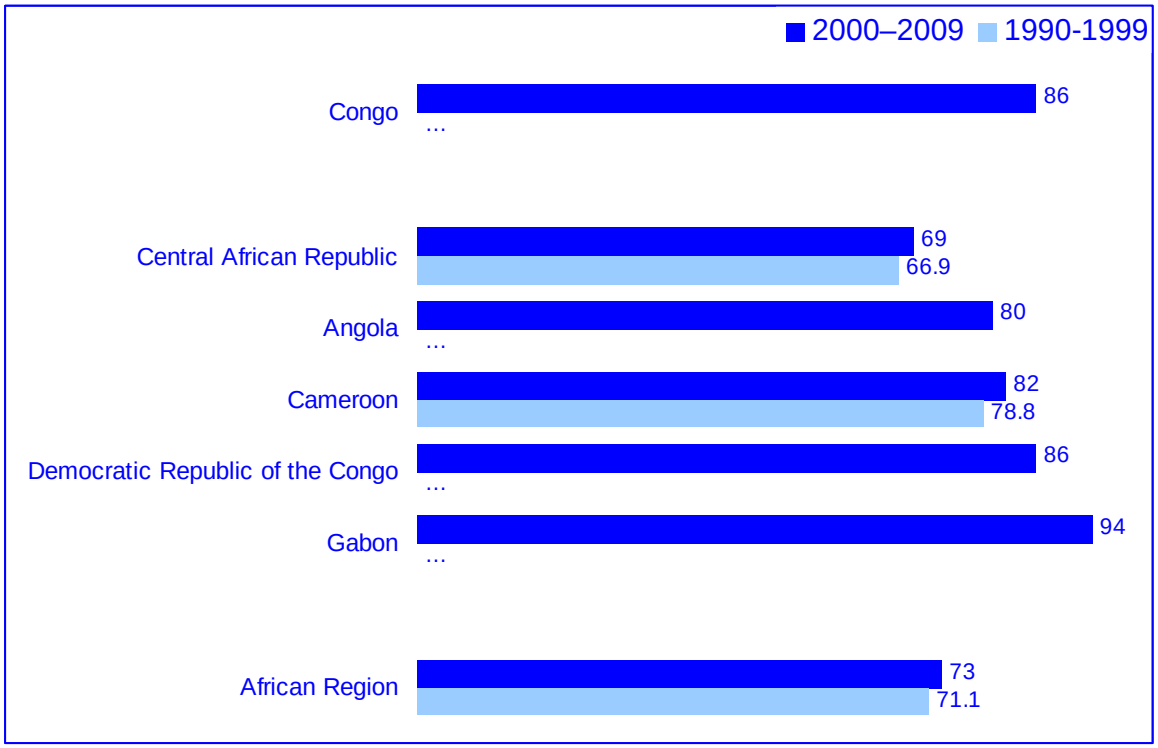
Figure 50: Percentage of births by caesarean[xv] section in Congo and neighboring countries, 2000-2008




… : No data

[xv] Definition: percentage of births by caesarean section among all live births in a given time period

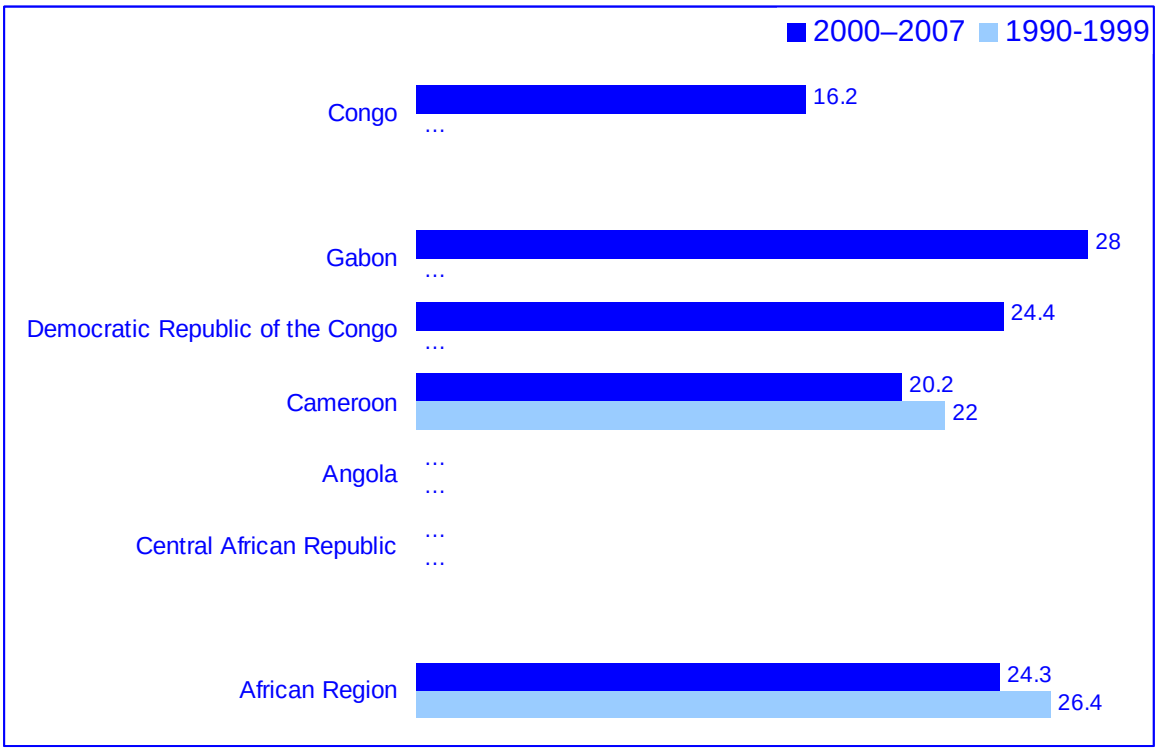
Figure 51 : Percentage of antenatal care coverage, at least one visit, in Congo and neighboring countries, 2000-2009 and 1990-1999




… : No data

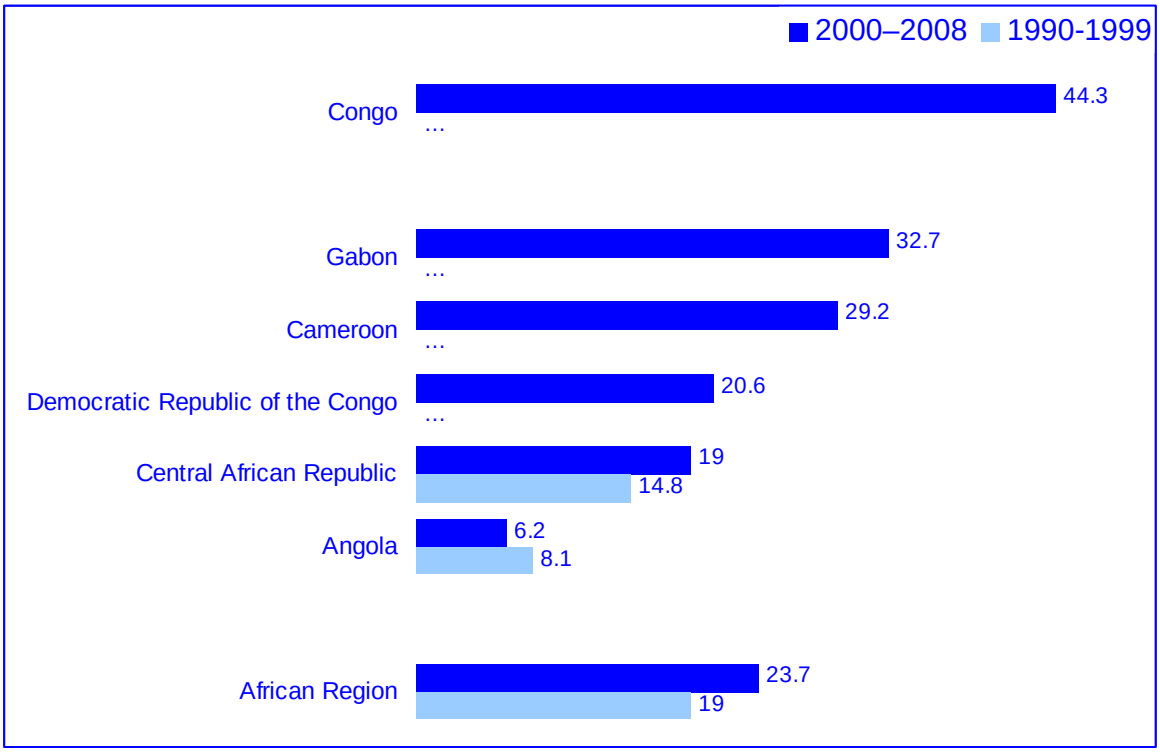
## *Sexual and reproductive health*

Figure 52 : Percentage of unmet need for family planning- in Congo and neighboring countries, 2000-2007 and 1990-1999




… : No data

Figure 53 : Percentage of current contraceptive use[xvi] (any method) among married women 15-49 years of age in Congo and neighboring countries, 2000-2008 and 1990-1999

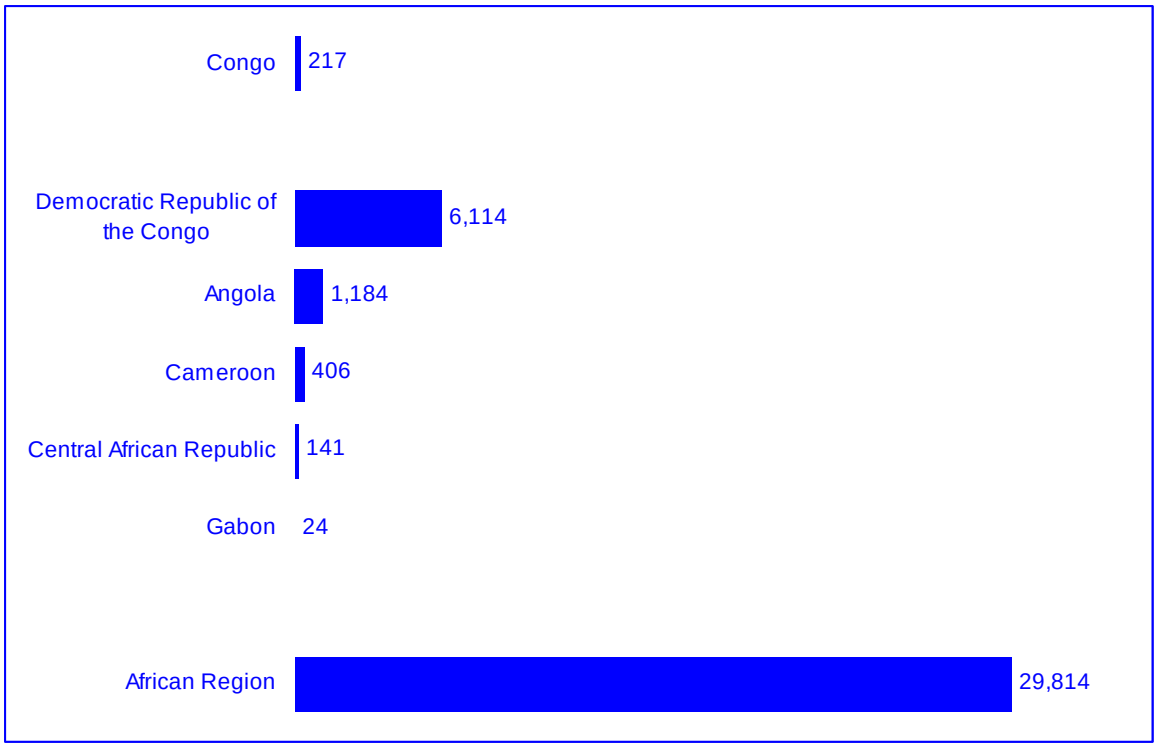



… : No data

[xvi] Percentage of women aged 15-49 married or in-union who are currently using, or whose sexual partner is using, at least one method of contraception, regardless of the method used. See details in World Health Organization (2006), Reproductive Health Indicators: Guidelines for their Generation, Interpretation and Analysis for Global Monitoring, Geneva (available from : http://who.int/reproductivehealth/publications/rhindicators/guidelines.pdf or in the Web site: http://www.un..org/esa/population/unpop.html

## *Neglected tropical diseases*

Figure 54 : Number of reported cases of leprosy in Congo and neighboring countries, 2008




## *Non-communicable diseases and conditions*

Figure 55 : Distribution of causes of non-communicable burden of diseases (% of total DALYs) in Congo, 2004

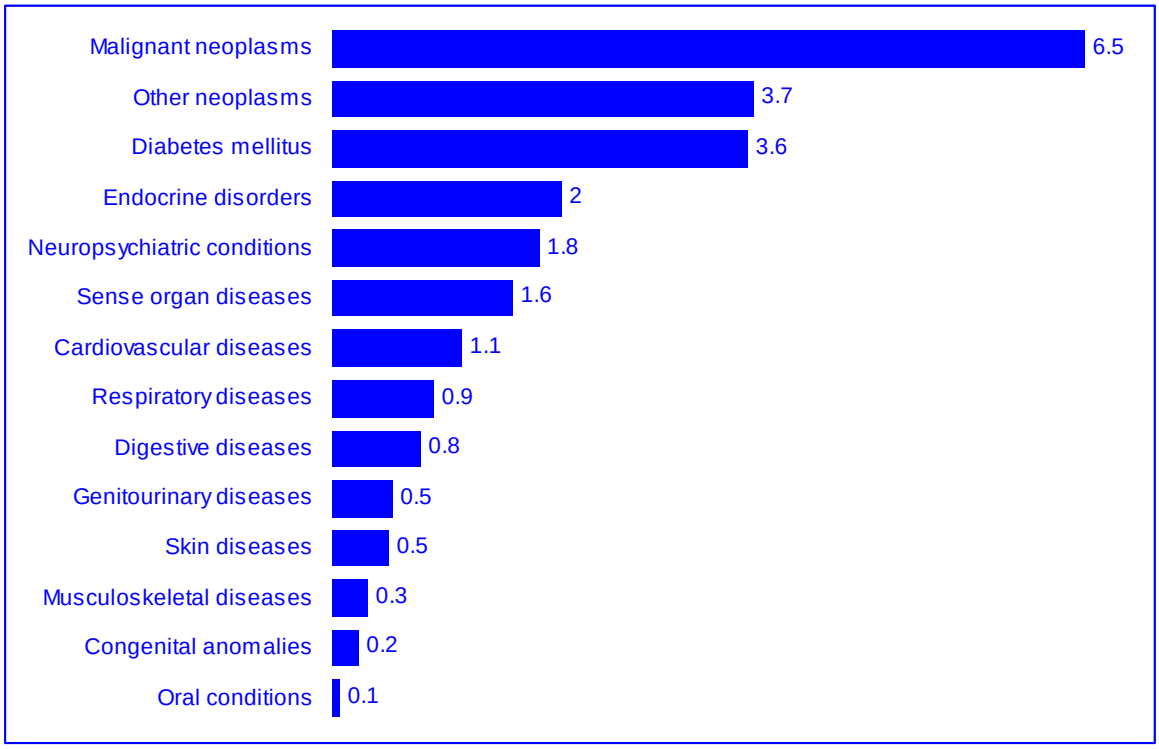


Figure 56 : Distribution of causes of intentional and non-intentional injuries (% of total DALYs) in Congo, 2004

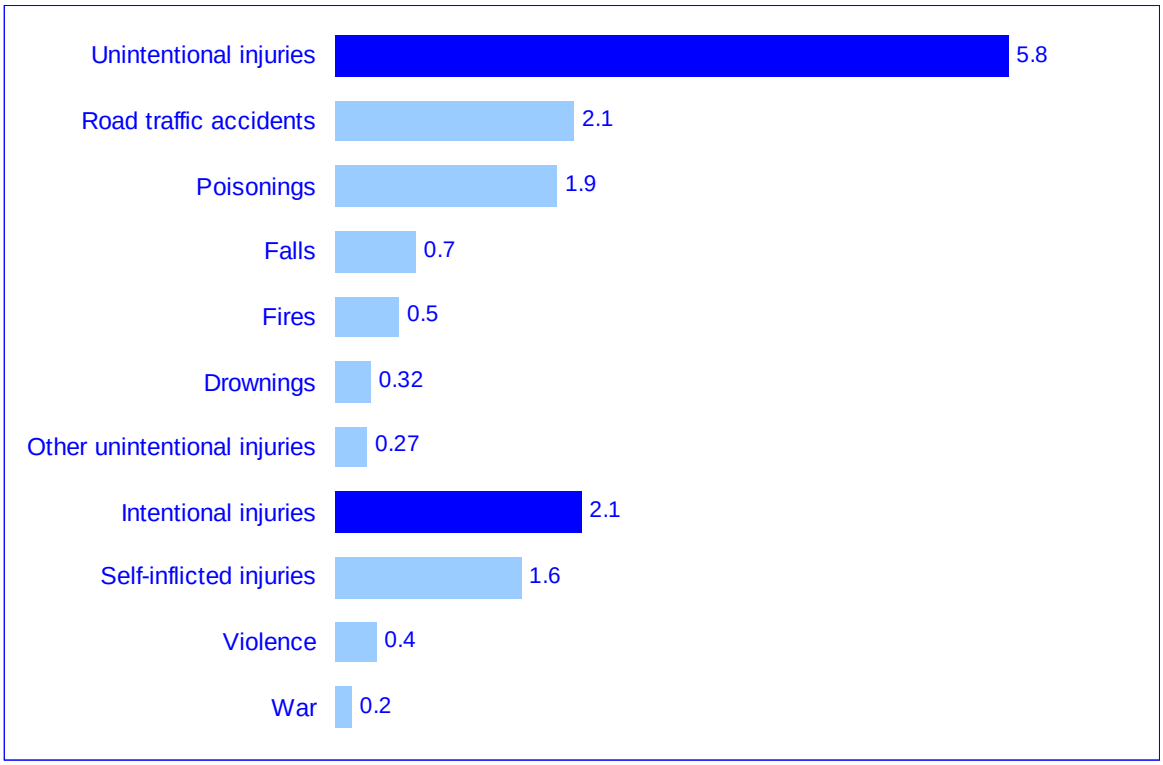
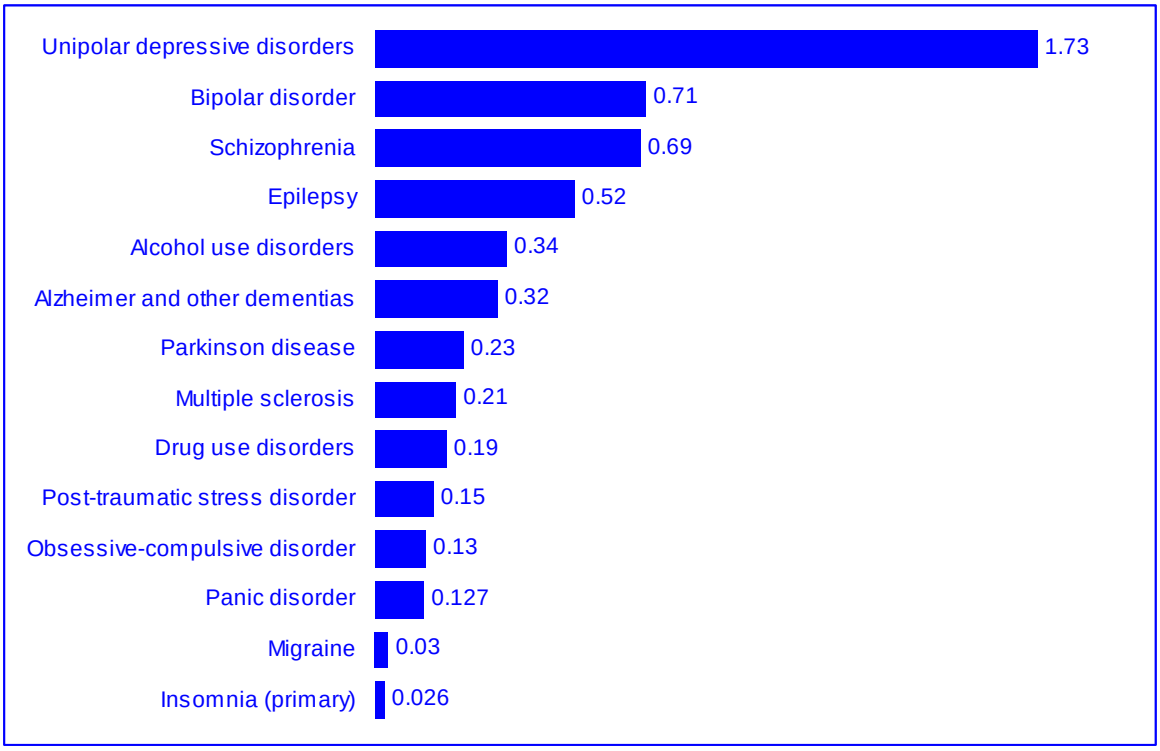
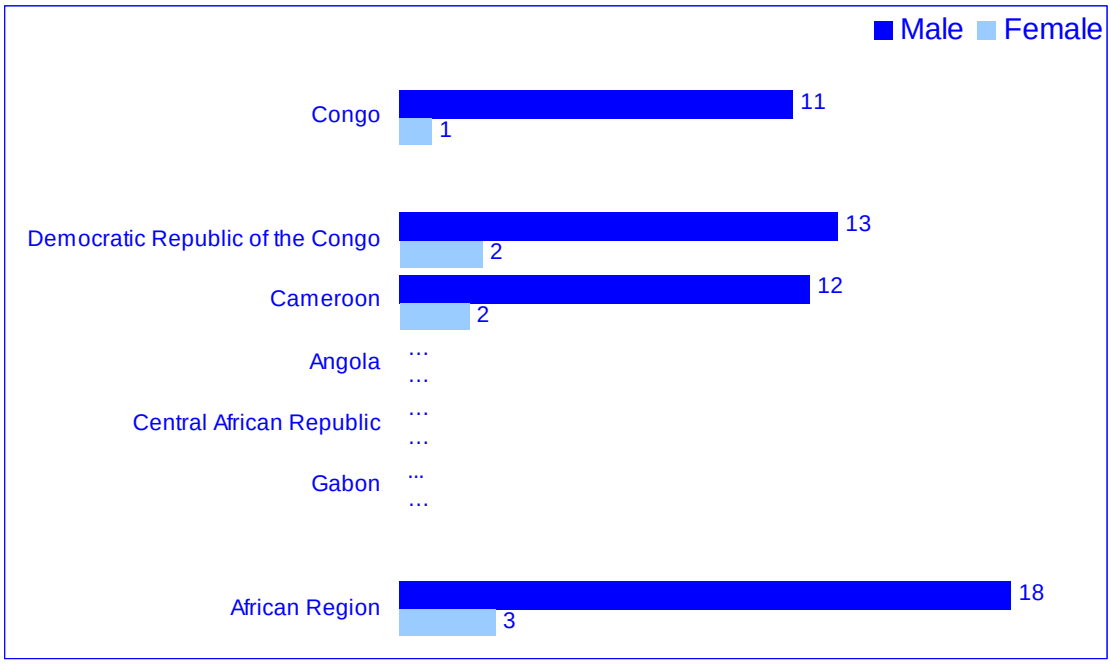



Figure 57 : Distribution of causes of neuropsychiatric burden of diseases (% of total DALYs) in Congo, 2004



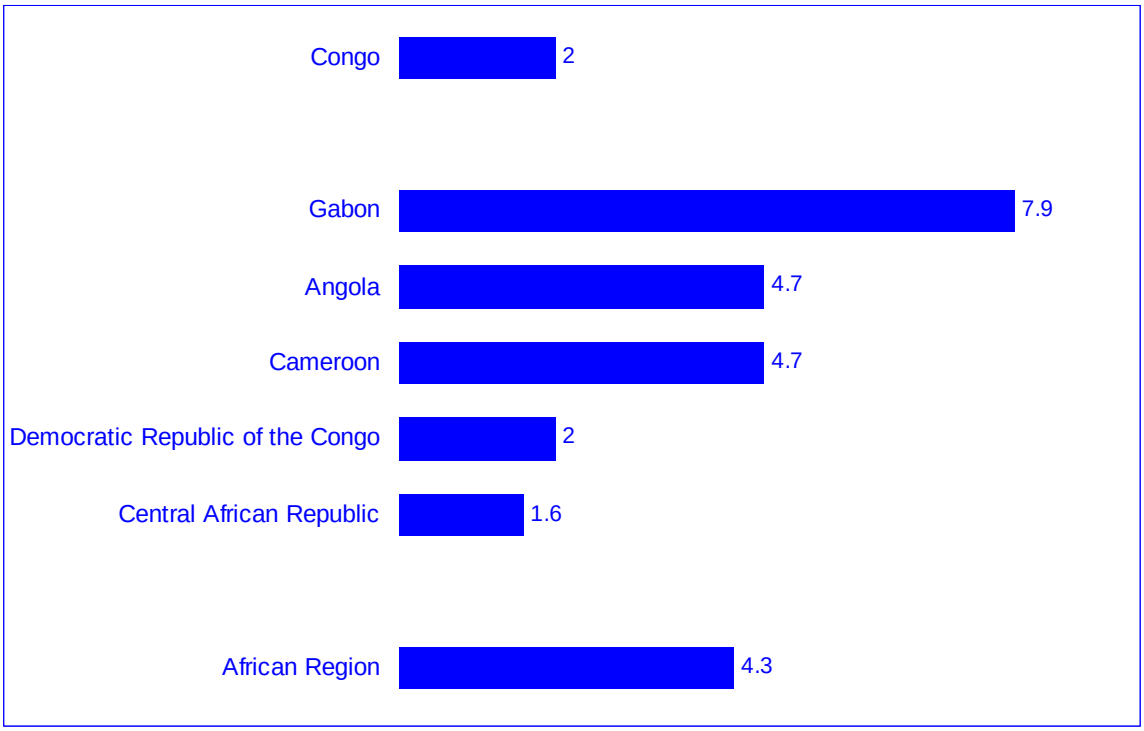
## *Risk Factors for Health*

Figure 58 : Percent of current tobacco use in persons 15 years of age or older in Congo and neighboring countries, 2006



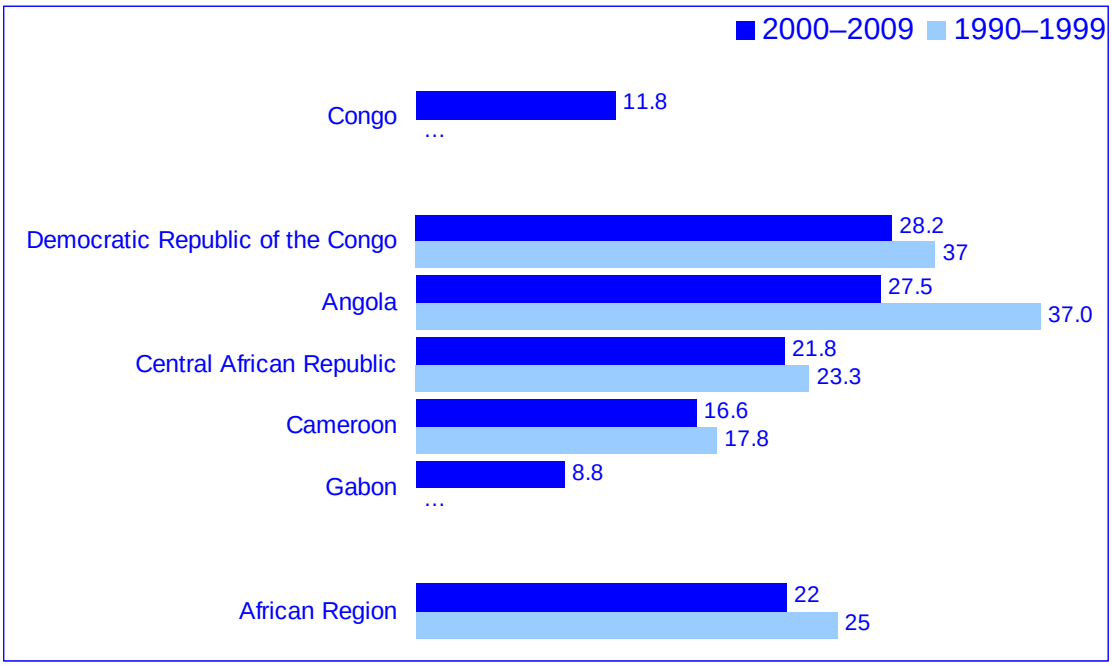

… : No data

Figure 59 : Alcohol consumption (liters per person) among adults aged 15 years of age or older in Congo and neighboring countries, 2005



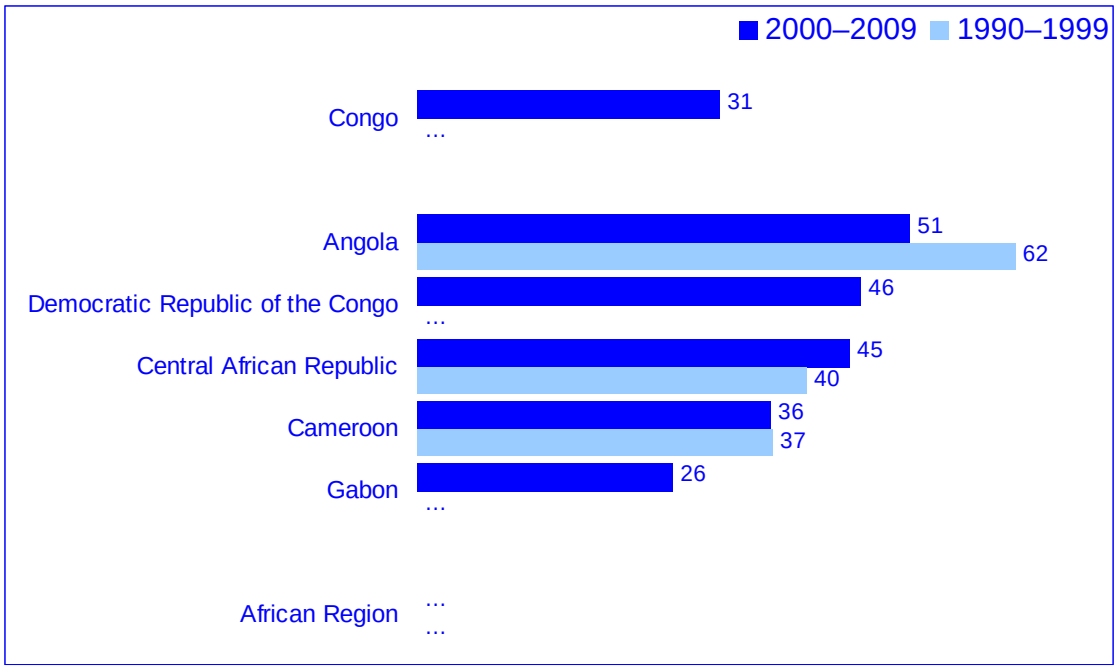
## *Food and Nutrition*

Figure 60 : Percentage of underweight children under five in Congo and neighboring countries, 2000-2009 and 1990-1999



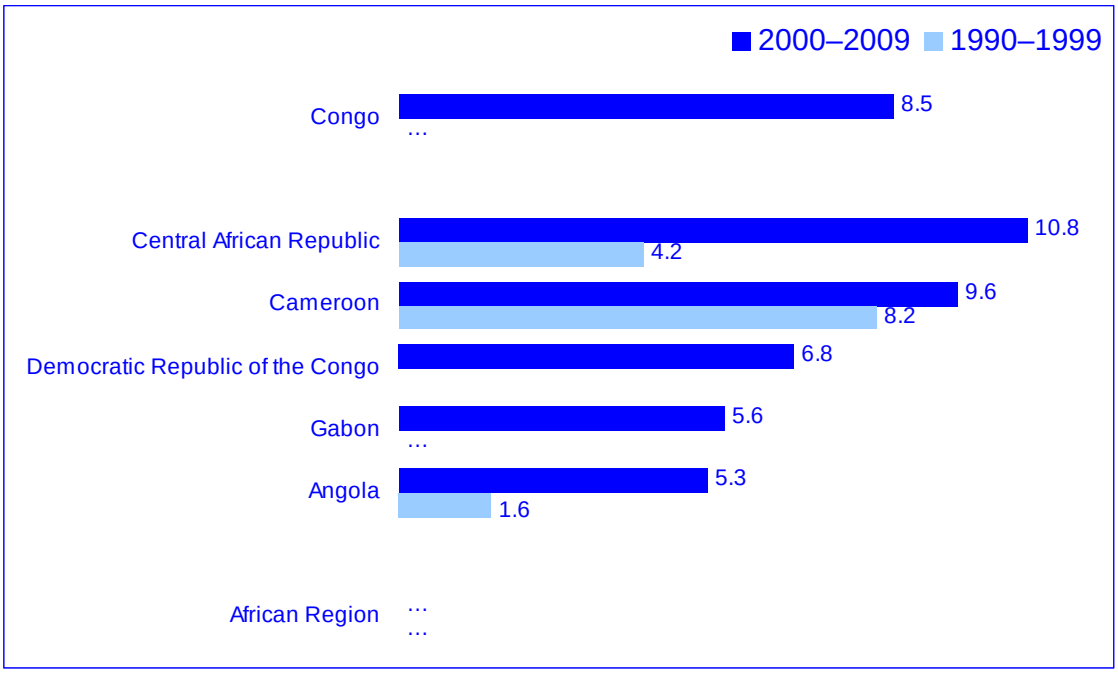

… : No data

Figure 61 : Percentage of stunted children under five years of age in Congo and neighboring countries, 2000-2009 and 1990-1999




… : No data

Figure 62 : Percentage of overweight children under five years of age in Congo and neighboring countries, 2000-2009 and 1990-1999




… : No data

# 4. Broader Determinants of Health

## *Demography*

Figure 63 : Total fertility rate per woman in Congo and neighboring countries, 2008 and 1990

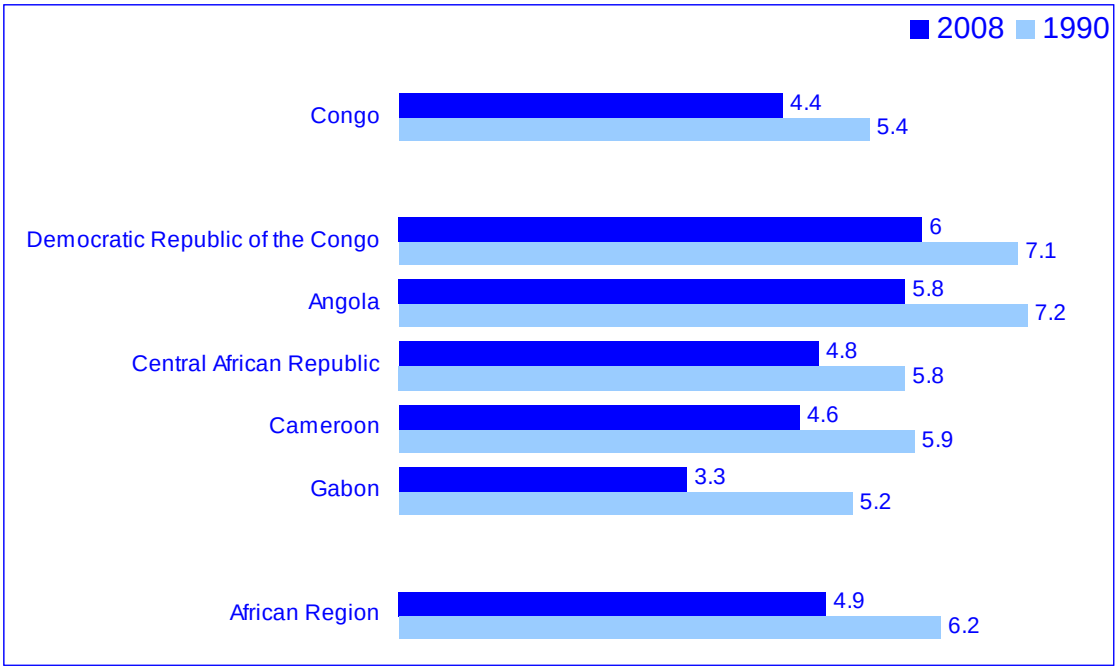


Figure 64 : Age distribution of the population in Congo and neighboring countries, 2008

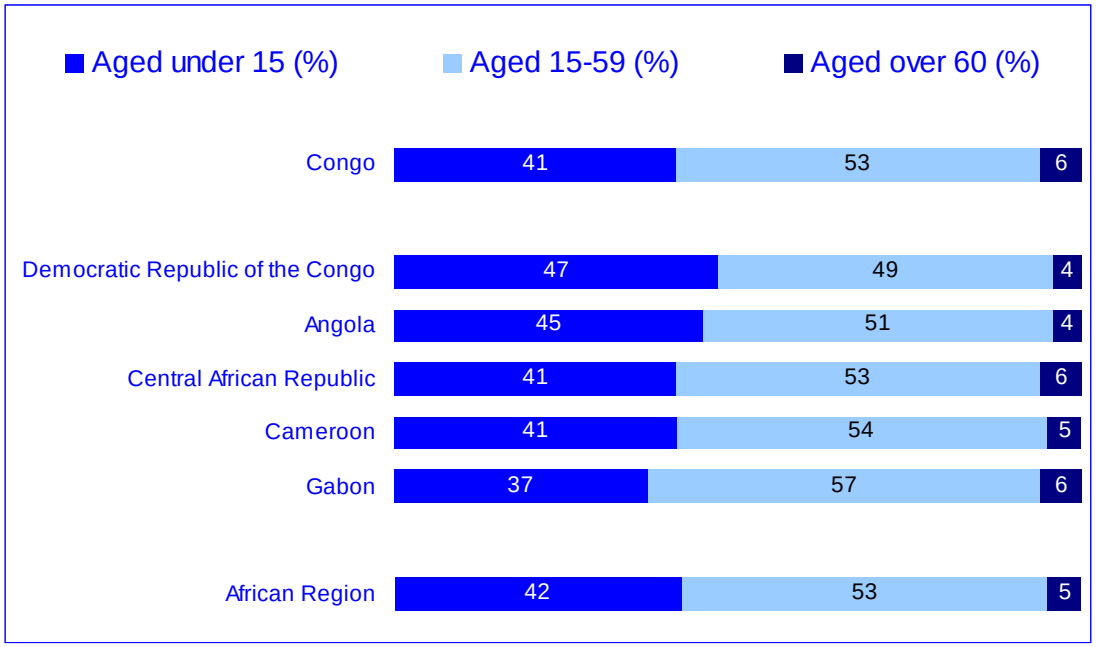
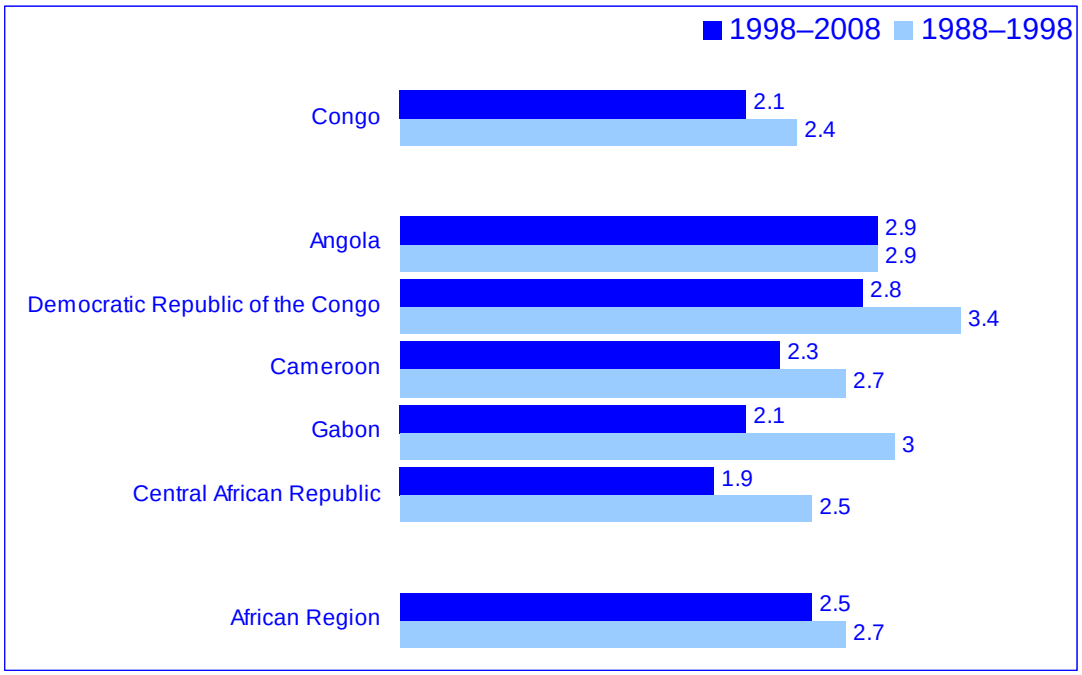



Figure 65 : Annual growth rate (in percent) of population in Congo and neighboring countries, 1998-2008 and 1988-1998



## *Resources and infrastructure*

Figure 66 : Gross national income per capita[xvii] (PPP int. $) in Congo and neighboring countries, 2008 and 1990

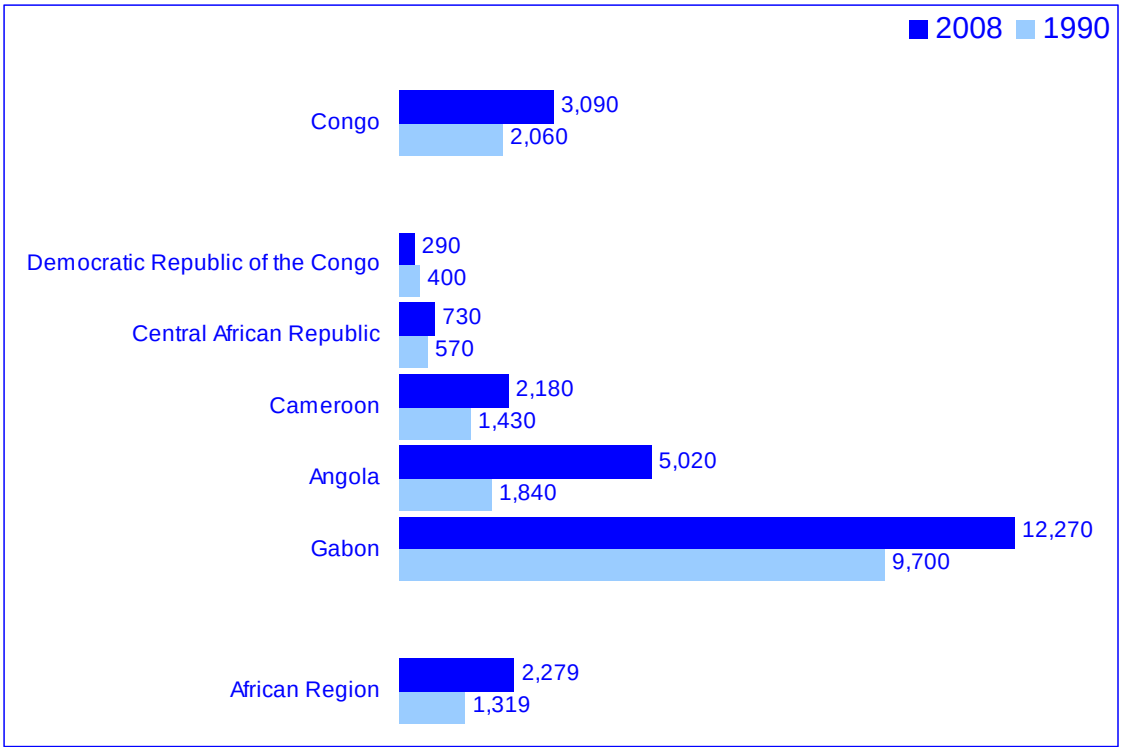
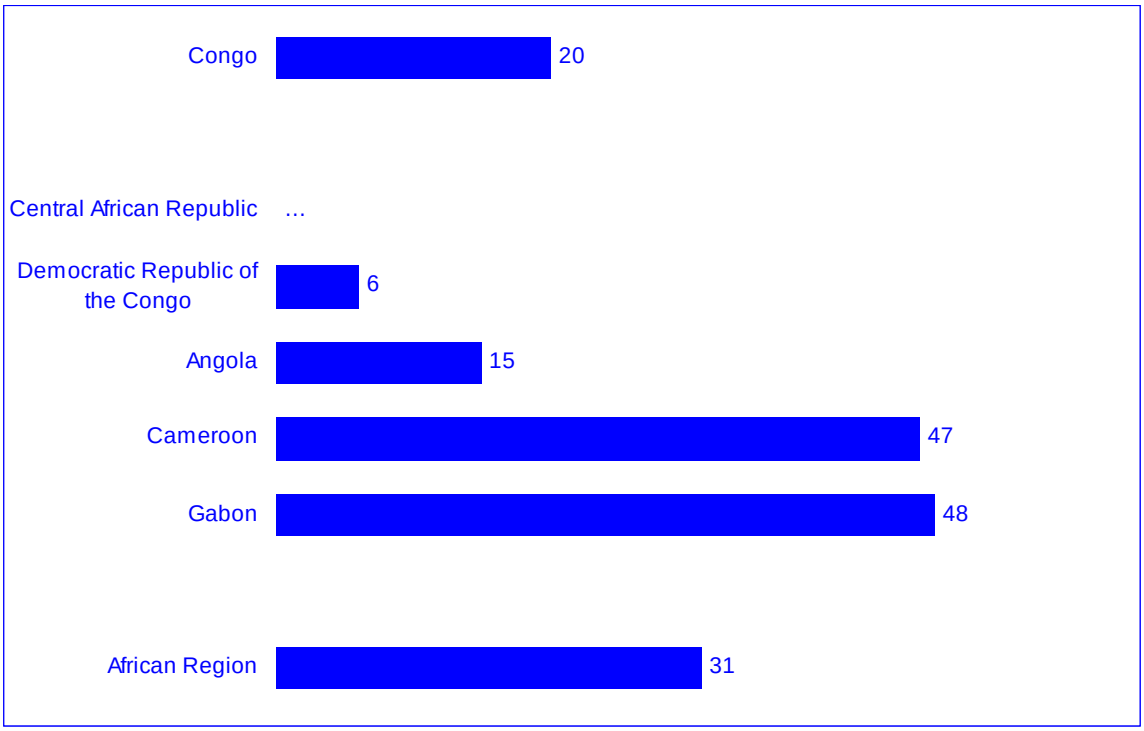
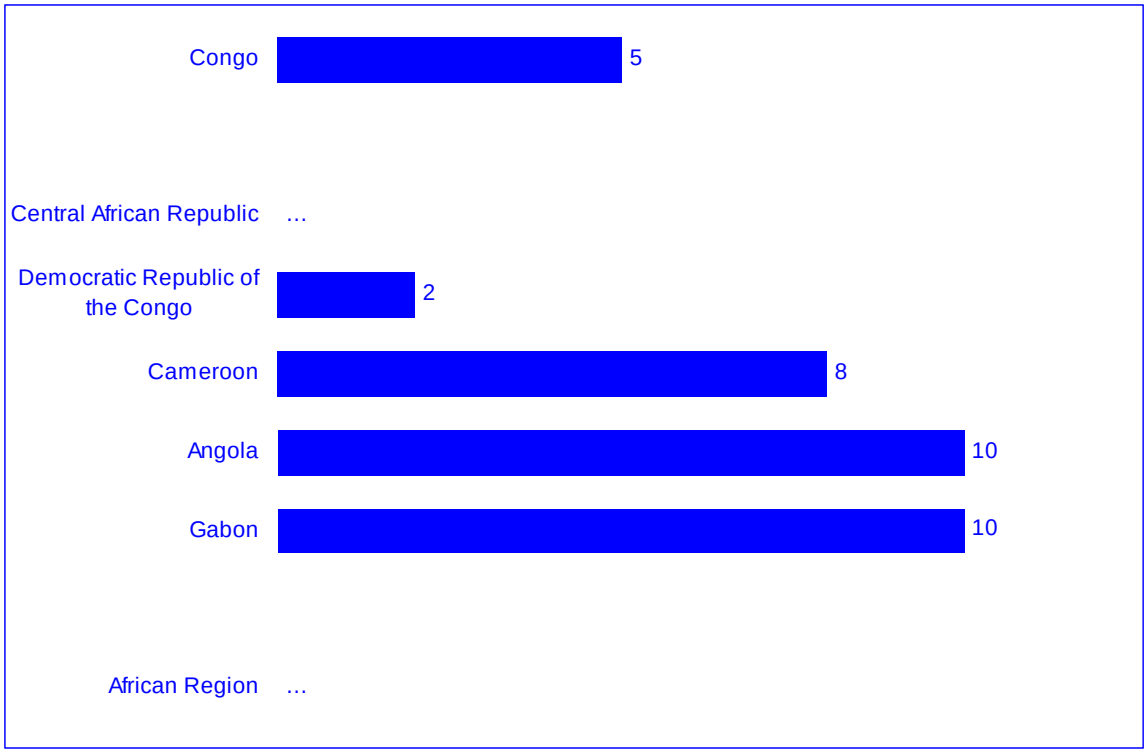



Figure 67 : Electrification rate in Congo and neighboring countries, 2000-2005




[xvii] Gross national income per capita: is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad. GNI per capita is gross national income divided by mid-year population. For further details: http://www.unicef.org/infobycountry/stats_popup1.html

Figure 68 : Paved roads[xviii] as percentage of all roads in Congo and neighboring countries, 2000-2007




… : No data
Source: World Bank Database 2010–Accessed on 10 June 2010

[xviii] Paved roads are those surfaced with crushed stone (macadam) and hydrocarbon binder or bituminized agents, with concrete, or with cobblestones, as a percentage of all the country's roads, measured in length. Source: http://data.worldbank.org/indicator/IS.ROD.PAVE.ZS

## *Poverty and income inequality*

Figure 69: Percentage of the population living under $1 (PPP int. $) a day (i.e. in absolute poverty) in Congo and neighboring countries, 2000-2007

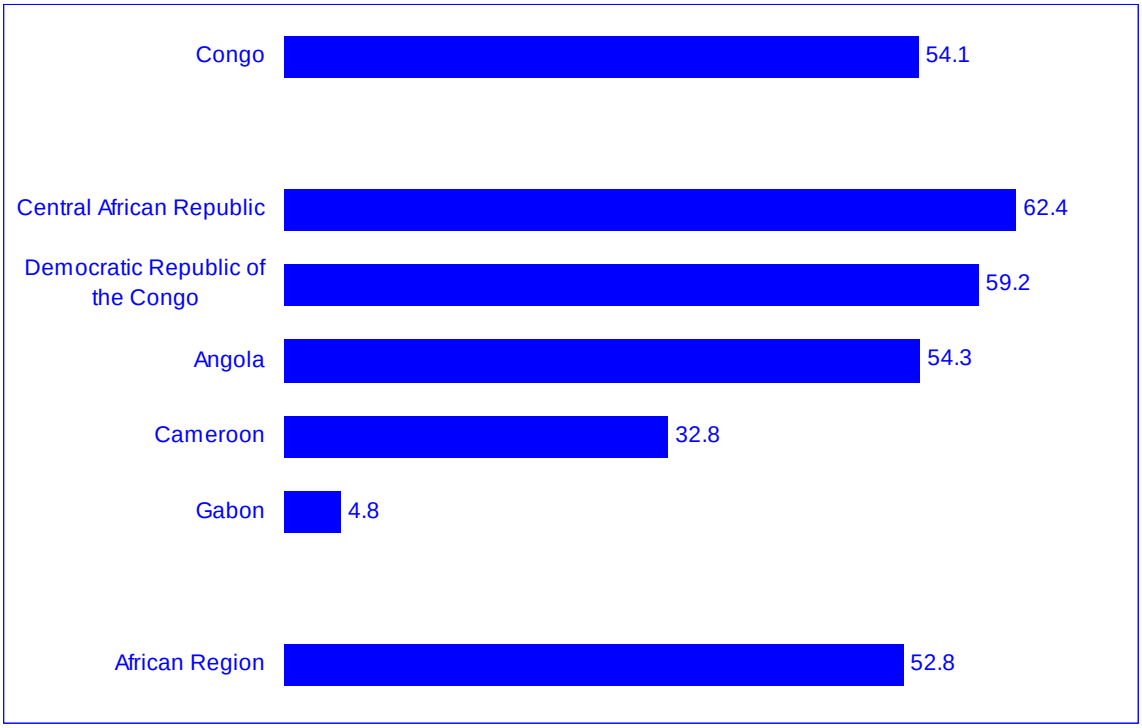
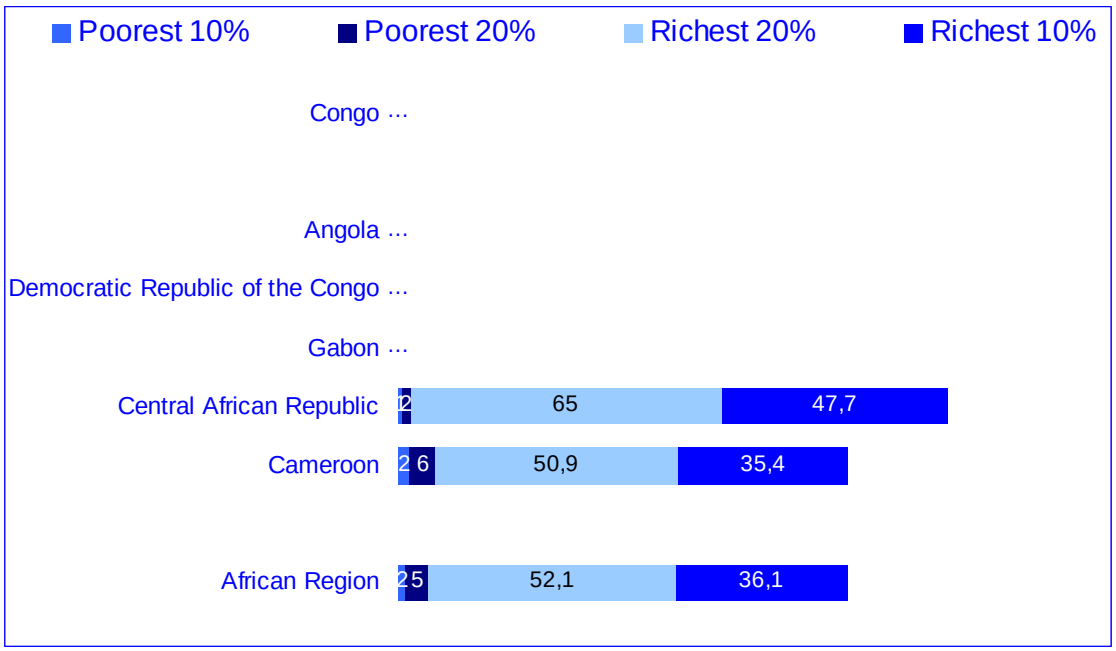



Figure 70: Share of incomes by poorest and richest section of the population in Congo and neighboring countries, 1989-2005

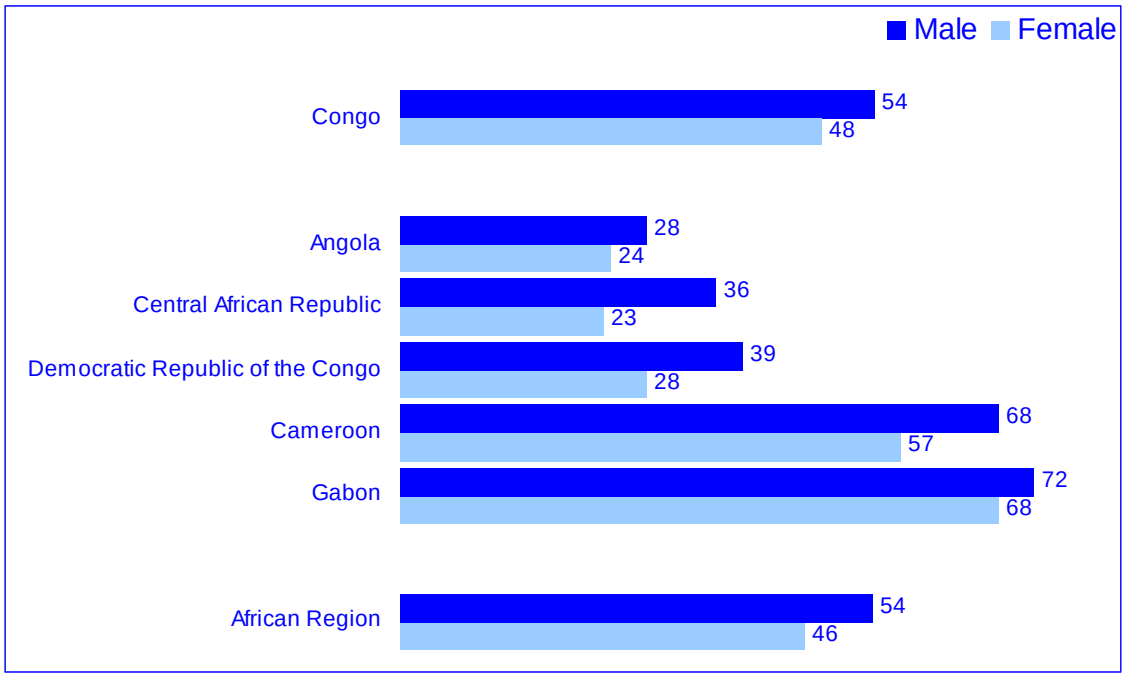



… : No data

Source: World Bank 2010

## *Gender equity*

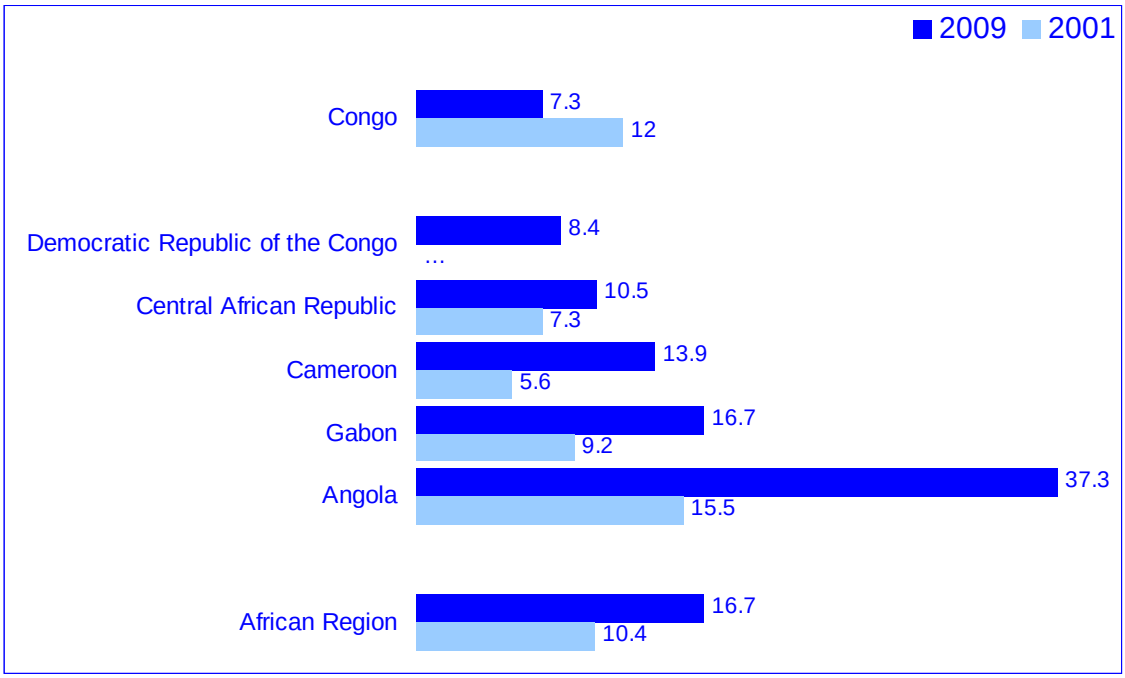
Figure 71 : Percentage of female and male combined gross enrolment ratio[xix] for primary-secondary-tertiary education in Congo and neighboring countries, 2005




Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

[xix] Number of students enrolled in primary, secondary and tertiary levels of education, regardless of age, as percentage of the population of official school age for the three levels. The gross enrolment ratio can be greater than 100% as a result of grade repetition and entry at ages younger or older than the typical age at that grade level (UNDP definition).

Figure 72 : Percentage of seats[xx] held by women in national parliaments in Congo and neighboring countries, 2009 and 2001



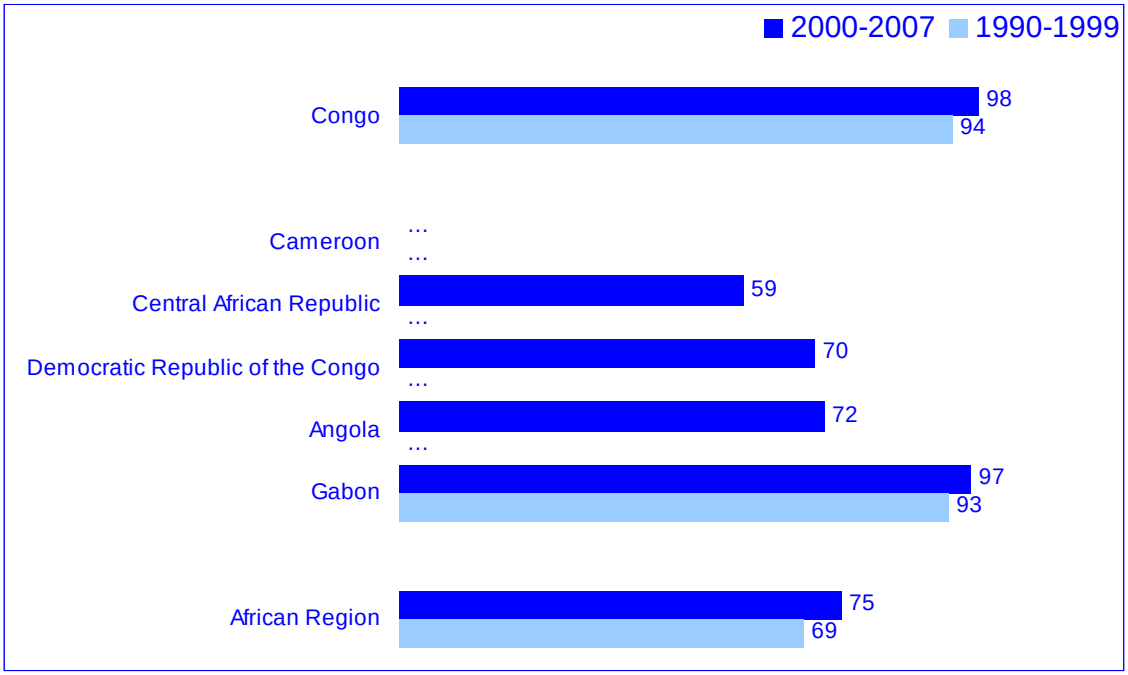

… : No data

Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

[xx] Number of seats held by women expressed as a percentage of all occupied seats. Women's representation in parliaments is one aspect of women's opportunities in political and public life, and it is therefore linked to women's empowerment. For additional, see the Website http://www.milleniumindicators.un.org/unsd/mdgsmetadata

## *Education*

Figure 73 : Percentage of the population aged 15-24 years who can both read and write (i.e. youth literacy rate[xxi]) in Congo and neighboring countries, 2000-2007 and 1990-1999



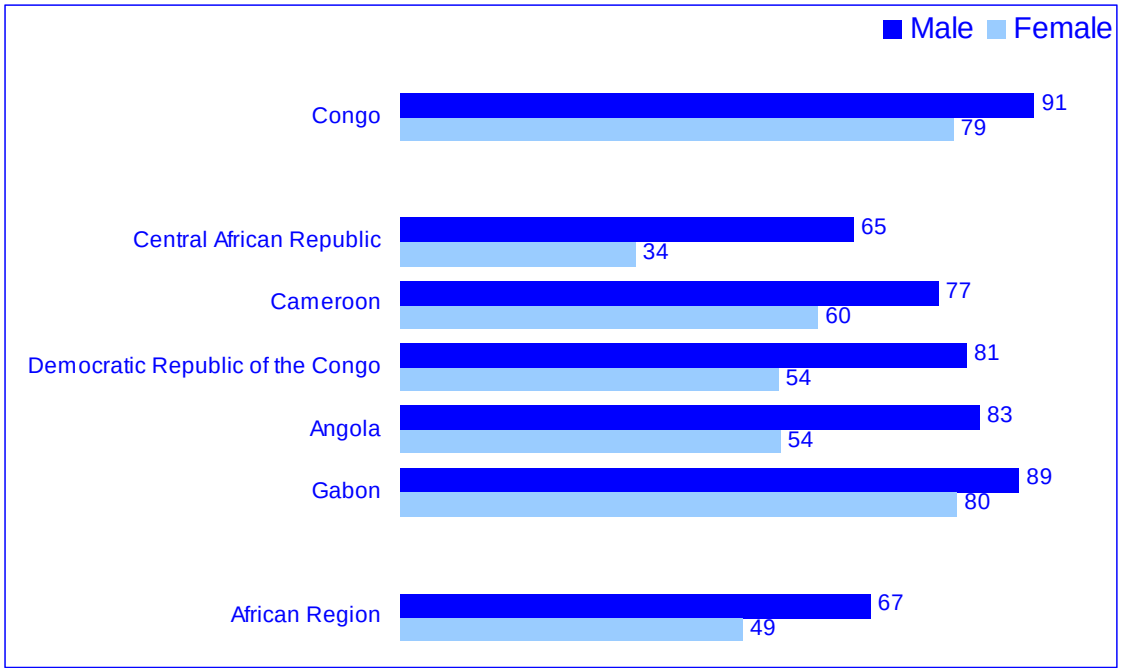

… : No data

Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

[xxi] The youth literacy rate reflects the outcomes of primary education over the previous 10 years or so. As a measure of the effectiveness of the primary education system, it is often seen as a proxy measure of social progress and economic achievement. The literacy rate for this analysis is simply the complement of the illiteracy rate. For details, see the Web sites:

http://www.unescobkk.org/infores/efa2000/tech.html/http://www.uis.unesco.org

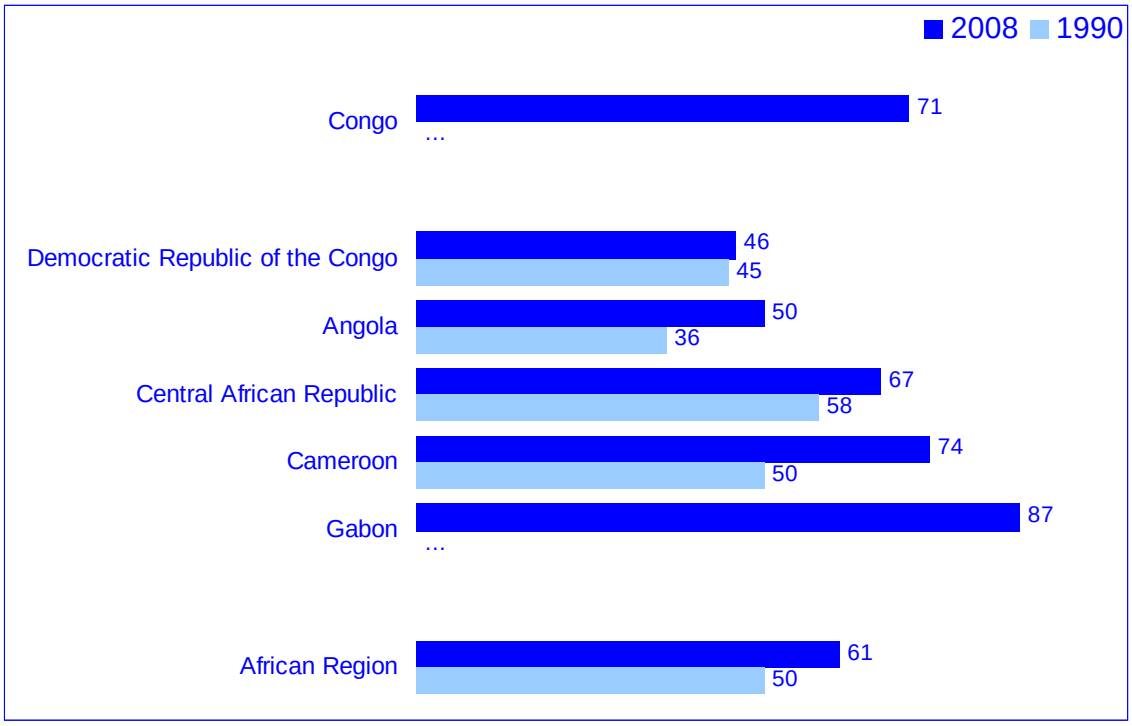
Figure 74 : Adult literacy rate (% aged 15 and older) in Congo and neighboring countries, male and female, 1995-2005




Source: UNESCO Institute for Statistics. 2007

## *Environment*

Figure 75 : Percentage of the population using improved drinking water sources[xxii] in Congo and neighboring countries, 2008 and 1990




… : No data

[xxii] Improved drinking water source, by nature of its construction and design, is likely to protect the source from outside contamination, in particular from faecal matter. Improved drinking water sources include: -piped water into dwelling, plot or yard - public tap/stand pipe - tube well/borehole - protected dug well - protected spring and - rainwater collection. Note: Joint monitoring programme for water supply and sanitation [online database]. Geneva, WHO, UNICEF, 2008 (http://www.wssinfo.org/en/welcome.html).

Figure 76 : Percentage of the urban and rural population with access to improved drinking-water source in Congo and neighboring countries, 2008

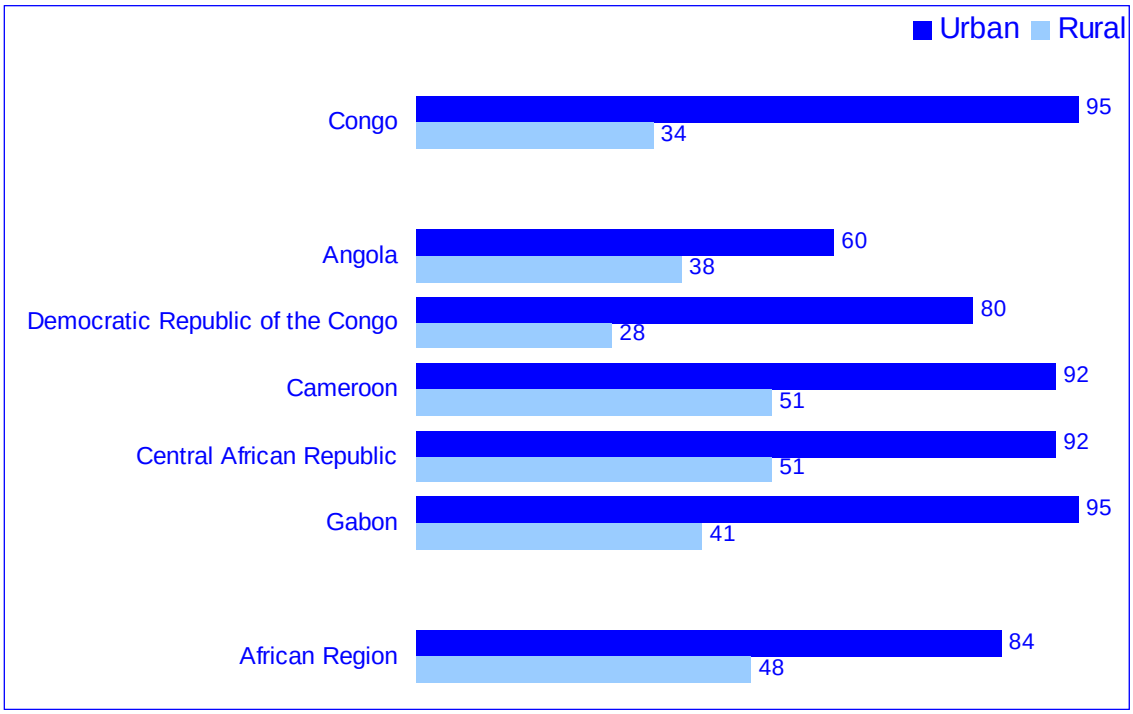
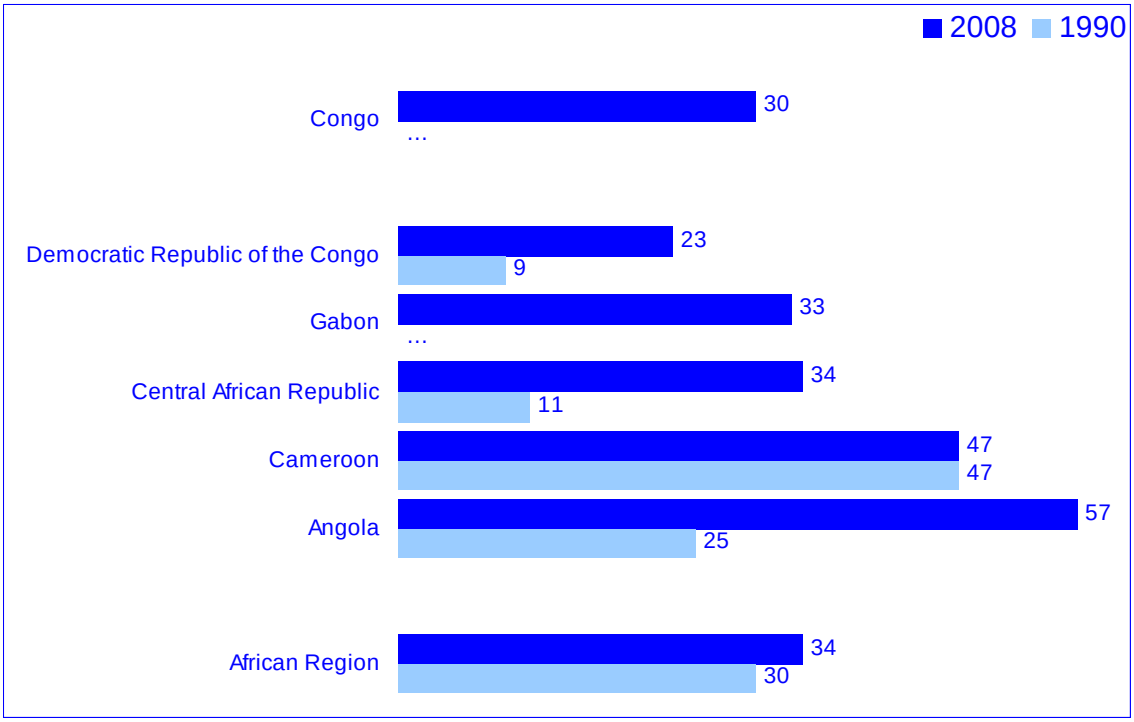



Figure 77 : Percentage of the population using improved sanitation facilities in Congo and neighboring countries, 2008 and 1990




… : No data

Figure 78 : Percentage of the population using improved sanitation facilities in Congo and neighboring countries, urban and rural, 2008

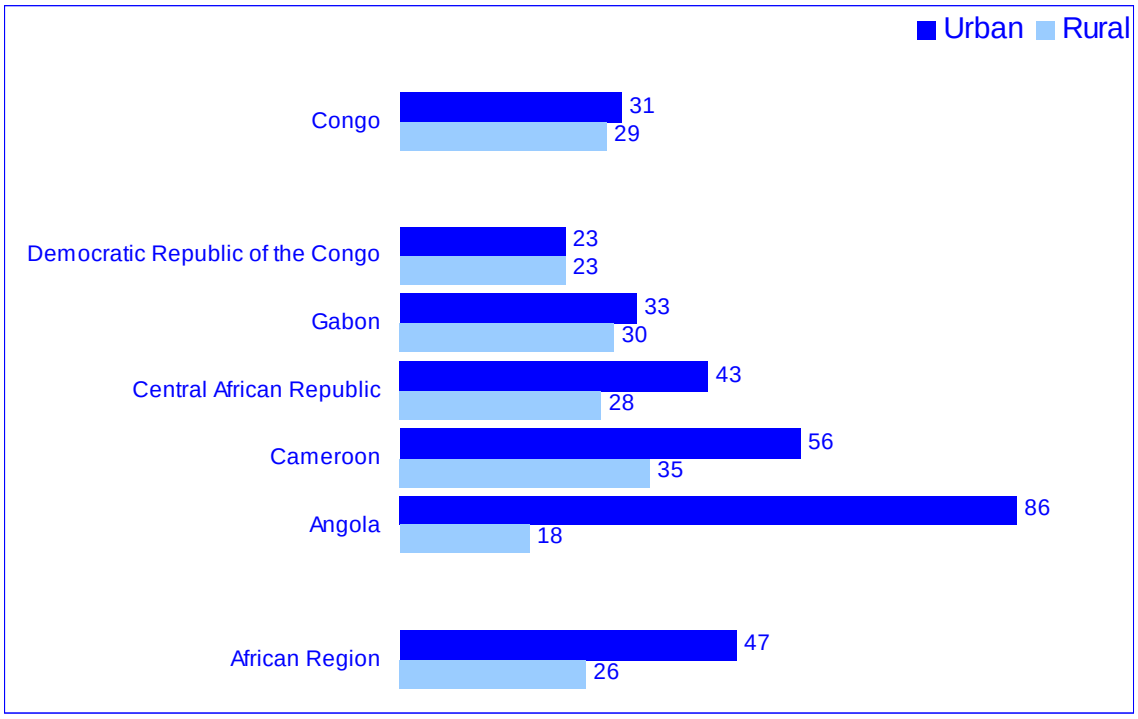



Figure 79 : Percentage of the population living in urban areas in Congo and neighboring countries, 2008 and 1990

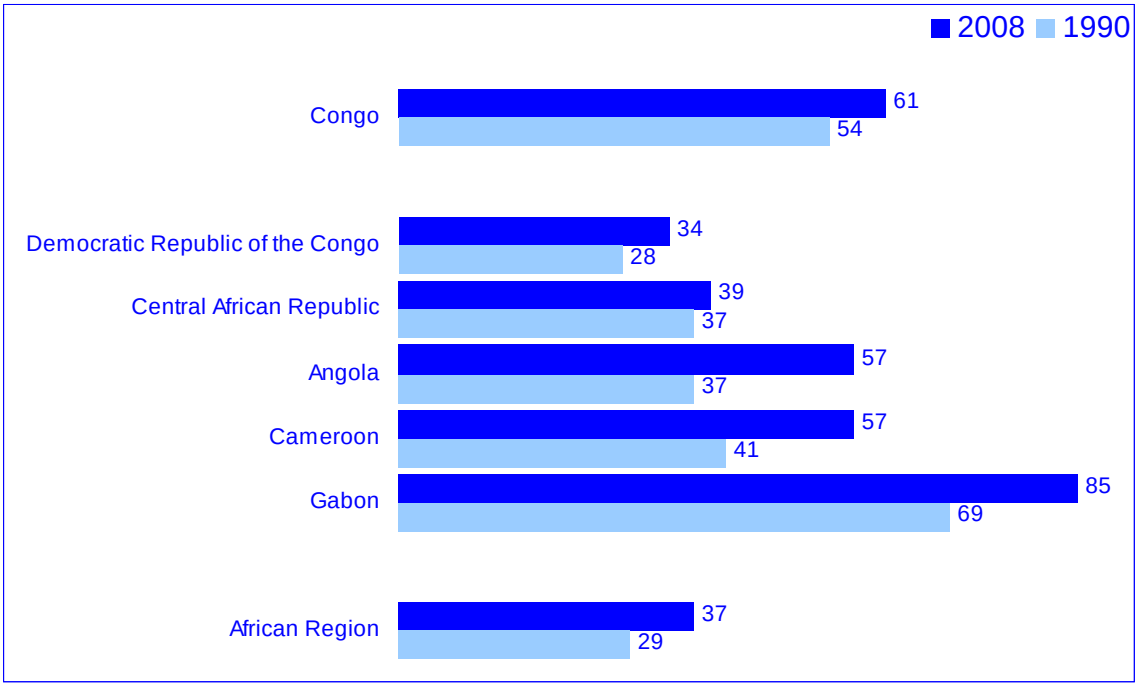
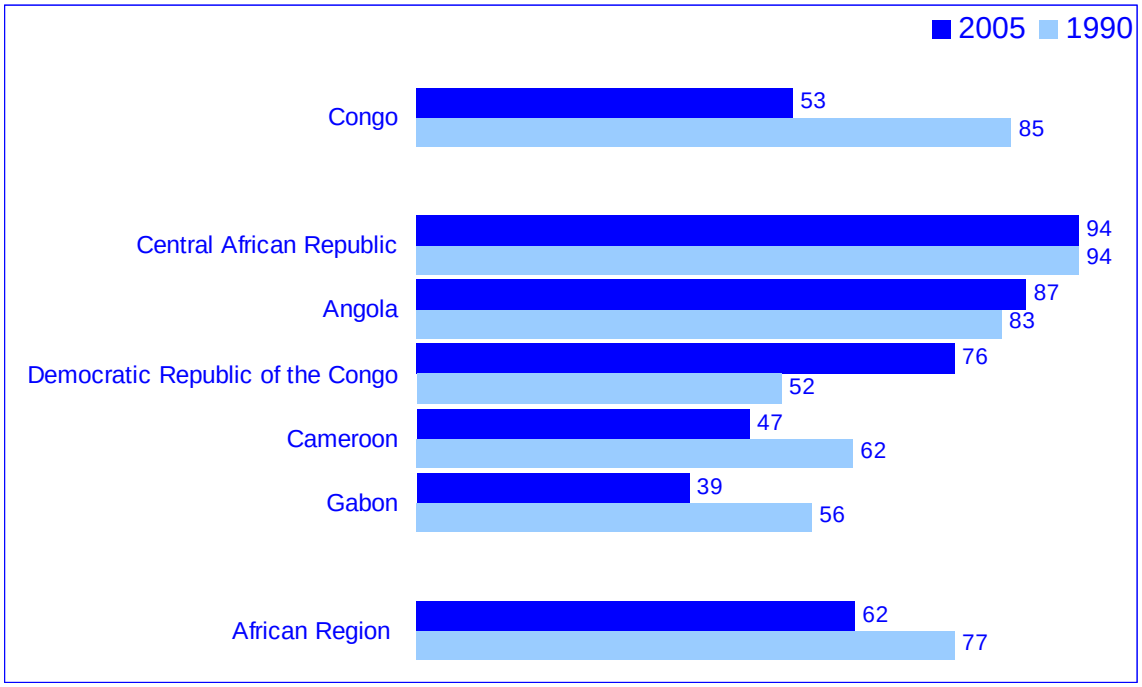


Figure 80 : Percentage of urban population living in slums[xxiii] in Congo and neighboring countries, 2005 and 1990

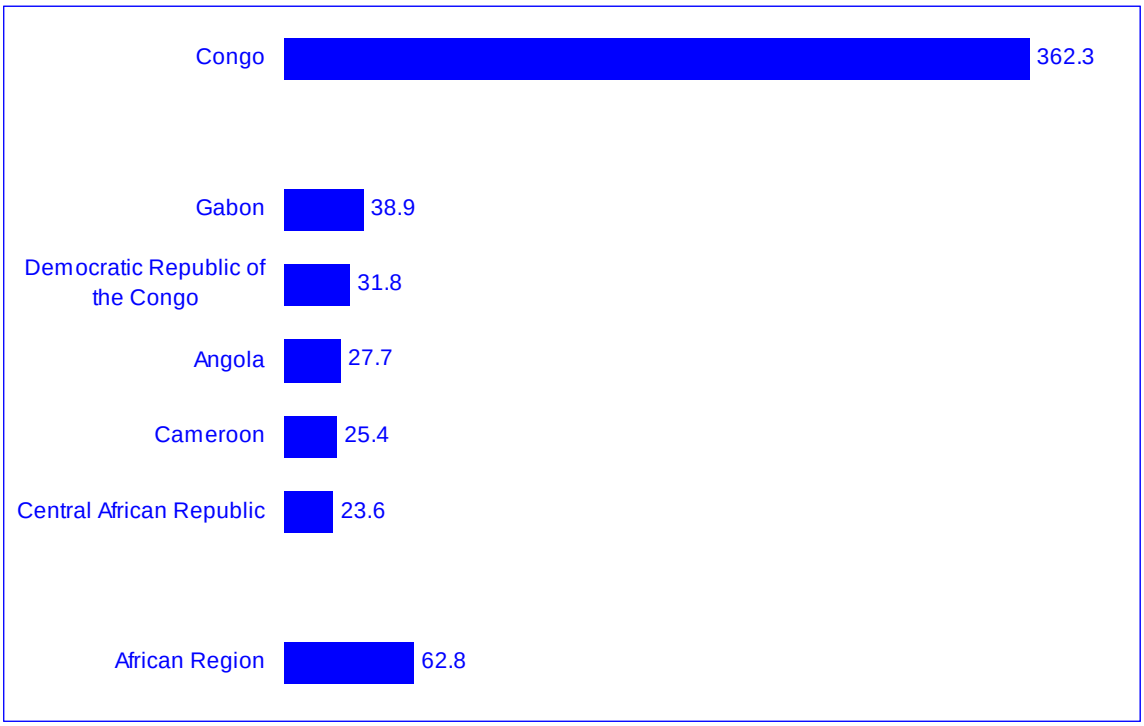



Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

[xxiii] A slum household is defined as a group of individuals living under the same roof lacking one or more1 of the following conditions: Access to improved water, Access to improved sanitation, Sufficient-living area, Durability of housing, Security of tenure. However, since information on secure tenure is not available for most of the countries, only the first four indicators are used to define slum household, and then to estimate the proportion of urban population living in slums. The indicator is intended to provide an overview of the share of urban population living in conditions of poverty and physical and environmental deprivation. For details, see United Nations Human Settlements Programme (UN-HABITAT) (2003). Global Urban Observatory. Nairobi (Available at the Web site http://www.unhabitat.org/programmes/guo)

## *Global partnerships and financial flows*

Figure 81 : Per capita official development assistance (ODA)[xxiv] received (US$) in Congo and neighboring countries, 2005




Source: OECD-DAC 2007, World Bank2007

[xxiv] Official Development Assistance (ODA): is defined as those flows to countries and territories on the DAC List of ODA Recipients/ (available at www.oecd.org/dac/stats/daclist)
and to multilateral development institutions which are: 1. provided by official agencies, including state and local governments, or by their executive agencies; and 2. each transaction of which: a) is administered with the promotion of the economic development and welfare of developing countries as its main objective; and b) is concessional in character and conveys a grant element of at least 25 per cent (calculated at a rate of discount of 10 per cent).

Figure 82 : Official development assistance (ODA) received as percentage of GDP in Congo and neighboring countries, 2005 and 1990

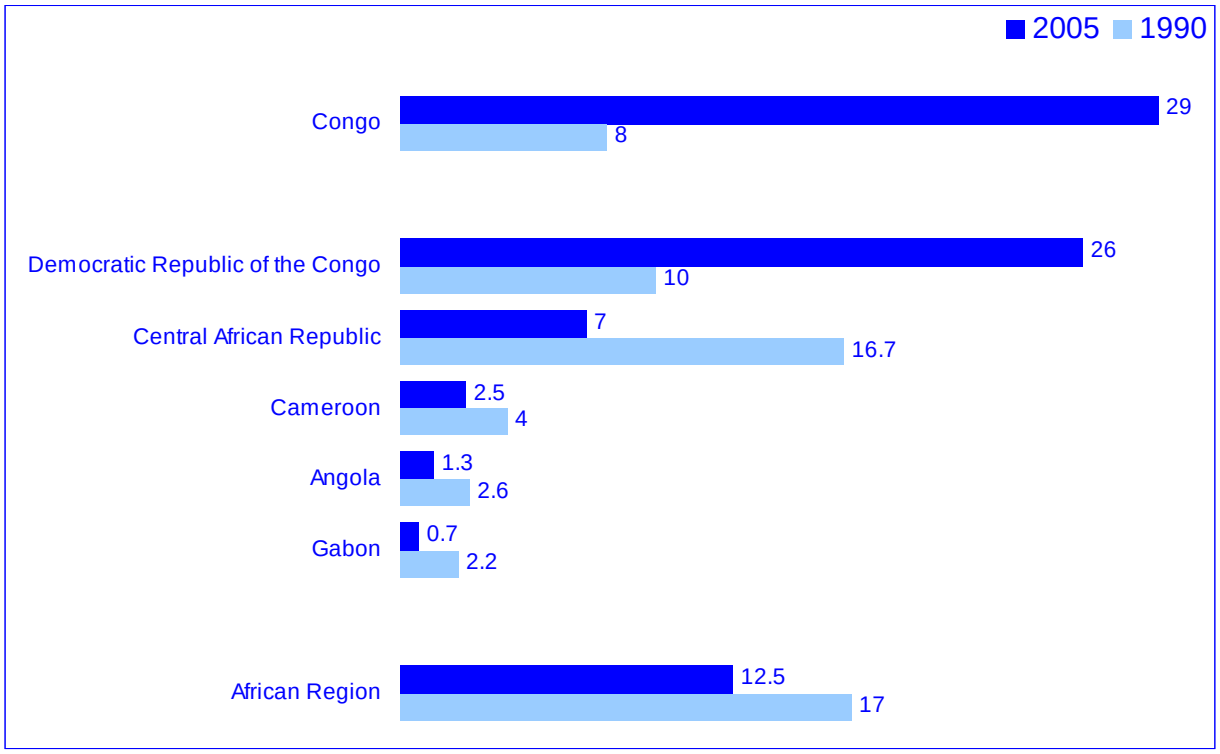
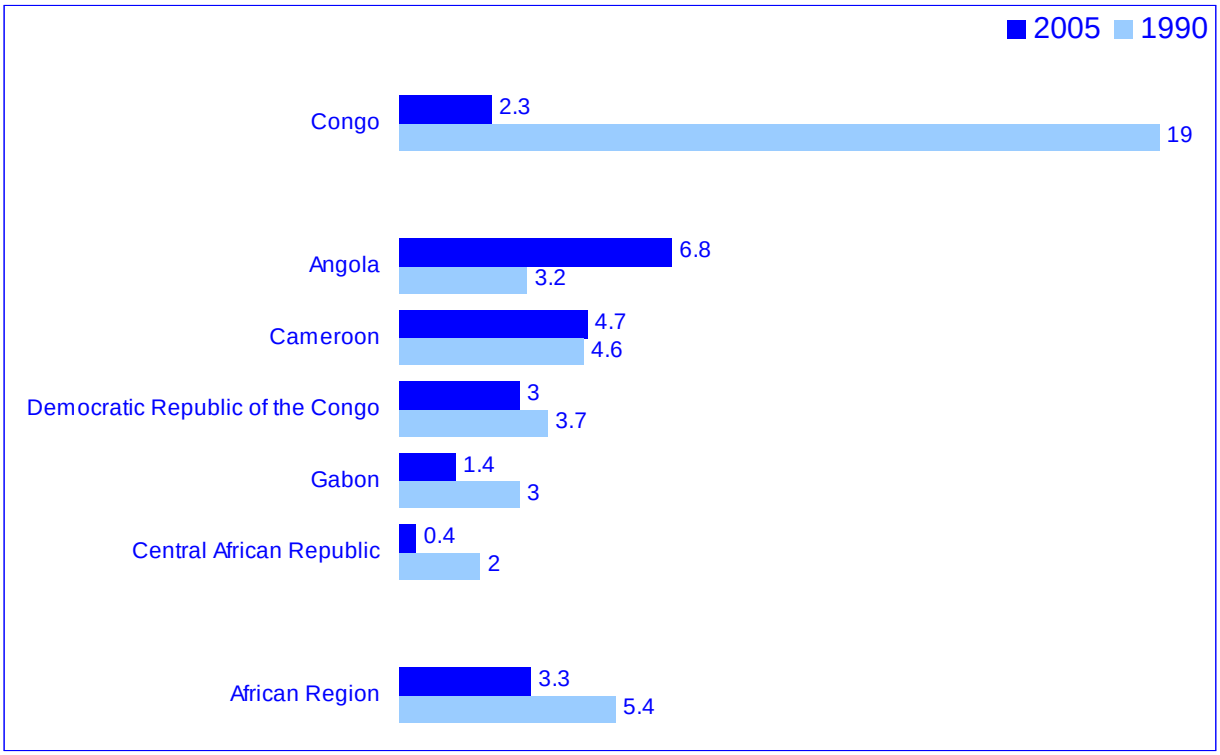
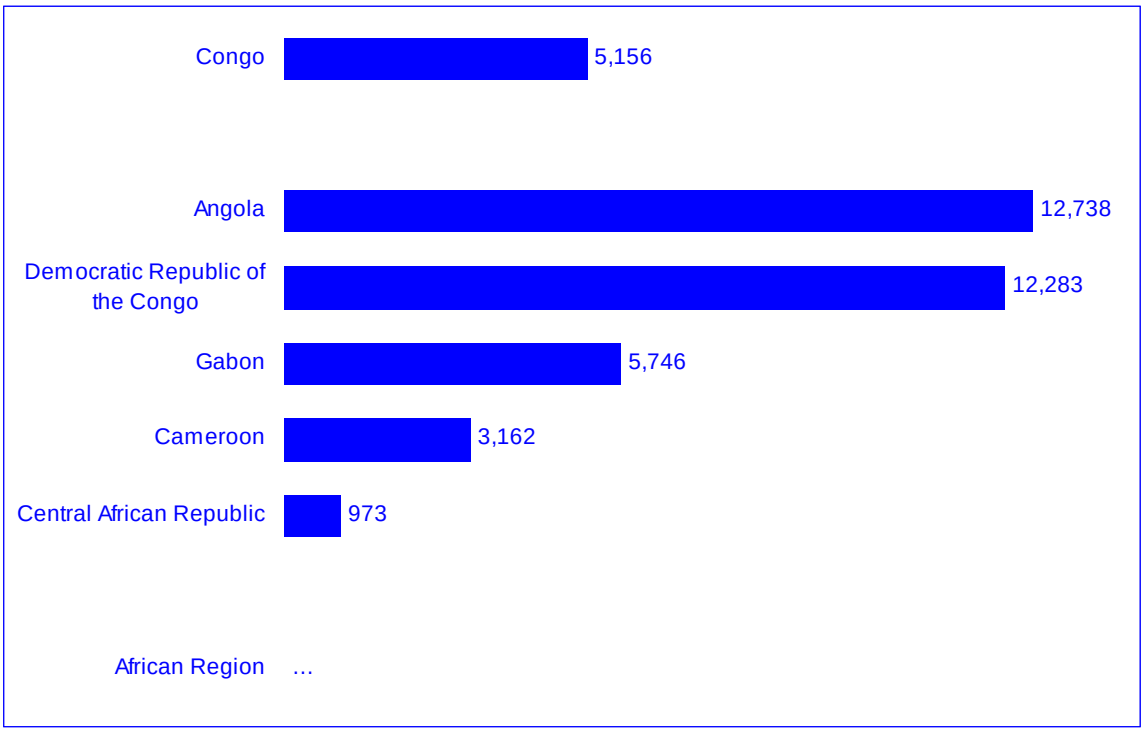



Figure 83 : Total debt service as percentage of GDP in Congo and neighboring countries, 2005 and 1990




Source: World Bank 2010

Figure 84 : Total external debt stocks[xxv], (in millions of US $) in Congo and neighboring countries, 2007

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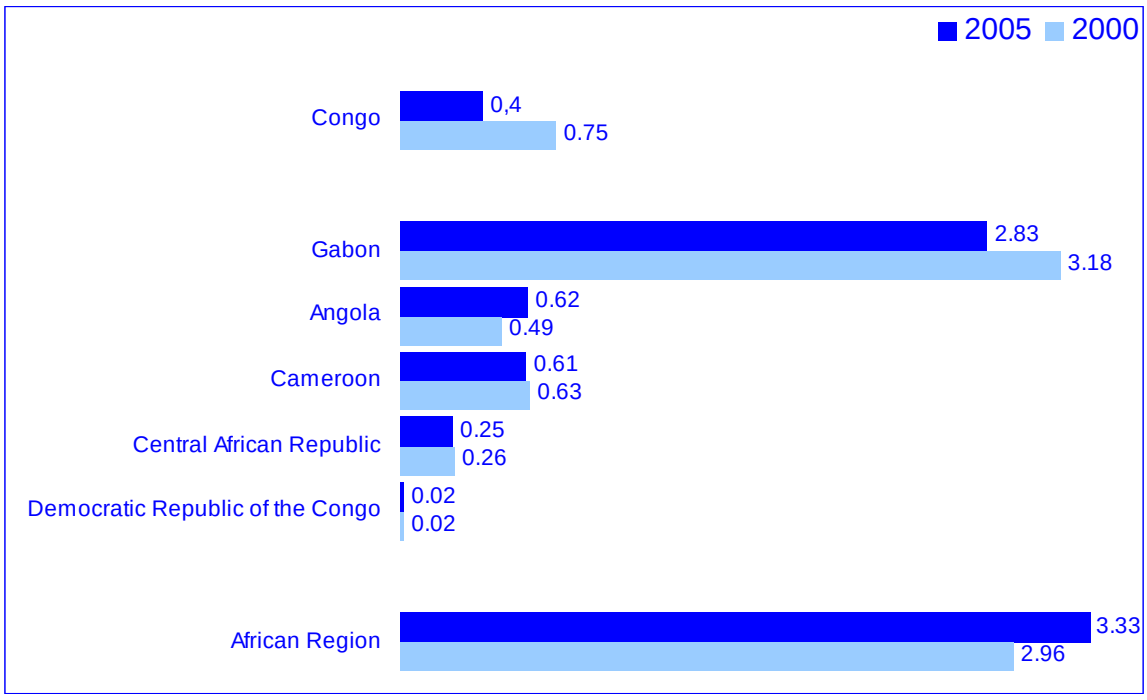
## *Science &Technology*

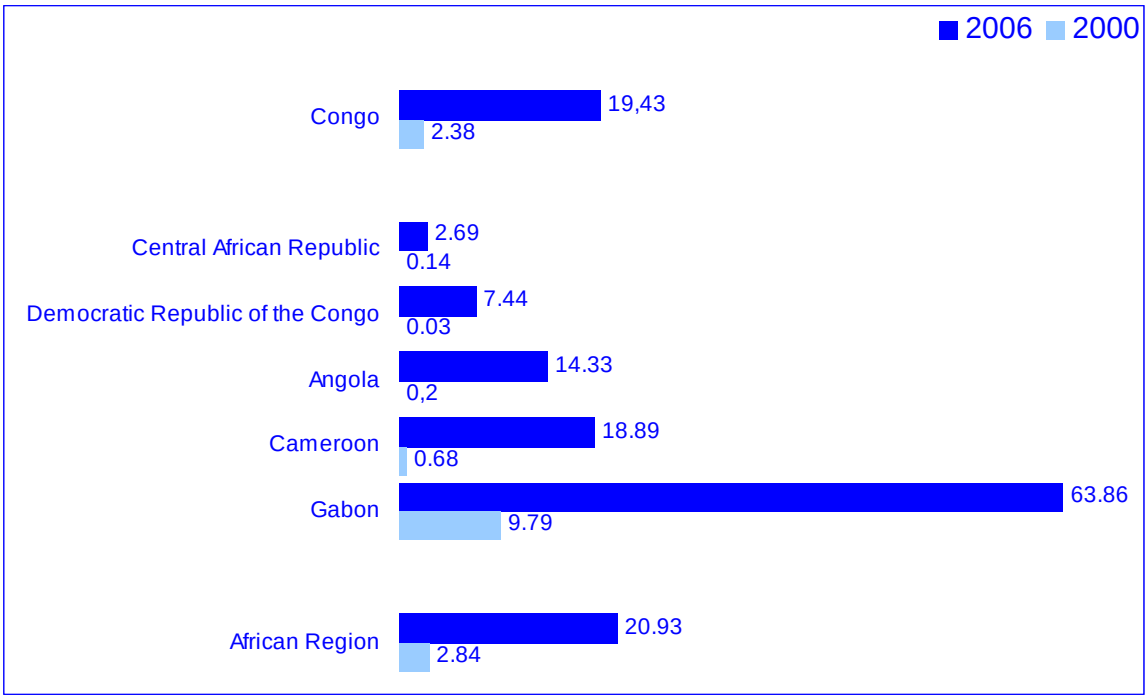
Figure 85 : Percentage of population with telephone in Congo and neighboring countries, 2005 and 2000




Source: International Telecommunication Union -Accessed 19 September 2009

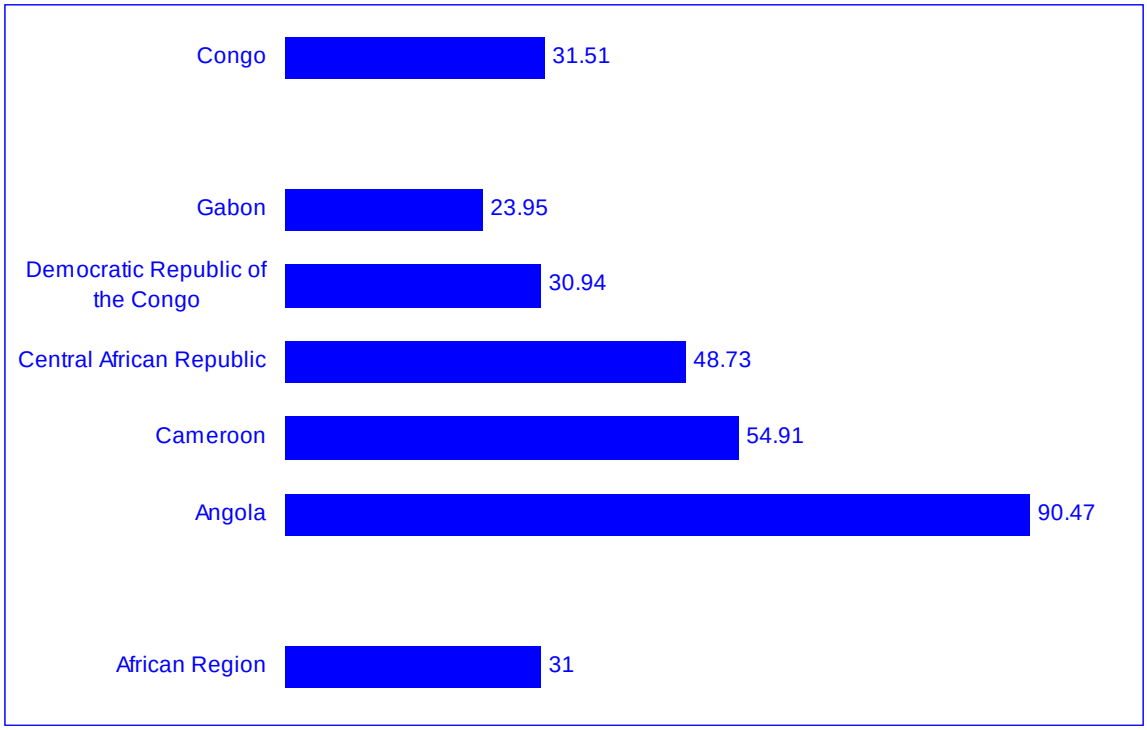
[xxv] Total external debt is debt owed to nonresidents repayable in foreign currency, goods, or services. Total external debt is the sum of public, publicly guaranteed, and private nonguaranteed long-term debt, use of IMF credit, and short-term debt. Short-term debt includes all debt having an original maturity of one year or less and interest in arrears on long-term debt. Data are in current U.S. dollars. Source: World Bank, Global Development Finance

Figure 86 : Percentage of population who are cellular or mobile subscribers in Congo and neighboring countries, 2006 and 2000



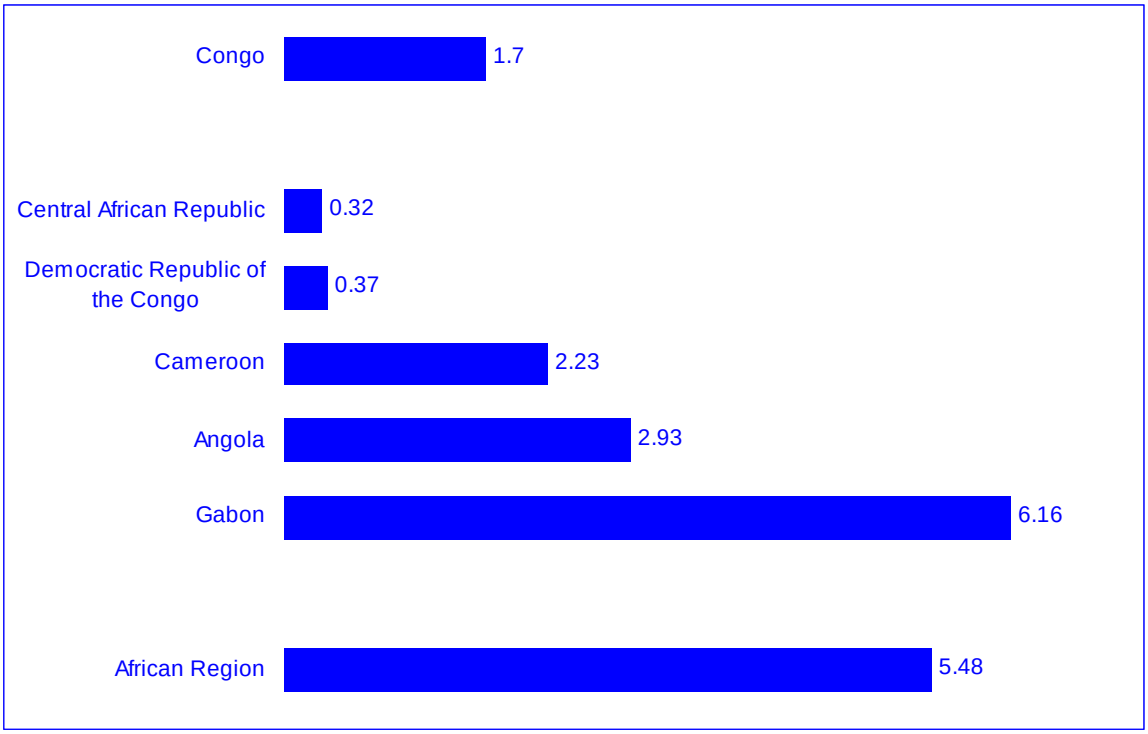

Source: International Telecommunication Union -Accessed 19 September 2009

Figure 87 : Percentage of population who are telephone (fixed & mobile) subscribers in Congo and neighboring countries, 2007




Source: International Telecommunication Union -Accessed 19 September 2009

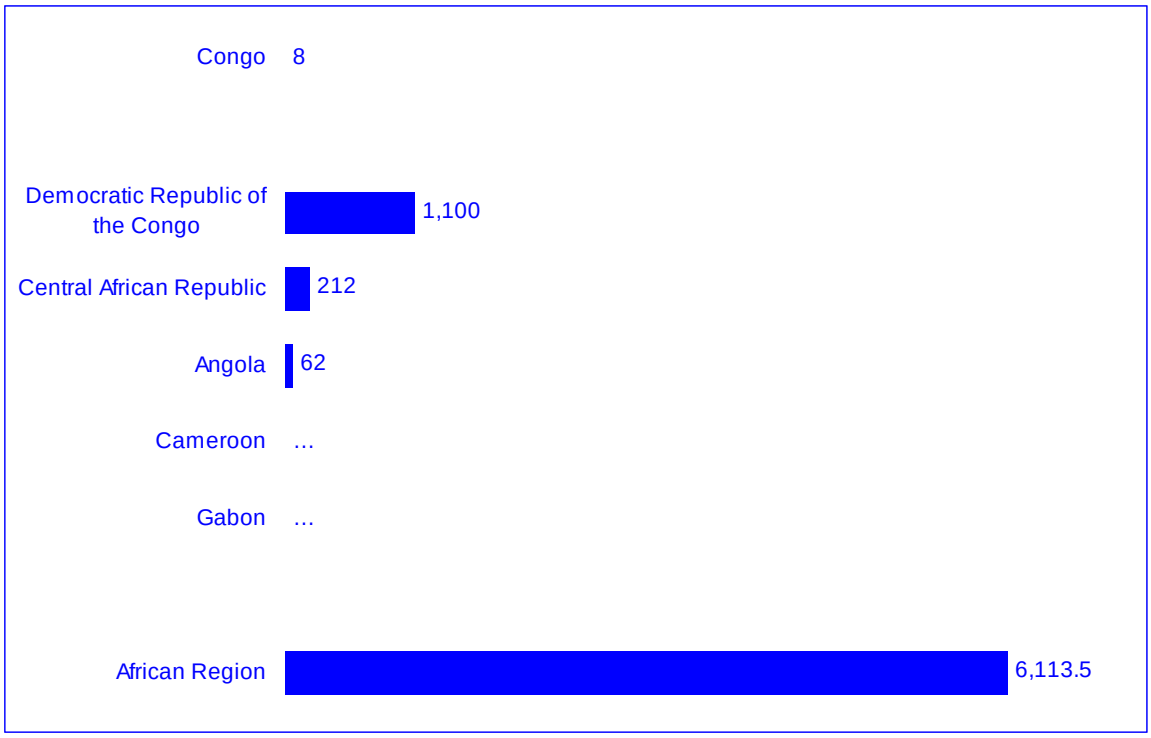
Figure 88 : Percentage of the population who are Internet users in Congo and neighboring countries, 2007




Source: United Nations Statistical Division-MDG database-Accessed 10 June 2010

## *Emergencies and Disasters*

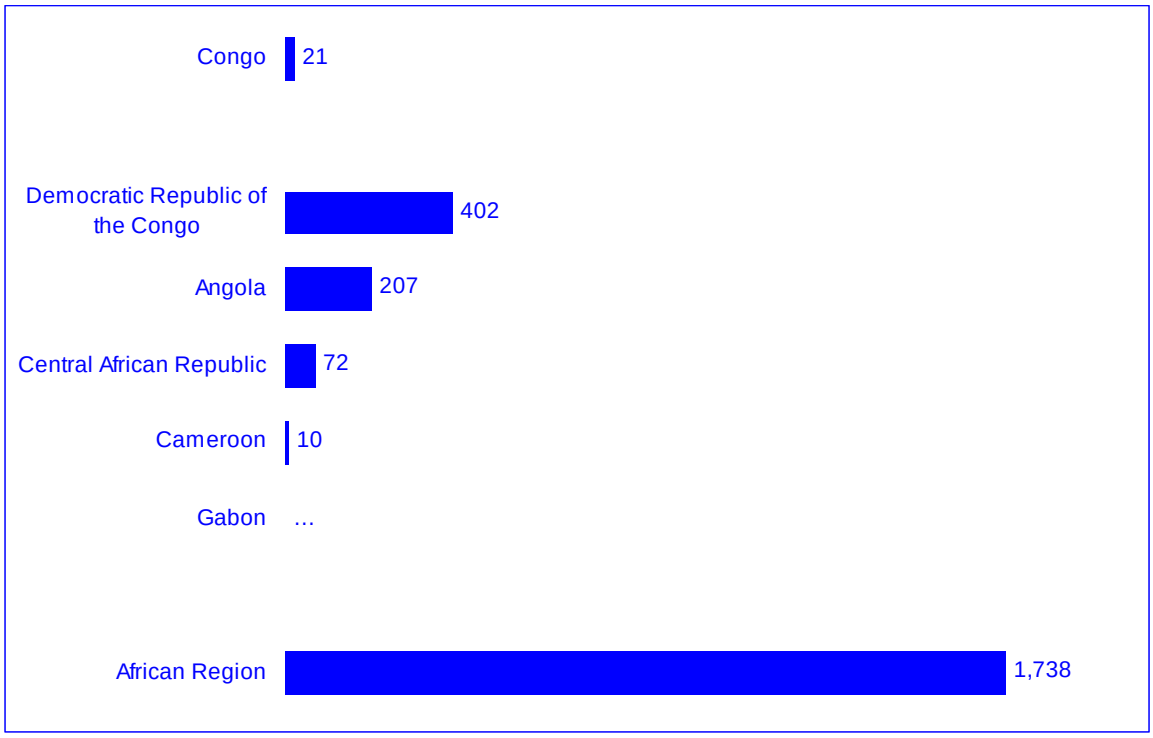
Figure 89 : The total number of internally displaced[xxvi] people (thousands) in Congo and neighboring countries, 2006




… : No data

[xxvi] Internally displaced people (IDPs, thousand): Number (in thousand) of "persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border." Read more, see http://www.internal-displaced.org

Figure 90 : The total number of refugees (in thousands) in Congo and neighboring countries of origin, 2006

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Source: UNHCR 2007

# 5. Progress on the Health-Related MDGs

## *Official list of MDG indicators*

**Revised MDG monitoring framework to include new targets and indicators, as noted by the 62nd UN General Assembly. Health targets and indicators in gray. All indicators should be disaggregated by sex and urban/rural as far as possible.**

*Effective 15 January 2008*

| Millennium Development Goals (MDGs) | |
|---|---|
| **Goals and Targets (from the Millennium Declaration)** | **Indicators for monitoring progress** |
| **Goal 1: Eradicate extreme poverty and hunger** | |
| Target 1.A: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day | 1.1 Proportion of population below $1 (PPP) per day [i]<br>1.2 Poverty gap ratio<br>1.3 Share of poorest quintile in national consumption |
| Target 1.B: Achieve full and productive employment and decent work for all, including women and young people | 1.4 Growth rate of GDP per person employed<br>1.5 Employment-to-population ratio<br>1.6 Proportion of employed people living below $1 (PPP) per day<br>1.7 Proportion of own-account and contributing family workers in total employment |
| Target 1.C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger | 1.8 Prevalence of underweight children under-five years of age<br>1.9 Proportion of population below minimum level of dietary energy consumption |
| **Goal 2: Achieve universal primary education** | |
| Target 2.A: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling | 2.1 Net enrolment ratio in primary education<br>2.2 Proportion of pupils starting grade 1 who reach last grade of primary<br>2.3 Literacy rate of 15-24 year-olds, women and men |
| **Goal 3: Promote gender equality and empower women** | |
| Target 3.A: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015 | 3.1 Ratios of girls to boys in primary, secondary and tertiary education<br>3.2 Share of women in wage employment in the non-agricultural sector<br>3.3 Proportion of seats held by women in national parliament |
| **Goal 4: Reduce child mortality** | |
| Target 4.A: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate | 4.1 Under-five mortality rate<br>4.2 Infant mortality rate<br>4.3 Proportion of 1 year-old children immunised against measles |
| **Goal 5: Improve maternal health** | |
| Target 5.A: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio | 5.1 Maternal mortality ratio<br>5.2 Proportion of births attended by skilled health personnel |
| Target 5.B: Achieve, by 2015, universal access to reproductive health | 5.3 Contraceptive prevalence rate<br>5.4 Adolescent birth rate<br>5.5 Antenatal care coverage (at least one visit and at least four visits)<br>5.6 Unmet need for family planning |
| **Goal 6: Combat HIV/AIDS, malaria and other diseases** | |
| Target 6.A: Have halted by 2015 and begun to reverse the spread of HIV/AIDS | 6.1 HIV prevalence among population aged 15-24 years<br>6.2 Condom use at last high-risk sex<br>6.3 Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS<br>6.4 Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years |
| Target 6.B: Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it | 6.5 Proportion of population with advanced HIV infection with access to antiretroviral drugs |
| Target 6.C: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases | 6.6 Incidence and death rates associated with malaria<br>6.7 Proportion of children under 5 sleeping under insecticide-treated bednets<br>6.8 Proportion of children under 5 with fever who are treated with appropriate anti-malarial drugs<br>6.9 Incidence, prevalence and death rates associated with tuberculosis<br>6.10 Proportion of tuberculosis cases detected and cured under directly observed treatment short course |

| | |
|---|---|
| **Goal 7: Ensure environmental sustainability** | |
| Target 7.A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources<br><br>Target 7.B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss | 7.1 Proportion of land area covered by forest<br>7.2 CO2 emissions, total, per capita and per $1 GDP (PPP)<br>7.3 Consumption of ozone-depleting substances<br>7.4 Proportion of fish stocks within safe biological limits<br>7.5 Proportion of total water resources used<br>7.6 Proportion of terrestrial and marine areas protected<br>7.7 Proportion of species threatened with extinction |
| Target 7.C: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation | 7.8 Proportion of population using an improved drinking water source<br>7.9 Proportion of population using an improved sanitation facility |
| Target 7.D: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers | 7.10 Proportion of urban population living in slums [ii] |
| **Goal 8: Develop a global partnership for development** | |
| Target 8.A: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system<br><br>Includes a commitment to good governance, development and poverty reduction – both nationally and internationally<br><br>Target 8.B: Address the special needs of the least developed countries<br><br>Includes: tariff and quota free access for the least developed countries' exports; enhanced programme of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction<br><br>Target 8.C: Address the special needs of landlocked developing countries and small island developing States (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly)<br><br>Target 8.D: Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term | *Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries and small island developing States.*<br><br>Official development assistance (ODA)<br>8.1 Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income<br>8.2 Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation)<br>8.3 Proportion of bilateral official development assistance of OECD/DAC donors that is untied<br>8.4 ODA received in landlocked developing countries as a proportion of their gross national incomes<br>8.5 ODA received in small island developing States as a proportion of their gross national incomes<br>Market access<br>8.6 Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty<br>8.7 Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries<br>8.8 Agricultural support estimate for OECD countries as a percentage of their gross domestic product<br>8.9 Proportion of ODA provided to help build trade capacity<br>Debt sustainability<br>8.10 Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative)<br>8.11 Debt relief committed under HIPC and MDRI Initiatives<br>8.12 Debt service as a percentage of exports of goods and services |
| Target 8.E: In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries | 8.13 Proportion of population with access to affordable essential drugs on a sustainable basis |
| Target 8.F: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications | 8.14 Telephone lines per 100 population<br>8.15 Cellular subscribers per 100 population<br>8.16 Internet users per 100 population |

The Millennium Development Goals and targets come from the Millennium Declaration, signed by 189 countries, including 147 heads of State and Government, in September 2000 (http://www.un.org/millennium/declaration/ares552e.htm) and from further agreement by member states at the 2005 World Summit (Resolution adopted by the General Assembly - A/RES/60/1, http://www.un.org/Docs/journal/asp/ws.asp?m=A/RES/60/1). The goals and targets are interrelated and should be seen as a whole. They represent a partnership between the developed countries and the developing countries "to create an environment – at the national and global levels alike – which is conducive to development and the elimination of poverty".

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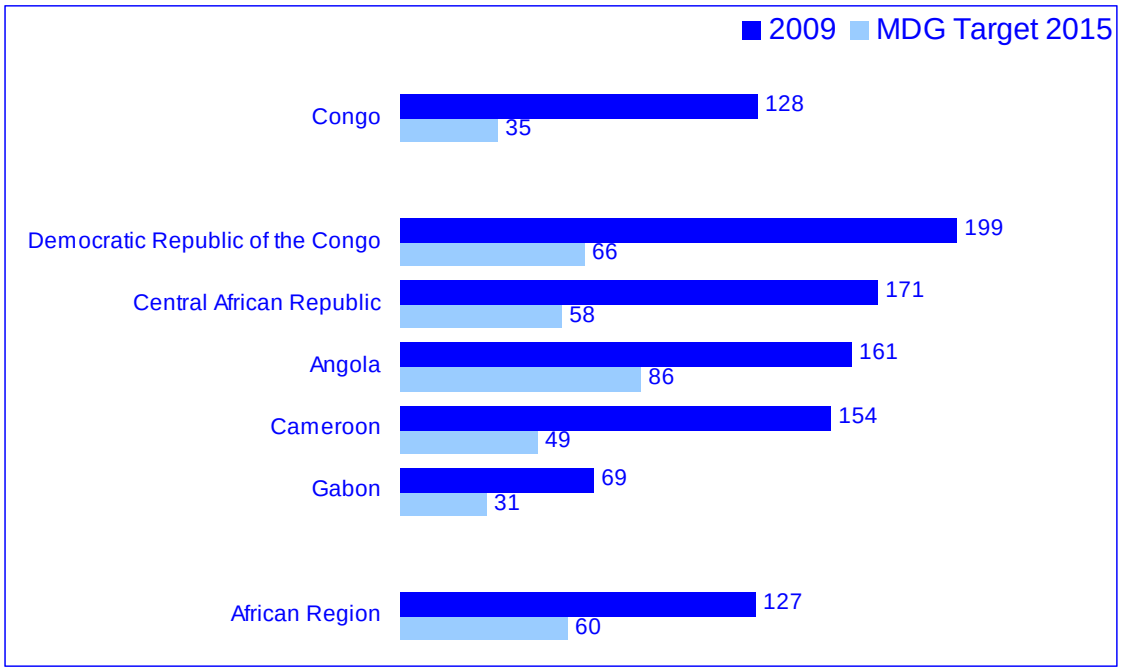
[i] For monitoring country poverty trends, indicators based on national poverty lines should be used, where available.

[ii] The actual proportion of people living in slums is measured by a proxy, represented by the urban population living in households with at least one of the four characteristics: (a) lack of access to improved water supply; (b) lack of access to improved sanitation; (c) overcrowding (3 or more persons per room); and (d) dwellings made of non-durable material.

## *MDG-4 (Child health)*

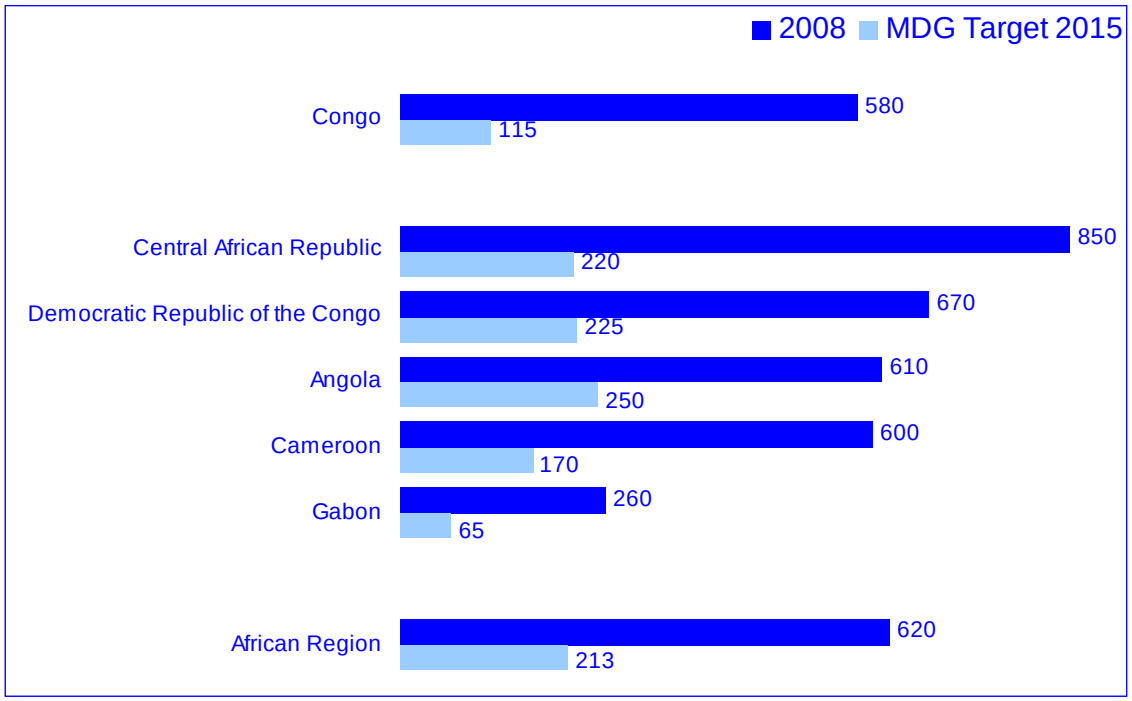
Figure 91 : Under five mortality rate per 1,000 live births in 2009 and the MDG target rate in Congo and neighboring countries




Source: IGME 2009 Estimates

## *MDG-5 (Maternal health)*

Figure 92**:** Maternal mortality ratio (per 100,000 live births) in 2008 and the MDG target ratio in Congo and neighboring countries




Source: IGME 2009 Estimates

Figure 93: Percentage of Births Attended by Skilled Health Personnel in Congo and neighboring countries, 2000-2008 and MDG Target 2015

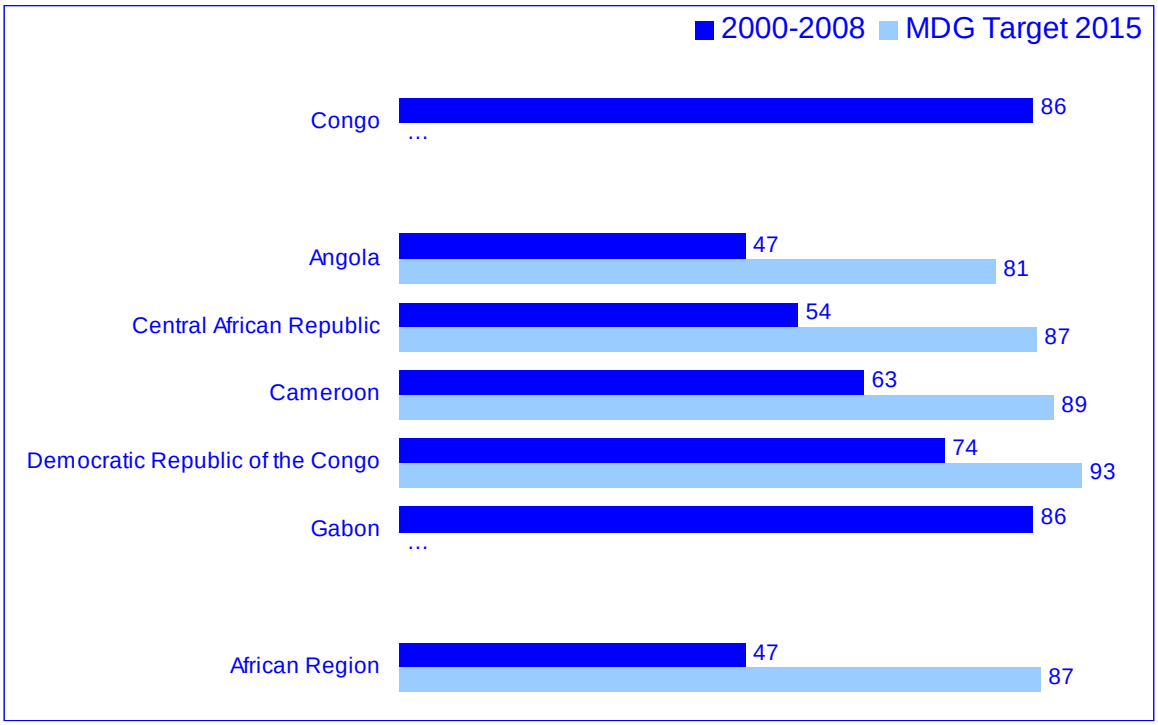



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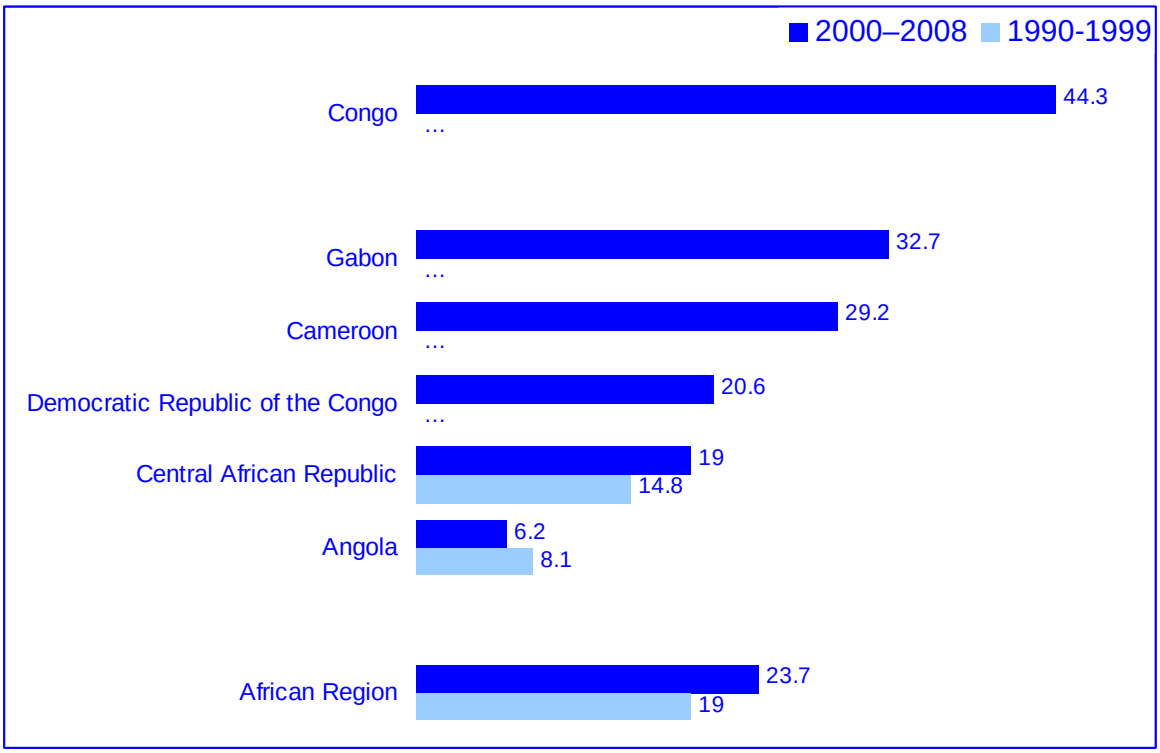
Figure 94**:** Percentage of contraceptive use among currently married women 15-49 years of age, in Congo and neighboring countries, 2000-2008 and 1990-1999

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## *MDG-6 (AIDS, malaria and TB)*

Figure 93 : Prevalence of HIV among adults aged 15-49 years (%) in Congo and neighboring countries, 2007 and 2001

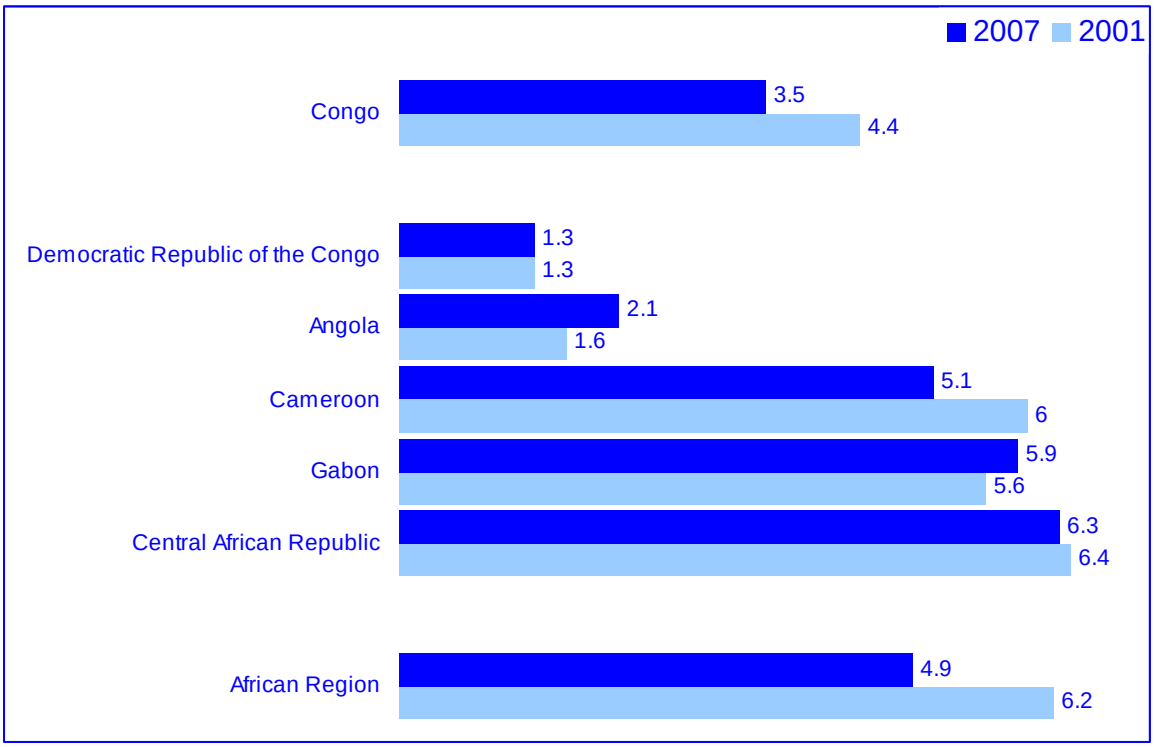


Figure 94 : Percentage of population in need of treatment with access to antiretroviral drugs in 2007 and 2006 in Congo and neighboring countries

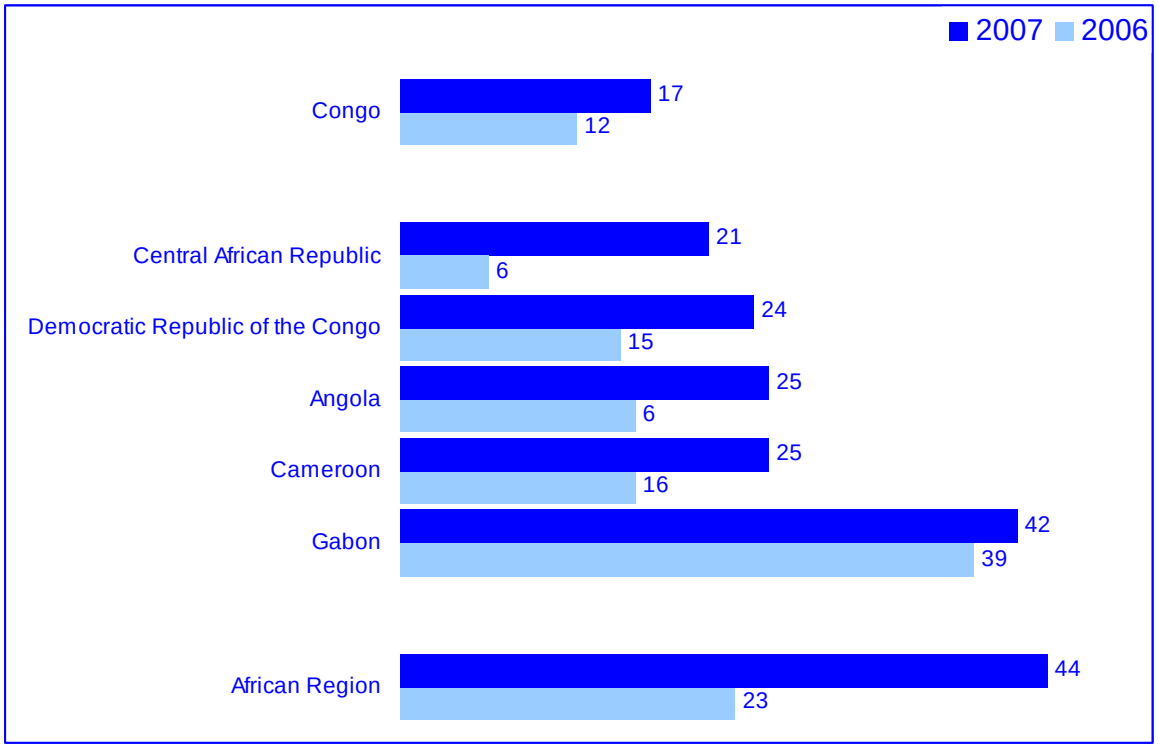

Figure 95 : Percentage of under five children sleeping under insecticide-treated bed nets in 2005-2009 and 2000-2004 in Congo and neighboring countries

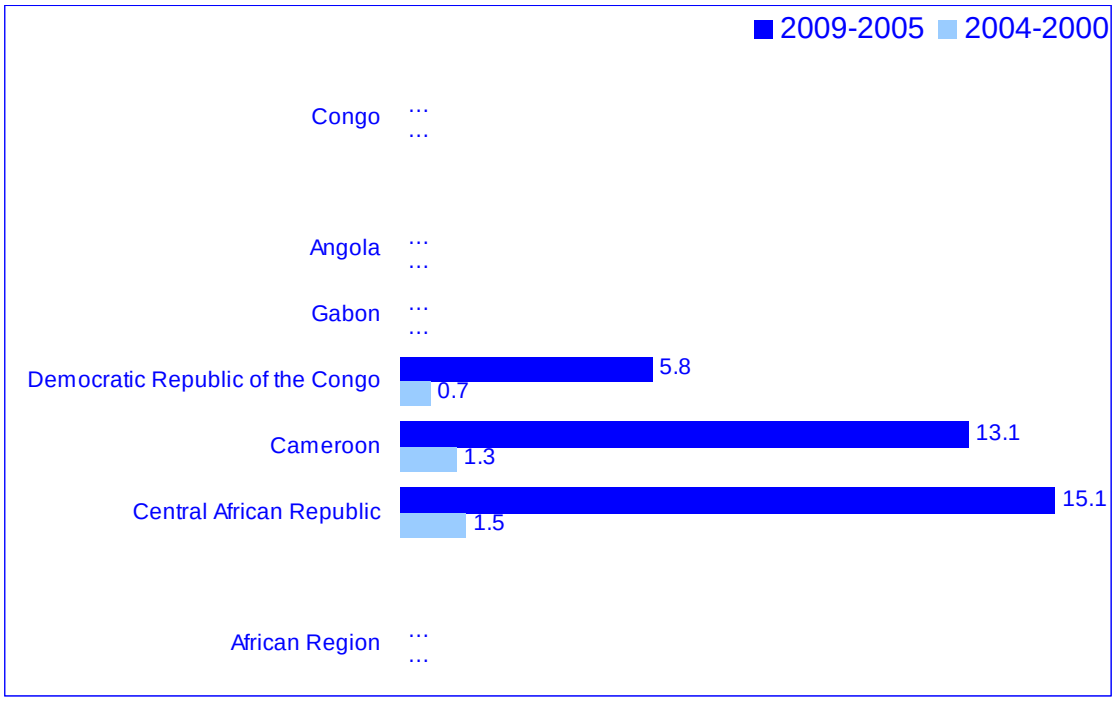


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Figure 98: Percentage of under five children with fever being treated with anti-malarial drugs in 2005-2009 and 2000-2004 in Congo and neighboring countries

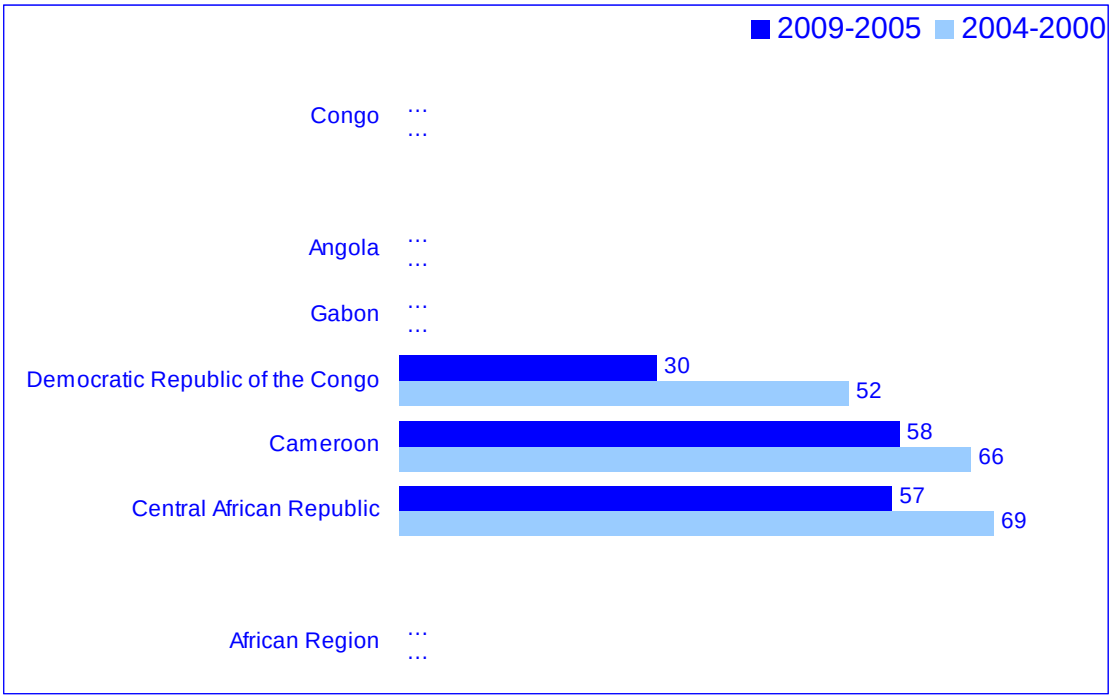


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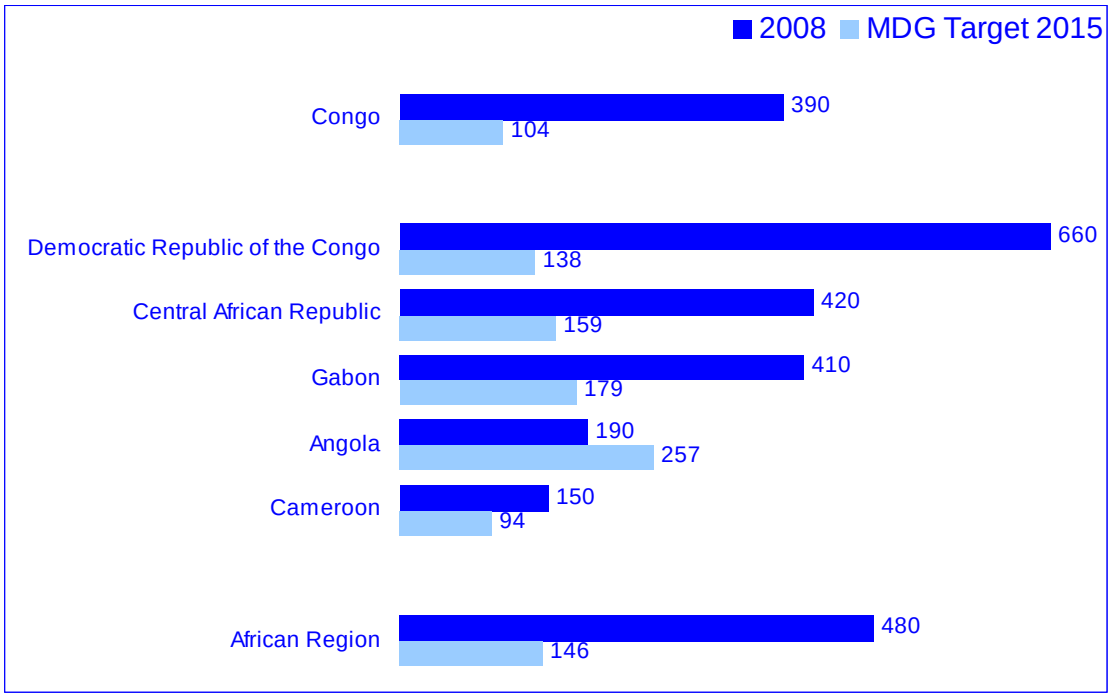
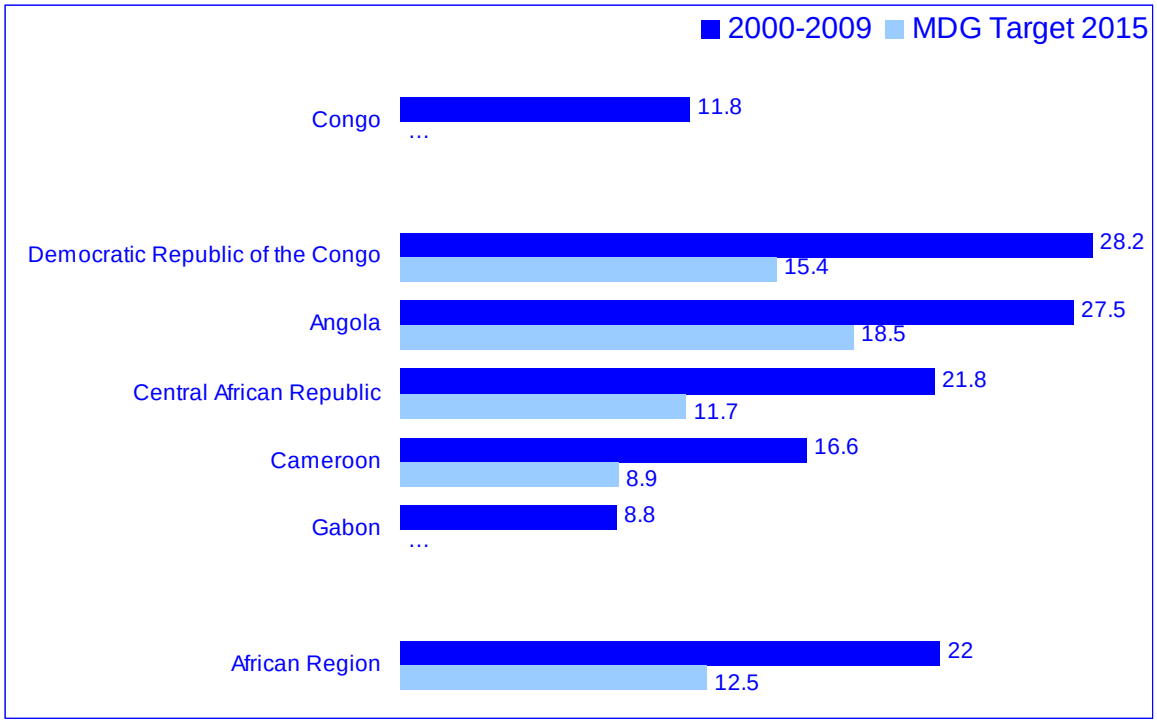
Figure 99 **:** Prevalence of tuberculosis (/100,000 pop) in 2008 and the MDG target prevalence in Congo and neighboring countries




## *MDG-1 (Malnourished children)*

Figure 100 : Percentage of underweight children under five years of age and the MDG target percentage in Congo and neighboring countries, 2000-2009 and MDG target

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## *MDG-7 (Water and sanitation)*

Figure 101 : Percentage of the population using improved drinking water sources in 2008 and MDG target in Congo and neighboring countries

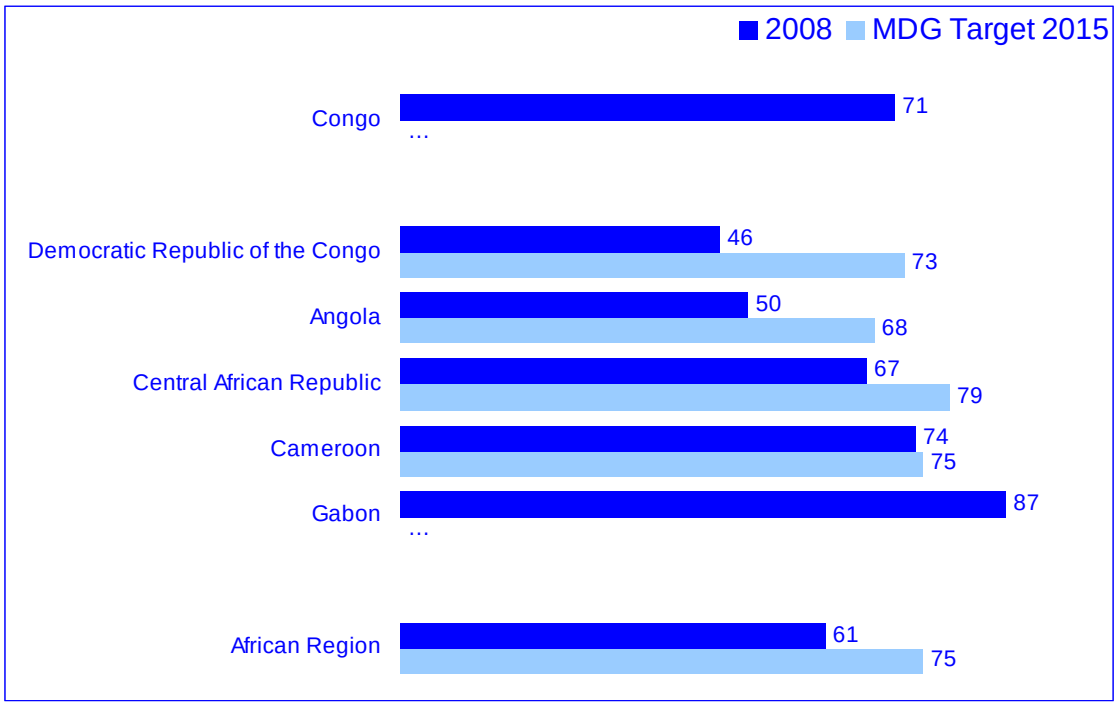


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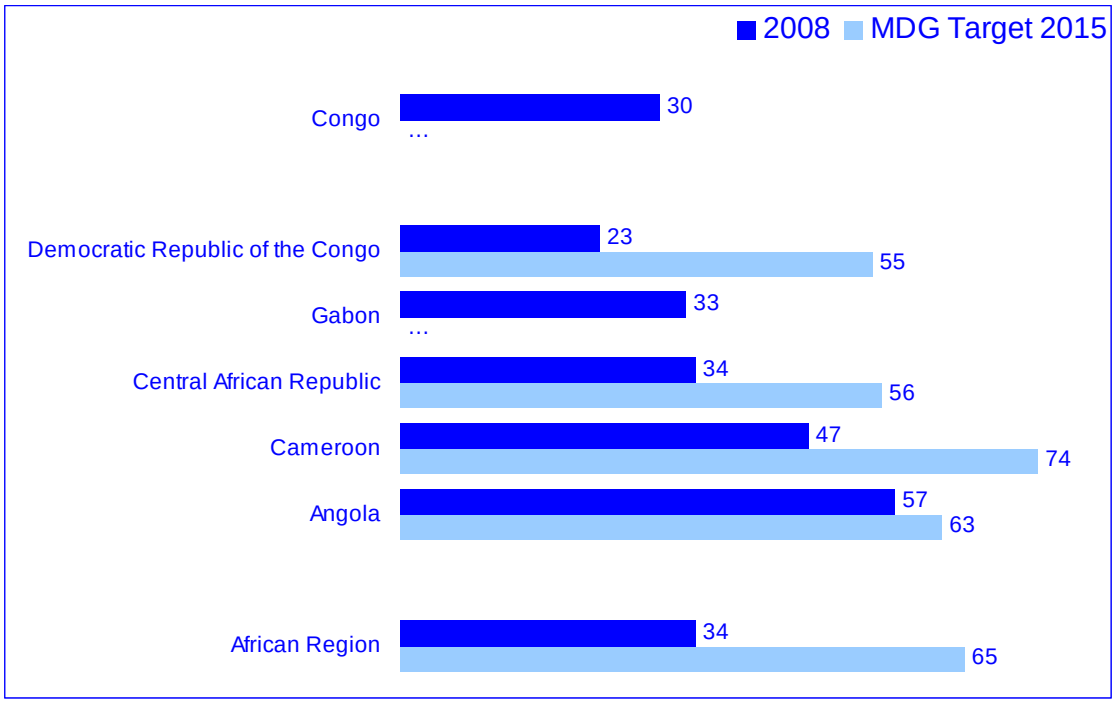
Figure 102: Percentage of the population using improved sanitation facilities in 2008 and MDG target percentage in Congo and neighboring countries

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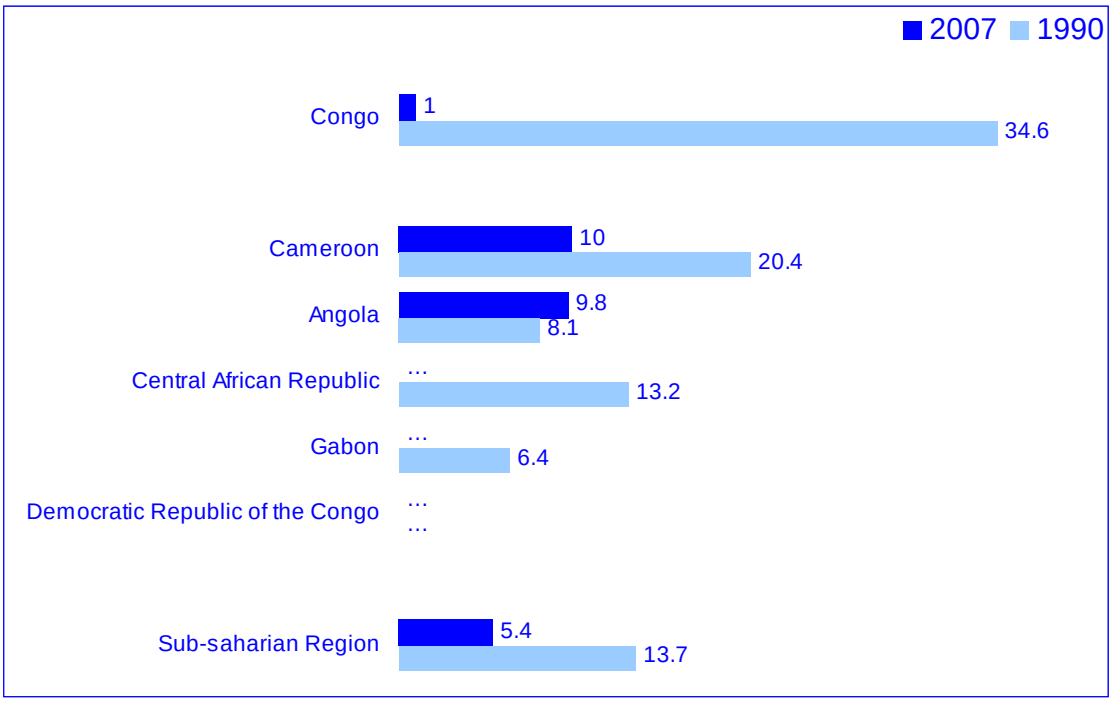
## *MDG-8 (Exports of goods, services and income)*

Figure 103: Total debt service as percentage of exports of goods, services and income in Congo and neighboring countries, 2007and 1990

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# 6. Explanatory notes

The following provides the definition of the health statistics categories included in this statistical annex, as well as the rationale for including them and the estimation methods used to produce them.

### 1. Life expectancy at birth

Rationale for use: life expectancy at birth reflects the overall mortality level of a population. It summarizes the mortality pattern that prevails across all age groups children and adolescents, adults and the elderly.

Definition: average number of years that a newborn is expected to live if current mortality rates continue to apply.

Methods of estimation: WHO has developed a model life table based on about 1800 life tables from vital registration judged to be of good quality. For countries with vital registration, the level of completeness of recorded mortality data in the population is assessed and mortality rates are adjusted accordingly. Where vital registration data for 2003 were available, these were used directly to construct the life table. For countries where the information system provided a time series of annual life tables, parameters from the life table were projected using a weighted regression model, giving more weight to recent years. Projected values of the two life table parameters were then applied to the modified logit life table model, where the most recent national data provided an age pattern, to predict the full life table for 2003. In case of inadequate sources of age-specific mortality rates, the life table is derived from estimated under-5 mortality rates and adult mortality rates that are applied to a global standard (defined as the average of all the 1800 life tables using a modified logit model.)

### 2. Healthy life expectancy (HALE)

Rationale for use: substantial resources are devoted to reducing the incidence, duration and severity of major diseases that cause morbidity but not mortality and to reducing their impact on people's lives. It is important to capture both fatal and non-fatal health outcomes in a summary measure of average levels of population health. Healthy life expectancy (HALE) at birth adds up expectation of life for different health states, adjusted for severity distribution making it sensitive to changes over time or differences between countries in the severity distribution of health states.

Definition: 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.

Methods of estimation: since comparable health state prevalence data are not available for all countries, a four-stage strategy is used. Data from the WHOGBD study are used to estimate severity-adjusted prevalence by age and sex for all countries. Data from the WHOMCSS and WHS are used to make independent estimates of severity-adjusted prevalence by age and sex for survey countries. Prevalence for all countries is calculated based on GBD, MCSS and WHS estimates. Life tables constructed by WHO are used with Sullivan's method to compute HALE for countries.

### 3. Probability of dying (per 1000) between ages 15 and 60 years (adult mortality rate)

Rationale for use: disease burden from non-communicable diseases among adults — the most economically productive age span — is rapidly increasing in developing countries due to ageing and health transitions. Therefore, the level of adult mortality is becoming an important indicator for the comprehensive assessment of the mortality pattern in a population.

Definition: probability that a 15-year-old person will die before reaching his/her 60th birthday.

### 4. Life table (see life expectancy at birth).

Data sources: civil or sample registration: Mortality by age and sex are used to calculate age specific rates. Census: Mortality by age and sex tabulated from questions on recent deaths that occurred in the household during a given period preceding the census (usually 12 months). Census or surveys: Direct or indirect methods provide adult mortality rates based on information on survival of parents or siblings.

Methods of estimation: empirical data from different sources are consolidated to obtain estimates of the level and trend in adult mortality by fitting a curve to the observed mortality points. However, to obtain the best possible estimates, judgement needs to be made on data quality and how representative it is of the population. Recent statistics based on data availability in most countries are point estimates dated by at least 3–4 years which need to be projected forward in order to obtain estimates of adult mortality for the current year. When no adequate source of age-specific mortality exists, the life table is derived as described in the life expectancy indicator.

### 5. Probability of dying (per 1000) under age five years (under-five mortality rate) / Probability of dying (per 1000) under age one year (infant morality rate)

Rationale for use: under-five mortality rate and infant mortality rate are leading indicators of the level of child health and overall development in countries. They are also MDG indicators.

Definition: under-five mortality rate is the probability of a child born in a specific year or period dying before reaching the age of five, if subject to age-specific mortality rates of that period. Infant mortality rate is the probability of a child born in a specific year or period dying before reaching the age of one, if subject to age-specific mortality rates of that period.

Methods of estimation: empirical data from different sources are consolidated to obtain estimates of the level and trend in under-five mortality by fitting a curve to the observed mortality points. However, to obtain the best possible estimates, judgement needs to be made on data quality and how representative it is of the population. Recent statistics based on data availability in most countries are point estimates dated by at least 3–4 years which need to be projected forward in order to obtain estimates of under-five mortality for the current year. Those are then converted to their corresponding infant mortality rates through model life table systems: the one developed by WHO for countries with adequate vital registration data; Coale-Demeny model life tables for the other countries. It should be noted that the infant mortality from surveys are exposed to recall bias, hence their estimates are derived from under-five mortality, which leads to a supplementary step to estimate infant mortality rates.

### 6. Neonatal mortality rate (per 1000 live births)

Rationale for use: neonatal deaths account for a large proportion of child deaths. Mortality during neonatal period is considered a useful indicator of both maternal and newborn health and care.

Definition: number of deaths during the first 28 completed days of life per 1000 live births in a given year or period. Neonatal deaths may be subdivided into early neonatal deaths, occurring during the first seven days of life, and late neonatal deaths, occurring after the seventh day but before the 28 completed days of life.

### 7. Maternal mortality ratio (per 100 000 live births)

Rationale for use: complications during pregnancy and childbirth are leading causes of death and disability among women of reproductive age in developing countries. Maternal mortality ratio (MMR) represents the risk associated with each pregnancy, i.e. the obstetric risk. It is also an MDG indicator for monitoring goal 5 of improving maternal health.

Definition: number of maternal deaths per 100 000 live births during a specified time period, usually one year.

Methods of estimation: measuring maternal mortality accurately is difficult except where comprehensive registration of deaths and their causes exist. Else-where, censuses or surveys can be used to measure levels of maternal mortality. Data derived from health services records are problematic where not all births take place in health facilities because of biases whose dimensions and direction cannot be determined. Reproductive-age mortality studies (RAMOS) use triangulation of different sources of data on deaths of women of reproductive age including record review and/or verbal autopsy to accurately identify maternal deaths. Based on multiple sources of information, RAMOS are considered the best way to estimate levels of maternal mortality. Estimates derived from household surveys are usually based on information retrospectively collected about the deaths of sisters of the respondents and could refer back up to an average 12 years and they are subject to wide confidence intervals. For countries without any reliable data on maternal mortality, statistical models are applied. Global and regional estimates of maternal mortality are developed every five years, using a regression model.

### 8. Estimated rate of adults (15 years and older) dying of HIV/AIDS (per 1000) / Estimated rate of children below 15 years of age dying of HIV/AIDS (per 1000)

Rationale for use: adult and children below 15 mortality rate are leading indicators of the level of impact of HIV/AIDS epidemic and impact of interventions specially scale up of treatment and prevention to mother to child transmission in countries.

Definition: estimated mortality due to HIV/AIDS is the number of adults and children that have died in a specific year based in the modeling of HIV surveillance data using standard and appropriate tools.

Methods of estimation: empirical data from different HIV surveillance sources are consolidated to obtain estimates of the level and trend in adults and children mortality by using standard methods and tools for HIV estimates appropriate to the level of HIV epidemic. However, to obtain the best possible estimates, judgement needs to be made on data quality and how representative it is of the population. UNAIDS/WHO produce country specific estimates every two years.

### 9. Tuberculosis mortality

Rationale for use: prevalence and mortality are direct indicators of the burden of tuberculosis (TB), indicating the number of people suffering from the disease at a given point in time, and the number dying each year. Furthermore, prevalence and mortality respond quickly to improvements in control, as timely and effective treatment reduce the average duration of disease (thus decreasing prevalence) and the likelihood of dying from the disease (thus reducing diseasespecific mortality).

Definition: estimated number of deaths due to TB in given time period. Expressed in this database as deaths per 100 000 population per year. Includes deaths from all forms of TB, and deaths from TB in people with HIV.

Methods of estimation: estimates of TB incidence, prevalence and mortality are based on a consultative and analytical process in WHO and are published annually. The methods used to estimate TB mortality rates are described in detail elsewhere. Country-specific estimates of TB mortality are, in most instances, derived from estimates of incidence, combined with assumptions about the case fatality rate. The case fatality rate is assumed to vary according to whether the disease is smear-positive or not; whether the individual receives treatment in a DOTS programme or non-DOTS programmes, or is not treated at all; and whether the individual is infected with HIV.

### 10. Years of life lost (percentage of total)

Rationale for use: years of life are lost (YLL) take into account the age at which deaths occur by giving greater weight to deaths at younger age and lower weight to deaths at older age. The years of life lost (percentage of total) indicator measures the YLL due to a cause as a proportion of the total YLL lost in the population due to premature mortality.

Definition: YLL are calculated from the number of deaths multiplied by a standard life expectancy at the age at which death occurs. The standard life expectancy used for YLL at each age is the same for deaths in all regions of the world and is the same as that used for the calculation of disability-adjusted-life years (DALY). Additionally 3% time discounting and non-uniform age weights which give less weight to years lived at young and older ages were used as for the DALY. With non-uniform age weights and 3% discounting, a death in infancy corresponds to 33 YLL, and deaths at ages 5 to 20 to around 36 YLL.

### 11. The disability-adjusted-life-year or DALY

DALY is a health gap measure that extends the concept of potential years of life lost due to premature death (PYLL) to include equivalent years of “healthy” life lost by virtue of being in states of poor health or disability (1). DALYs for a disease or health condition are calculated as the sum of the years of life lost due to premature mortality (YLL) in the population and the years lost due to disability (YLD) for incident cases of the health condition.

Methods of estimation: life tables specifying all-cause mortality rates by age and sex for 192 WHO Member States were developed for 2002 from available death registration data, sample registration systems (India, China) and data on child and adult mortality from censuses and surveys. Cause of death distributions were estimated from death registration data for 107 countries, together with data from population-based epidemiological studies, disease registers and notifications systems for selected specific causes of death. Causes of death for populations without useable death registration data were estimated using cause-of-death models together with data from population-based epidemiological studies, disease registers and notifications systems for 21 specific causes of death.

## 12. Causes of death among children under five years of age (percentage)

Rationale for use: MDG4 consists in the reduction of under-five mortality by two-thirds in 2015, from its level in 1990. Child survival efforts can be effective only if they are based on reasonably accurate information about the causes of childhood deaths. Cause-of-death information is needed to prioritize interventions and plan for their delivery, to determine the effectiveness of disease-specific interventions, and to assess trends in disease burden in relation to national and international goals.

Definition: the cause(s) of death (CoD) as entered on the medical certificate of cause of death in countries with civil (vital) registration system. The underlying CoD is being analysed. In countries with incomplete or no civil registration, causes of death are those reported as such in epidemiological studies that use verbal autopsy algorithms to establish CoD.

Methods of estimation: CoD data from civil registration systems were evaluated for their completeness. Complete and nationally-representative data were then grouped by ICD codes into the cause categories and their proportions to total under-five deaths were then computed. For countries with incomplete data or no data, the distribution of deaths by cause was estimated in two steps. In the first step, a statistical model was used to assign deaths to one of three broad categories of causes: communicable diseases; noncommunicable diseases; or injuries and external causes.

In a second step, cause-specific under-five mortality estimates from Child Health Epidemiology Reference Group (CHERG), WHO Technical Programmes, and the Joint United Nations Programme on HIV/AIDS (UNAIDS) were taken into account in assigning the distribution of deaths to specific causes. A variety of methods, including proportional mortality and natural history models, were used by CHERG and WHO to develop country-level cause-specific mortality estimates. All CHERG working groups developed comparable and standardized procedures to generate estimates from the databases.

## 13. HIV prevalence among the population aged 15–49 years

Rationale for use: HIV and AIDS has become a major public health problem in many countries and monitoring the course of the epidemic and impact of interventions is crucial. Both the Millenium Development Goals (MDG) and the United Nations General Assembly Special Session on HIV and AIDS (UNGAS) have set goals of reducing HIV prevalence.

Definition: percent of people with HIV infection among all people aged 15–49 years.

Methods of estimation: HIV prevalence data from HIV sentinel surveillance systems, which may include national population surveys with HIV testing, are used to estimate HIV prevalence using standardized tools and methods of estimation developed by UNAIDS and WHO in collaboration with the UNAIDS Reference Group on Estimation, Modelling and Projections. Tools for estimating the level of HIV infection are different for generalized epidemics, and concentrated or low level epidemic.

## 14. Incidence of tuberculosis

Rationale for use: incidence (cases arising in a given time period) gives an indication of the burden of tuberculosis (TB) in a population, and of the size of the task faced by a national TB control programme. Incidence can change as the result of changes in transmission (the rate at which people become infected with *M. tuberculosis*, the bacterium which causes TB), or changes in the rate at which people infected with *M. tuberculosis* develop TB disease (e.g. as a result of changes in nutritional status or of HIV infection). Because TB can develop in people who became infected many years previously, the effect of TB control on incidence is less immediate than the effect on prevalence or mortality. Millennium Development Goal 6, Target 8 is "have halted by 2015 and begun to reverse the incidence of" TB. WHO estimates that in 2004 the per capita incidence of TB was stable or falling in 5 out of 6 WHO regions, but growing globally at 0.6% per year. The exception was the African Region, where incidence is apparently still increasing, but less rapidly each year. Implementation of the Stop TB Strategy, following the Global Plan to Stop TB 2006–2015, is expected to reverse the rise in incidence globally by 2015.

Definition: estimated number of TB cases arising in a given time period (expressed as per capita rate). All forms of TB are included, as are cases in people with HIV.

Methods of estimation: estimates of TB incidence, prevalence and mortality are based on a consultative and analytical process in WHO and are published annually. Estimates of incidence for each country are derived using one or more of four approaches, depending on the available data:

1. incidence = case notifications / proportion of cases detected
2. incidence = prevalence / duration of condition
3. incidence = annual risk of TB infection x Stýblo coefficient
4. incidence = deaths / proportion of incident cases that die.

## 15. Prevalence of tuberculosis

Rationale for use: prevalence and mortality are direct indicators of the burden of tuberculosis (TB), indicating the number of people suffering from the disease at a given point in time, and the number dying each year. Furthermore, prevalence and mortality respond quickly to improvements in control, as timely and effective treatment reduce the average duration of disease (thus decreasing prevalence) and the likelihood of dying from the disease (thus reducing disease-specific mortality). Millennium Development Goal 6 is "to combat HIV/AIDS, malaria and other diseases" [including TB]. This goal is linked to Target 8 "to have halted by 2015 and begun to reverse the incidence of malaria and other major diseases" and MDG Indicator 24 "prevalence and mortality rates associated with TB". The Stop TB Partnership has endorsed the related targets of reducing per capita TB prevalence and mortality by 50% relative to 1990, by the year 2015. There are few good data with which to establish TB prevalence and mortality, particularly for the baseline year of 1990. However, current best estimates suggest that implementation of the Global Plan to Stop TB 2006–2015 will halve 1990 prevalence and mortality rates globally and in most regions by 2015, though not in Africa and eastern Europe.

Definition: the number of cases of TB (all forms) in a population at a given point in time (sometimes referred to as "point prevalence") expressed in this database as number of cases per 100 000 population.

Methods of estimation: estimates of TB incidence, prevalence and mortality are based on a consultative and analytical process in WHO and are published annually. The methods used to estimate TB prevalence and mortality rates are described in detail elsewhere. Country-specific estimates of prevalence are, in most instances, derived from estimates of incidence [please link to incidence page of compendium], combined with assumptions about the duration of disease. The duration of disease is assumed to vary according to whether the disease is smear-positive or not; whether the individual receives treatment in a DOTS programme, non-DOTS programmes, or is not treated at all; and whether the individual is infected with HIV.

### 16. One-year-olds immunized with:

one dose of measles (%)

three doses of diphtheria, tetanus toxoid and pertussis (DTP3) (%)

three doses of hepatitis B (HepB3 )(%)

Rationale for use: immunization coverage estimates are used to monitor immunization services, to guide disease eradication and elimination efforts, and are a good indicator of health systems performance.

Definition: measles immunization coverage is the percentage of one-year-olds who have received at least one dose of measles containing vaccine in a given year. For countries recommending the first dose of measles among children older than 12 months of age, the indicator is calculated as the proportion of children less than 24 months of age receiving one dose of measles containing vaccine. DTP3 immunization coverage is the percentage of one-year-olds who have received three doses of the combined diphtheria and tetanus toxoid and pertussis vaccine in a given year. HepB3 immunization coverage is the percentage of one-year-olds who have received three doses of Hepatitis B3 vaccine in a given year.

Methods of estimation: WHO and UNICEF rely on reports from countries, household surveys and other sources such as research studies. Both organizations have developed common review process and estimation methodologies. Draft estimates are made, reviewed by country and external experts and then finalized.

### 17. Antenatal care coverage (%)

Rationale for use: antenatal care coverage is an indicator of access and utilization of health care during pregnancy.

Definition: percentage of women who utilized antenatal care provided by skilled health personnel for reasons related to pregnancy at least once during pregnancy as a percentage of live births in a given time period.

Methods of estimation: empirical data from household surveys are used. At global level, facility data are not used.

### 18. Births attended by skilled health personnel (%)

Rationale for use: all women should have access to skilled care during pregnancy and at delivery to ensure detection and management of complications. More-over, because it is difficult to measure accurately maternal mortality and model-based maternal mortality ratio (MMR) estimates cannot be used for monitoring short -term trends. The proportion of births attended by skilled health personnel is used as a proxy indicator for this purpose.

Definition: percentage of live births attended by skilled health personnel in a given period of time.

Methods of estimation: empirical data from household surveys are used. At global level, facility data are not used.

### 19. Contraceptive prevalence (%)

Rationale for use: contraceptive prevalence is an indicator of health, population, development and women's empowerment. It also serves as a proxy measure of access to reproductive health services that are essential for meeting many of the Millennium Development Goals (MDG)s, especially the child mortality, maternal health HIV/AIDS, and gender related goals.

Definition: contraceptive prevalence is the proportion of women of reproductive age who are using (or whose partner is using) a contraceptive method at a given point in time

Methods of estimation: empirical data only.

### 20. Children under five years of age sleeping under insecticide-treated nets (%)

Rationale for use: in areas of intense malaria transmission, malaria-related morbidity and mortality are concentrated in young children, and the use of insecticide-treated nets (ITN) by children under 5 years of age has been demonstrated to considerably reduce malaria disease incidence, malaria-related anaemia and all-cause under-5 mortality. Vector control through the use of ITNs constitute one of the four intervention strategies of the Roll Back Malaria Initiative. It is also listed as an MDG indicator.

Definition: percentage of children under five years of age in malaria endemic areas who slept under an ITN the previous night, ITN being defined as a mosquito net that has been treated within 12 months or is a long-lasting insecticidal net (LLIN).

Methods of estimation: empirical data only.

### 21. People with advanced HIV infection receiving antiretroviral (ARV) combination therapy (%)

Rationale for use: as the HIV epidemic matures, increasing numbers of people are reaching advanced stages of HIV infection. ARV combination therapy has been shown to reduce mortality among those infected and efforts are being made to make it more affordable even in less developed countries. This indicator assesses the progress in providing ARV combination therapy to everyone with advanced HIV infection.

Definition: percentage of people with advanced HIV infection receiving ARV therapy according to nationally approved treatment protocol (or WHO/Joint UN Programme on HIV and AIDS standards) among the estimated number of people with advanced HIV infection.

Methods of estimation: the denominator of the coverage estimate is obtained from models that also generate the HIV prevalence, incidence and mortality estimates. The number of adults with advanced HIV infection who need to start treatment is estimated as the number of AIDS cases in the current year times two. The total number of adults needing ARV therapy is calculated by adding the number of adults that need to start ARV therapy to the number of adults who are being treated in the previous year and have survived into the current year.

### 22. Tuberculosis: DOTS case detection rate

Rationale for use: the proportion of estimated new smear-positive cases which are detected (diagnosed and notified to WHO) by DOTS programmes provides an indication of how effective national tuberculosis programmes are in finding people with tuberculosis and diagnosing the disease.

Methods of estimation: estimates of incidence are based on a consultative and analytical process in WHO and are published annually. The DOTS detection rate for new smear-positive cases is calculated by dividing the number of new smear-positive cases notified to WHO by the estimated number of incident smear-positive cases for the same year.

### 23. Children under five years of age with acute respiratory infection and fever (ARI) taken to facility

Rationale for use: respiratory infections are responsible for almost 20% of all under-five deaths worldwide. Under-fives with ARI that are taken to an appropriate health provider is a key indicator for both coverage of intervention and care-seeking and provides critical inputs to the monitoring of progress towards the child survival related millennium development goals (MDGs) and strategies.

Definition: proportion of children aged 0-59 months who had presumed pneumonia (ARI) in the last two weeks and were taken to an appropriate health provider.

Methods of estimation: empirical data.

### 24. Children under five years of age with diarrhoea who received ORT

Rationale for use: diarrhoeal diseases remain one of the major causes of under-five mortality, accounting for 1.8 million child deaths worldwide, despite all the progress in their management and the undeniable success of the oral rehydration therapy (ORT). Therefore, the monitoring of the coverage of this very cost-effective intervention is crucial for the monitoring of progress towards the child survival related Millennium Development Goals (MDGs) and strategies.

Definition: proportion of children aged 0–59 months of age who had diarrhoea in the last two weeks and were treated with oral rehydration salts or an appropriate household solution (ORT).

Methods of estimation: empirical data.

### 25. Children under five years of age with fever who received treatment with any antimalarial (%)

Rationale for use: prompt treatment with effective anti-malaria drugs for children with fever in malaria risk areas is a key intervention to reduce mortality. In addition to be listed as a global MDG indicator under Goal 6, malaria effective treatment is also identified by WHO, UNICEF, and the World Bank as one of the four main interventions to reduce the burden of malaria in Africa: (i) use of insecticide-treated nets (ITNs), (ii) prompt access to effective treatments in or near the home, (iii) providing antimalarial drugs to symptom-free pregnant women in stable transmission areas, and (iv) improved forecasting, prevention and response, essential to respond quickly and effectively to malaria epidemics. In areas of sub-Saharan Africa with stable levels of malaria transmission, it is essential that access to prompt treatment is ensured. This requires drug availability at household or community level and, for complicated cases, availability of transport to the nearest equipped facility. Reserve drug stocks, transport, and hospital capacity are needed to mount an appropriate response to malaria cases and prevent the onset of malaria to degenerate to a highly lethal complicated malaria picture.

Definition: percentage of population under five years of age in malaria-risk areas with fever being treated with effective antimalarial drugs.

Methods of estimation: for prevention, the indicator is calculated as the percentage of children under five years of age who received effective anti-malaria drugs upon a fever episode. The information is obtained directly from household surveys. The empiric values are directly reported without further estimation.

### 26. Births by caesarean section (%)

Rationale for use: births by caesarean section is an indicator of access to and utilization of health care during childbirth.

Definition: percentage of births by caesarean section among all live births in a given time period.

Methods of estimation: empirical data from household surveys are used.

### 27. Children under five years of age

- stunted for age (%)
- Underweight for age (%)
- Overweight for age (%)

Rationale for use: all three indicators measure growth in young children. Child growth is internationally recognized as an important public health indicator for monitoring nutritional status and health in populations. In addition, children who suffer from growth retardation as a result of poor diets and/or recurrent infections tend to have greater risks of illness and death.

Definition: percentage of children stunted describes how many children under five years have a height-for-age below minus two standard deviations of the National Center for Health Statistics (NCHS)/WHO reference median. Percentage of children underweight describes how many children under five years have a weight-for-age below minus two standard deviations of the NCHS/WHO reference median. Percentage of children overweight describes how many children under five years have a weight-for-height above two standard deviations of the NCHS/WHO reference median.

Methods of estimation: empirical values are used. Several countries have limited data for recent years and current estimations are made using models that make projections based on past trends.

### 28. Newborns with low birth weight (%)

Rationale for use: the low-birth-weight rate at the population level is an indicator of a public health problem that includes long-term maternal malnutrition, ill-health and poor health care. On an individual basis, low birth weight is an important predictor of newborn health and survival.

Definition: percentage of live born infants with birth weight less than 2500 g in a given time period. Low birth weight may be subdivided into very low birth weight (less than 1500 g) and extremely low birth weight (less than 1000 g).

Methods of estimation: where reliable health service statistics with a high level of coverage exist ; “Percentage of low birth weight” births. For household survey data different adjustments are made according to the type of information available (numerical birth weight data or subjective assessment of the mother).

### 29. Population with:

- sustainable access to an improved water source (%)
- access to improved sanitation (%)

Rationale for use: access to drinking water and improved sanitation is a fundamental need and a human right vital for the dignity and health of all people. The health and economic benefits of improved water supply to households and individuals (especially children) are well documented. Both indicators are used to monitor progress towards the MDGs.

Definition: access to an improved water source is the percentage of population with access to an improved drinking water source in a given year. Access to improved sanitation is the percentage of population with access to improved sanitation in a given year.

Methods of estimation: estimates are generated through analysis of survey data and linear regression of data points. Coverage estimates are updated every two years.

### 30. Prevalence of current (daily or occasional) tobacco smoking among adults (15 years and older) (%)

Rationale for use: prevalence of current tobacco smoking among adults is an important measure of the health and economic burden of tobacco, and provides a baseline for evaluating the effectiveness of tobacco control programmes over time. While a more general measure of tobacco use, including both smoked and smokeless products, would be ideal, data limitations restrict the present indicator to smoked tobacco. Occasional tobacco smoking constitutes a significant risk factor for tobacco-related disease, and is therefore included along with daily tobacco smoking.

Definition: prevalence of current tobacco smoking (including cigarettes, cigars, pipes or any other smoked tobacco products). Current smoking includes both daily and non-daily or occasional smoking.

Methods of estimation: empirical data only.

### 31. Condom use at higher risk sex among young people aged 15–24 years (percentage)

Rationale for use: consistent correct use of condoms within non-regular sexual partnerships substantially reduces the risk of sexual HIV transmission.

Definition: percentage of young people aged 15–24 years reporting the use of a condom during the last sexual intercourse with a non-regular partner among those who had sex with a non-regular partner in the last 12 months.

Methods of estimation: empirical data only. Survey respondents aged 15-24 years are asked whether they have commenced sexual activity. Those who report sexual activity and have had sexual intercourse with a non-regular partner in the last 12 months, are further asked about the number of non-regular partners and condom use the last time they had sex with a non-regular partner.

### 32. Number of:

-physicians per 1000 population

-nurses per 1000 population

-midwives per 1000 population

Rationale for use: the availability and composition of human resources for health is an important indicator of the strength of the health system. Even though there is no consensus about the optimal level of health workers for a population, there is ample evidence that worker numbers and quality are positively associated with immunization coverage, outreach of primary care, and infant, child and maternal survival.

Definition:

Physicians: includes generalists and specialists.

Nurses: includes professional nurses, auxiliary nurses, enrolled nurses and other nurses, such as dental nurses and primary care nurses.

Midwives: includes professional midwives, auxiliary midwives and enrolled midwives. Traditional birth attendants, who are counted as community health workers, appear elsewhere.

### 33. Total expenditure on health as percentage of GDP

### 34. General government expenditure on health as percentage of total general government expenditure

### 35. Per capita total expenditure on health at international dollar rate

Rationale for use: health financing is a critical component of health systems. National health accounts (NHA) provide a large set of indicators based on the expenditure information collected within a internationally recognized framework. NHA are a synthesis of the financing and spending flows recorded in the operation of a health system, from funding sources to the distribution of funds across providers and functions of health systems and benefits across geographical, demographic, socioeconomic and epidemiological dimensions.

Definition: total health expenditure as percentage of gross domestic product (GDP).

Percentage of total general government expenditure that is spent on health.

Per capita total expenditure on health at international dollar rate.

Data sources & Methods of estimation.

Only about 95 countries either have produced full NHA or report expenditure on health to OECD. Standard accounting estimation and extrapolation techniques have been used to provide time series. The principal international references used are the International Monetary Fund (IMF) Government finance statistics and International financial statistics; OECD health data and International development statistics; and the United Nations National accounts statisttics. National sources include: national health accounts reports, public expenditure reports, statistical yearbooks and other periodicals, budgetary documents, national accounts reports, statistical data on official web sites, central bank reports, nongovernmental organization reports, academic studies, and reports and data provided by central statistical offices and ministries.

### 36. General government expenditure on health as percentage of total expenditure on health

### 37. General government expenditure on health as percentage of total government expenditure

### 38. External resources for health as percentage of total expenditure on health

### 39. Out-of-pocket expenditure as percentage of private expenditure on health

### 40. Private prepaid plans as percentage of private expenditure on health

### 41. Per capita total expenditure on health at average exchange rate (US$)

### 42. Per capita government expenditure on health at international dollar rate

Rationale for use: health financing is a critical component of health systems. National health accounts (NHA) provide large set of indicators based on the expenditure information collected within a internationally recognized framework. NHA are a synthesis of the financing and spending flows recorded in the operation of a health system, from funding sources to the distribution of funds across providers and functions of health systems and benefits across geographical, demographic, socioeconomic and epidemiological dimensions.

Definition: key indicators for which the data are available:

Level of total expenditure on health as % of GDP, and per capita health expenditures in US dollars and in international dollars.

Distribution of public and private sectors in financing health and their main components, such as:

- Extent of social and private health insurance
- Burden on households' through out-of-pocket spending
- Reliance on external resources in financing health. Associated terms:

Gross domestic product (GDP) is the value of all goods and services provided in a country by residents and non-residents. This corresponds to the total sum of expenditure (consumption and investment) of the private and government agents of the economy during the reference year.

General government expenditure (GGE) includes consolidated direct outlays and indirect outlays, such as subsidies and transfers, including capital, of all levels of government social security institutions, autonomous bodies, and other extrabudgetary funds.

Total expenditure on health (THE) is the sum of general government health expenditure and private health expenditure in a given year, calculated in national currency units in current prices. It comprises the outlays earmarked for health maintenance, restoration or enhancement of the health status of the population, paid for in cash or in kind

General government expenditure on health (GGHE) is the sum of outlays by government entities to purchase health care services and goods. It comprises the outlays on health by all levels of government, social security agencies, and direct expenditure by parastatals and public firms. Expenditures on health include final consumption, subsidies to producers, and transfers to households (chiefly reimbursements for medical and pharmaceutical bills). It includes both recurrent and investment expenditures (including capital transfers) made during the year. Besides domestic funds it also includes external resources (mainly as grants passing through the government or loans channelled through the national budget).

External resources health expenditure (ExtHE) includes all grants and loans whether passing through governments or private entities for health goods and services, in cash or in kind.

Private health expenditure (PvtHE) is defined as the sum of expenditures on health by the following entities:

Household out-of-pocket spending (OOPS): the direct outlays of households, including gratuities and in-kind payments made to health practitioners and to suppliers of pharmaceuticals, therapeutic appliances and other goods and services. This includes household direct payments to public and private providers of health care services, non-profit institutions, and non-reimbursable cost sharing, such as deductibles, copayments and fee for services.

Exchange rate: the annual average or year end number of units at which a currency is traded in the banking system.

International dollars: derived by dividing local currency units by an estimate of their Purchasing Power Parity (PPP) compared to the US dollar, i.e. the measure which minimizes the consequences of differences in price levels between countries.

Data sources & methods of estimation: about 100 countries either have produced full national health accounts or report expenditure on health to OECD. Standard accounting estimation and extrapolation techniques have been used to provide time series (1998-2004). Ministries of Health have responded to the draft updates sent for their inputs and comments.

For details on sources and methods see www.who.int/nha.

### 43. Coverage of vital registration of deaths

Rationale for use: health information is an essential component of health systems. The registration of births and deaths with causes of death, called "civil registration (vital registration)", is an important component of a country health information system.

Definition: percentage of estimated total deaths that are "counted" through civil registration system.

Methods of estimation: expected numbers of deaths by age and sex are estimated from current life tables, based on multiple sources. Reported numbers are compared with expected numbers by age and sex to obtain an estimate of coverage of the vital registration system.

### 44. Number of hospital beds per 10 000 population

Rationale for use: service delivery is an important component of health systems. To capture availability, access and distribution of health services delivery a range of indicators or a composite indicator is needed. Currently, there is no such data for the majority of countries. Inpatient beds density is one of the few available indicators on a component of level of health service delivery.

Definition: number of inpatient beds per 10 000 population.

Methods of estimation: empirical data only with possible adjustment for underreporting (e.g. missing private facilities).