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Foreword

Good statistics are needed to monitor the progress of development. The better the data, the better policies can be designed to protect vulnerable populations. And, without good data, it is impossible to evaluate or determine the impact of policies.

There are 867 million chronically undernourished people in the world today. Seventy percent of the world's food insecure live in rural areas, and 60 percent of the world's population rely on agriculture for their livelihoods. The need for quality data on agriculture and food security is as pressing as ever.

Where do people live? Do they have access to land and water? How much formal schooling or training do they receive? How much do countries invest in agricultural innovation? What products do they export or import? How is agriculture affecting their forests, soils and waterways?

Employing data from global statistical providers, including FAO, this publication presents a visual synthesis of the major trends and factors shaping the global food and agricultural landscape and their interplay with broader environmental, social and economic dimensions. In doing so, it strives to serve as a unique reference point on world food and agriculture for policy-makers, donor agencies, researchers and analysts as well as the general public.

The data cycle revolves around three key activities: building the capacity of countries to improve their collection and use of data; collecting data in a timely and efficient manner; and disseminating this information through meaningful products.

Based on key resources, such as FAO flagship publications and others, the FAO Statistical Yearbook is the result of a global collaborative effort among countries, international organi- zations and resource partners. In addition to FAO's traditional domains – forestry, fisheries, agricultural production, trade, and resources – this edition of the yearbook features two new datasets: greenhouse gas emissions and investment.

This global yearbook is just one of the instruments used to disseminate information to a wider public. Regional statistical yearbooks, which highlight major trends in a particular area of the world, are also available. All of the data can be accessed electronically through the FAOSTAT data platform.

FAO is deeply committed to helping countries strengthen their statistical systems as, for ex- ample, collecting gender-disaggregated data. FAO and international partners are implement- ing a Global Strategy to Improve Agricultural and Rural Statistics, to address weaknesses in basic data and information availability in developing countries, as well as emerging data and information needs.

This long-term project builds on three major pillars: producing a mini- mum set of core data and determining national priorities; integrating agricultural statistics into national statistical systems; and fostering the sustainability of agricultural statistics through governance and statistical capacity development.

We will continue to support these three activities – collection, dissemination and capac- ity building – to improve agriculture and food security statistics, and to advance the fight against hunger and poverty.

Jose Graziano da Silva
FAO Director-General

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Acknowledgements

This book was prepared by the Statistics Division (ESS) of the Food and Agriculture Organization of the United Nations in collaboration with staff at headquarters and in the regional and decentralized offices. The work was carried out under the direction of Pietro Gennari (Chief Statistician, FAO, and Director, ESS), Naman Keita (CountrySTAT Manager, ESS) and Josef Schmidhuber (Principal Officer, ESS). The core team was made up of Amy Heyman, Filippo Gheri and Michael Kao. Principal contributors were Nienke Beintema (the International Food Policy Research Institute – IFPRI), Andrea Borlizzi (ESS), Chiara Brunelli (ESS), Carlo Cafiero (ESS), Cinzia Cerri (ESS), Rocio Condor-Golec (Climate, Energy and Tenure Division – NRC), Piero Conforti (ESS), Jacqueline De- meranville (Gender, Equity and Rural Employment Division – ESW), Elisenda Estruch (ESW), Alessandro Ferrara (NRC), Karen Frenken (Land and Water Division – NRL), Nan- dini Gunewardena (ESW), Gary Jones (ESS), Arvydas Lebedys (Forest Economics, Policy and Products Division – FOE), Erdgin Mane (ESS), Robert Mayo (ESS), Verena Nowak (Nutrition Division – ESN), Michael Rahija (IFPRI), Simone Rossi (NRC), Mirella Salvatore (NRC), Nadia Scialabba (Office of Assistant Director-General – NRDD), Gert-Jan Stads (IFPRI), Nathalie Troubat (ESS), Sachiko Tsuji (Statistics and Information Service – FIPS), Francesco Tubiello (NRC), Stefania Vannuccini (FIPS), Nathan Wanner (ESS) and Firas Yassin (ESS). Special thanks also go to Andrea Alcibiade (ESS), Guido Barbaglia (ESS), Kafkas Caprazli (Office for Communication, Partnerships and Advocacy – OCP), Giulia Cimino (ESS), Giancarlo De Pol, Giorgia DeSantis (ESS), James Edge (ESS), Car- ola Fabi (ESS), Amanda Gordon (ESS), Nicola Graziani (ESS), Fabio Grita (ESS), Michelle Kendrick (ESS), Ana Moltedo (ESS), Gladys Moreno (ESS), Paul N'Goma-Kimbatsa (ESS), Adam Prakash (ESS), Nicholas Sakoff (ESS), Nicola Selleri (ESS), Jane Shaw, Mukesh Srivastava (ESS), Sylvaine Thomas (ESS), and Boris Veytsman. Will Prince (World Bank) also provided invaluable information.

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The Structure

The 2013 FAO Statistical Yearbook continues the process that began with the 2012 edition. The book has been created from beginning to end with the statistical software R and the typesetting language LATEX: from data retrieval, to data processing, indicator construction, and blueprint-ready pdf file for distribution. This technique has circum- vented the traditional route of manual production, involving costly software licences, significant labour costs and inefficiencies associated with a lack of integration.

The book is divided into four thematic parts, in an attempt to present the full spectrum of issues relevant to the subject matter:

- **PART 1**
  The setting measures the state of the agricultural resource base by assessing the supply of land, labour, capital and inputs, and examining the pressure on the world food system stemming from demographic and macroeconomic change.
- **PART 2**
  Hunger dimensions gauges the state of food insecurity and malnutrition, measuring the multitude of dimensions that give rise to hunger and shape undernourishment.
- **PART 3**
  Feeding the world evaluates the past and present productive capacity of world agriculture, together with the role of trade in meeting changing food, feed and other demands.
- **PART 4**
  Sustainability dimensions examines the sustainability of agri- culture in the context of the pressure it exerts on the envi- ronment, including the interaction of agriculture with climate change, and how it can provide ecosystem services through the bio-based economy.

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Several page spreads are used to present each thematic issue. Each spread contains visualizations of the data in maps and charts, along with text providing background to the salient issues and an assess- ment of current trends. Tables are provided at the end of each part. A list of indicators used throughout the book and a section on concepts and methods can be found in Part 5.

Country definitions and classification

Parts 1, 3 and 4 follow the M49 list from the United Nations Statis- tics Division. This can be found at "geographical regions for sta- tistical use" (see "Table: Country list" or http://unstats.un.org/unsd/ methods/m49/m49regin.htm). Part 2 adapts the Millennium Development Goals country classification with the exception of the sec- tions "Poverty", "Education

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and health" and "Natural and human- made risks", which apply M49. Developing regions, which are referred to throughout the book, con- sist of Africa, the Americas excluding Northern America, Latin Amer- ica and the Caribbean, Asia excluding Japan, and Oceania excluding Australia and New Zealand. Developed regions are Northern America, Europe, Japan, Australia and New Zealand.

South Sudan declared independence on 9 July 2011. When available, data for the Sudan and South Sudan are shown separately. In the ta- bles, the Sudan (former) is also reported. Based on the data available, the assessment presented in the map of the Sudan and South Sudan reflects the situation up to 2011 of the Sudan (former).

Aggregations

Two types of aggregations are used in the book: sum and weighted mean. Two restrictions are imposed when computing the aggrega- tion: i) the sufficiency condition – the aggregation is computed only when sufficient countries have reported data, and the current thresh- old is set at 50 percent of the variable and the weighting variable, if present; and ii) the comparability condition – as aggregations are usually computed over time, this condition is designed to ensure that the number of countries is comparable over several years; under the current restriction the number of countries may not vary by more than 15 over time.

Data presentation conventions

The cutoff date for the data is 31 December 2012.

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- When country data have not been reported for the reference year, an asterisk (*) on the year label indicates that the value for the most recent year available is shown. For example, 2008–2010* means that the most recent value for the period from 2008 to 2010 is shown. When a growth rate is computed, the specified interval always refers to available data.
- A billion is 1000 million.
- A trillion is 1000 billion.
- A blank means that data are not available or that aggregates can- not be calculated because of missing data for the years shown.
- In tables, 0 or 0.0 means zero or a number that is small enough to round to zero at the displayed number of decimal places.
- A ~ in the maps refers to the range specified in the class intervals.

Contents

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1 The Setting

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More than 3 billion people – almost half of the world's population – live in rural areas. Roughly 2.5 billion of these rural people de- rive their livelihoods from agriculture. For many economies, espe- cially those of developing countries, agriculture can be an impor- tant engine of economic growth. Approximately three-quarters of the world's agricultural value added is generated in developing countries, and in many of these, the agriculture sector contributes as much as 30 percent to gross domestic product (GDP). According to the World Bank, 1 percent growth in GDP from agriculture increases the expen- ditures of the three poorest deciles by at least 2.5 times as much as 1 percent growth from the rest of the economy. Agriculture can also provide an important haven against global economic and financial turmoil, often more effectively than other sectors.

A look back through history reveals that growth in agriculture has tended to be followed by wider economic development. From the in- dustrial revolution that began in the United Kingdom of Great Britain and Northern Ireland in the eighteenth century and spread to other now developed countries, through to more recent examples in China or Viet Nam, growth in agriculture has always been the precursor to the rise of industry and services.

In many poor developing countries, primary activities such as agri- culture still constitute the backbone of the economy. However, the sector often faces many challenges. A profound and prolonged lack of investment in agriculture is evident in many countries. Notably, infrastructure is missing or weak in rural areas, agricultural produc- tivity is stagnant, and lack of

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opportunities for income diversification combines with poorly functioning markets to undermine economic growth. There is often a gender divide. Although women make sig- nificant contributions to the rural economy, they often have less ac- cess to productive resources than men, and families often rely on children's work for survival.

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Downward trends in the global economy are slowly turning, with improved accessibility to financial resources. Agriculture is reaping the benefits of technological innovation, and there is also a growing recognition among governments and donor agencies that agriculture must be the mainstay of any development agenda and of policies promoting economic growth. The reaffirmation of the sector's role in development and growth provides fresh impetus for fostering invest- ments that raise productivity and incomes in agriculture.

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Within this context, FAO – together with international partners – is promoting the Global Strategy to Improve Agricultural and Rural Statistics. This multi-year, collaborative project builds capacity in de- veloping countries to produce and use agricultural and rural statistics for more effective food security, sustainable agricultural and rural de- velopment policies, and helps ensure that information is available to farmers and policy-makers when and where they need it.

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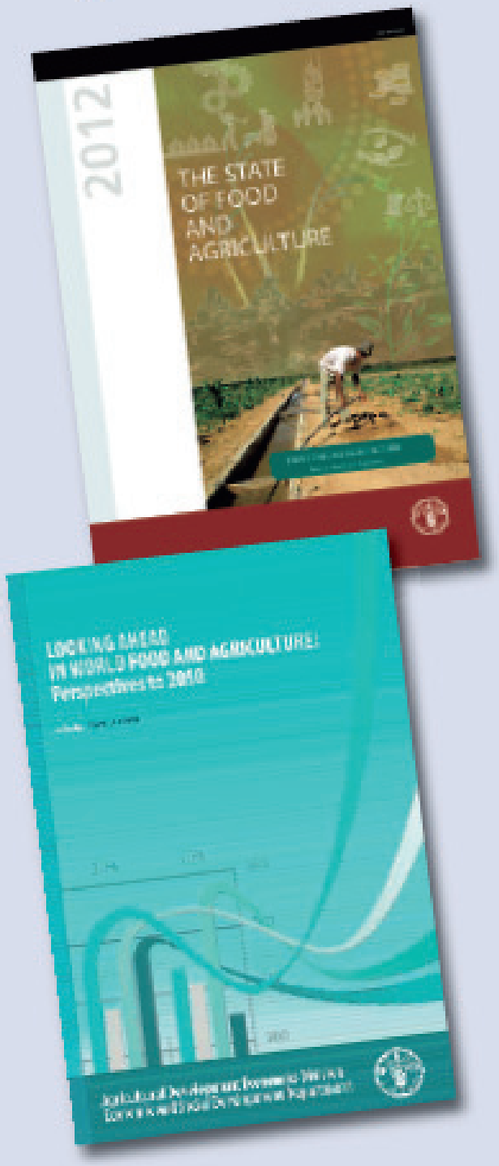
Key Resources



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The State of Food Agriculture

The State of Food and Agriculture, FAO's major annual flagship publication, aims at bringing to a wider audience balanced science-based assessments of important issues in the field of food and agriculture. Each edition of the report contains a comprehensive, yet easily accessible, overview of a selected topic of major relevance for rural and agricultural development and for global food security. This is supplemented by a synthetic overview of the current global agricultural situation.
2012: Investing in agriculture for a better future
2010-11: Women in Agriculture, Closing the gender gap for development
2009: Livestock in the balance Publication cycle: Annual Webpage:
www.fao.org/publications/sofa

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Looking Ahead in World Food and Agriculture

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How will the world feed itself in 2050? This volume, which is a compilation of papers authored by world-class experts, addresses this very question. Agricultural and food demand is expected to slow over the next decades, following slowing population growth and rising incomes. However, population will still grow considerably in the coming decades, and require world agricultural production to increase substantially by 2050. Other areas explored in the volume are natural resources – notably land and water – as well as capital, investment and technology.
Annual Webpage:
www.fao.org/economic/esa/esag/en/

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Overview

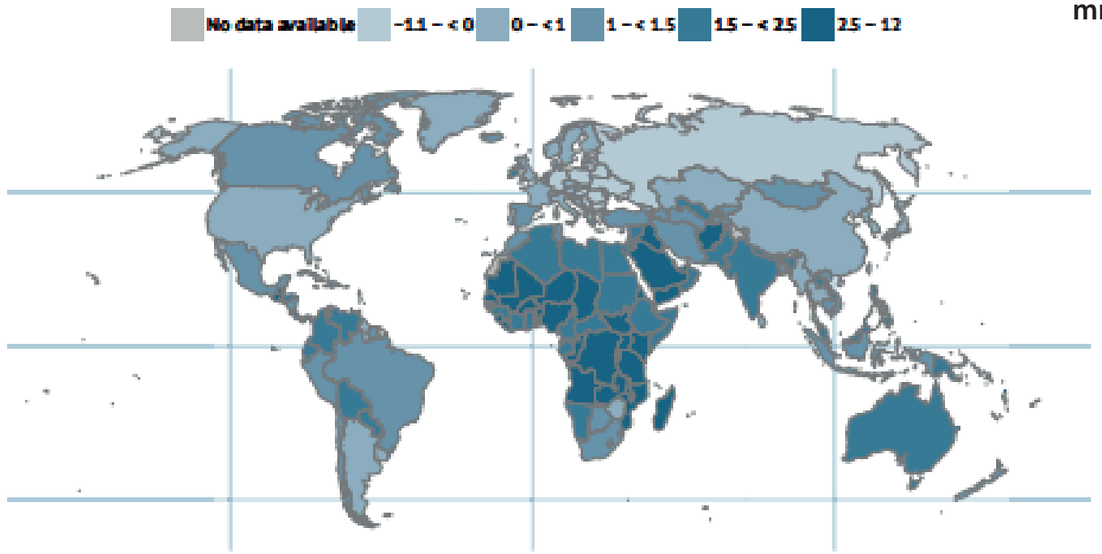
Although demographic growth rates have been slowing since the late 1970s, the world's population has doubled since then – to approximately 7 billion people – and is projected to increase considerably over the coming decades. In many developing countries, a combination of declining mortality rates, prolonged life expectancy and age structures characterized by youth and high fertility suggests that considerable population increases are likely to continue until the end of the twenty-first century.

The agricultural population is defined as all people depending on agriculture, forestry, fishing and hunting for their livelihoods. It comprises all the people economically active in agriculture and their non-working dependants, but the agricultural population does not necessarily live exclusively in rural areas. More than a third of the world's population relies on agriculture for its livelihood, with the largest portion being in Asia.

The trajectory of the world's future population rests heavily on assumptions about fertility rates. If rates in high-fertility countries continue to grow as projected, there will be an additional 2 billion people by 2050, with a much larger proportion living in urban settings. This situation emphasizes the importance of empowering women through education, expanded economic opportunities and access to finance and family planning, especially in the poorest countries where population growth rates are currently the fastest.

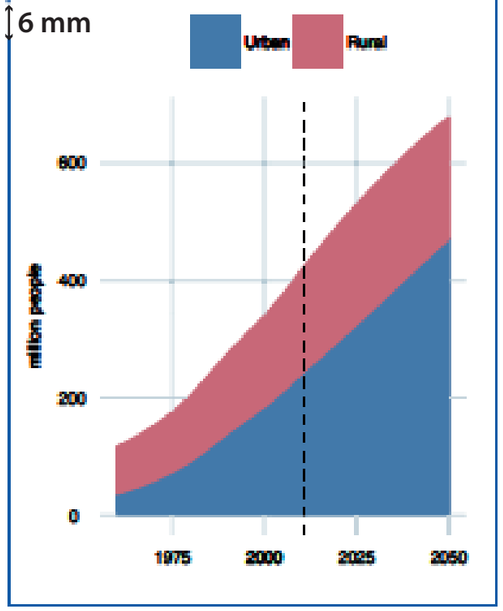
Worldwide, people can expect to live longer than ever before. In the past decade, average global life expectancy has risen by three years, to 70 years. In all countries, the wealthy generally live longer than the poor, and in most populations women usually outlive men. Many African countries, including several that have suffered from war in recent years, have increased their populations' life expectancy considerably. Improved access to clean water, better nutrition, living and working conditions, and greater access to health services can account for increases in life expectancy. These factors have also led to declines in mortality rates, with world averages for under-five mortality dropping significantly.

MAP 2: World population annual growth (percent, 2000-2011)



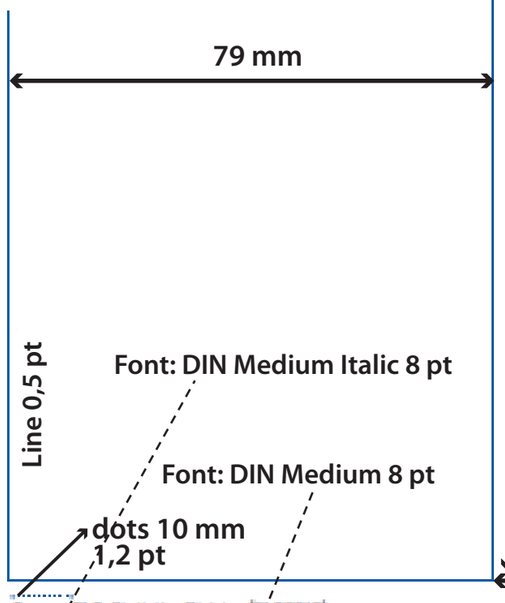
Source: World Bank (WDI).

CHART 1: World rural and urban population (1960-2050)



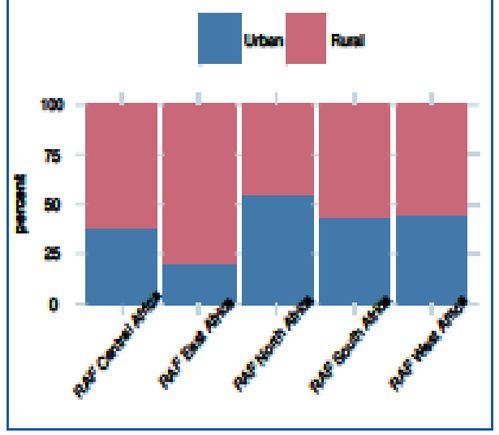
Source: United Nations Population Division. Data after 2011 are projections.

CHART 2: World rural and urban population



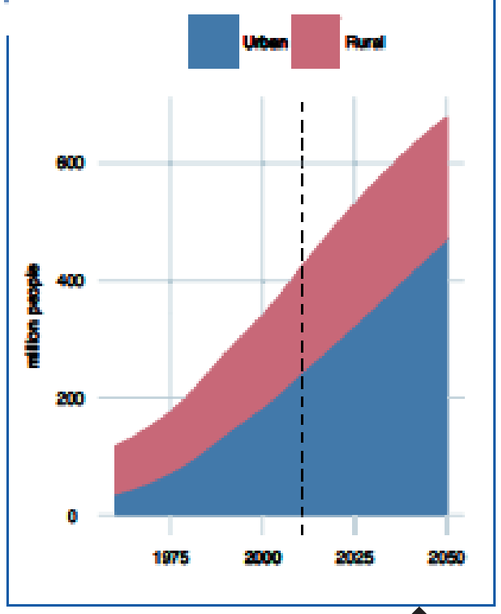
Source: FAO, Statistics Division (FAOSTAT).

CHART 3: World rural and urban population (1960-2050)



Source: World Bank (WDI).

CHART 4: World rural and urban population (1960-2050)



Source: United Nations Population Division. Data after 2011 are projections.

The world's population is ageing. Today, roughly 27 percent of people worldwide are below the age of 15, and approximately 8 percent are 65years or older. Two decades ago, these statistics stood at 33 and 6 percent, respectively. This ageing profile is being shaped by rising longevity twinned with low fertility rates in the more developed countries.

Unprecedented change has also occurred in where people reside. In 2008 – for the first time – the world's urban population be- came larger than its rural population. Now, about 52 percent of the world's population lives in cities. Only part of the increase was caused by growing rural-urban migration; other reasons in- clude the transformation of rural settlements into urban areas and, most important, natural growth of urban populations. However, this trend has not occurred in all regions of the world: 61 percent of people in Africa and 55 percent in Asia still live in rural settings.

Allied to rising urbanization is an increase in population densities. In 2010, at the world level, there were an average of 53 people living in every square kilometre. Regional differences are signifi- cant. In Asia, for instance, population density stands at 134/km2 compared with 29/km2 in Latin America and the Caribbean

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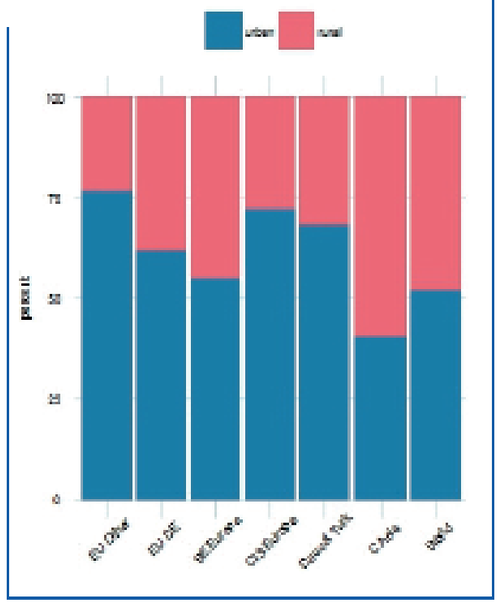

Source: United Nations Population Division. Data after 2011 are projections.

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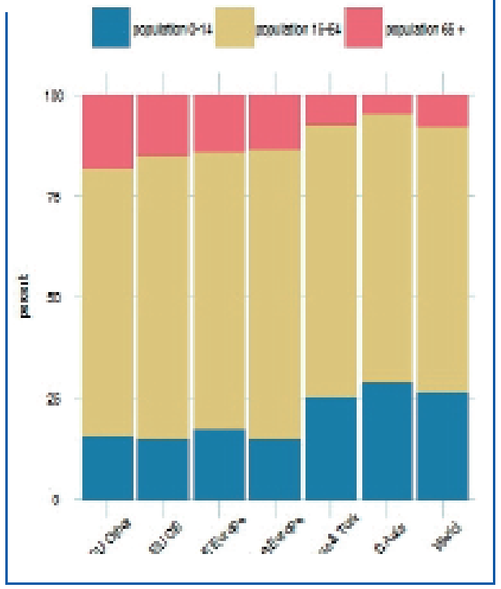
CHART 2: World rural and urban population



Source: FAO, Statistics Division (FADSTAT).

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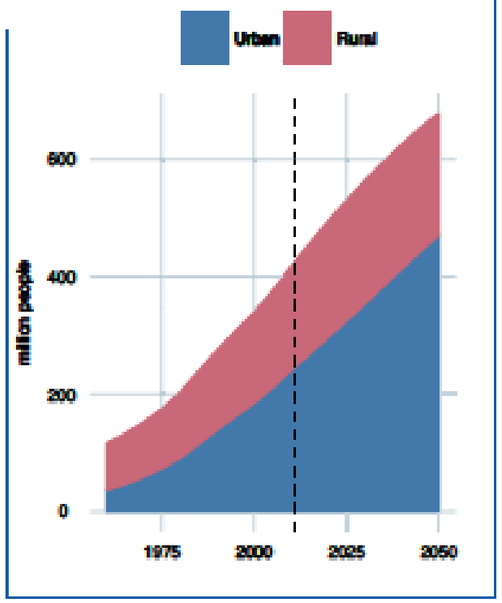

Source: World Bank (WDI).

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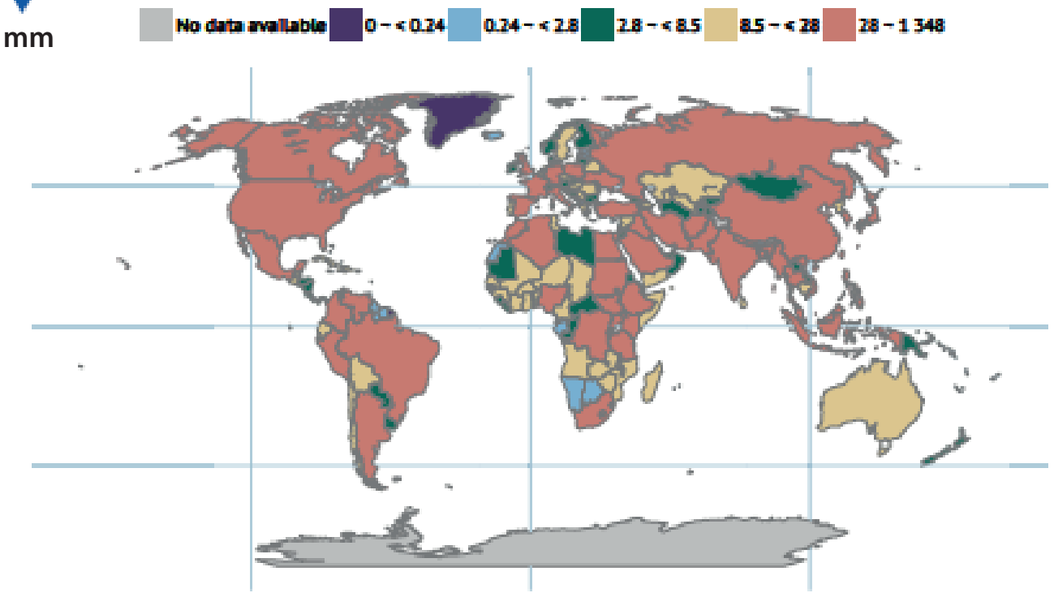
MAP 2: World population annual growth (percent, 2000-2011)



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Source: World Bank (WDI).

CHART 1: World rural and urban population (1960-2050)

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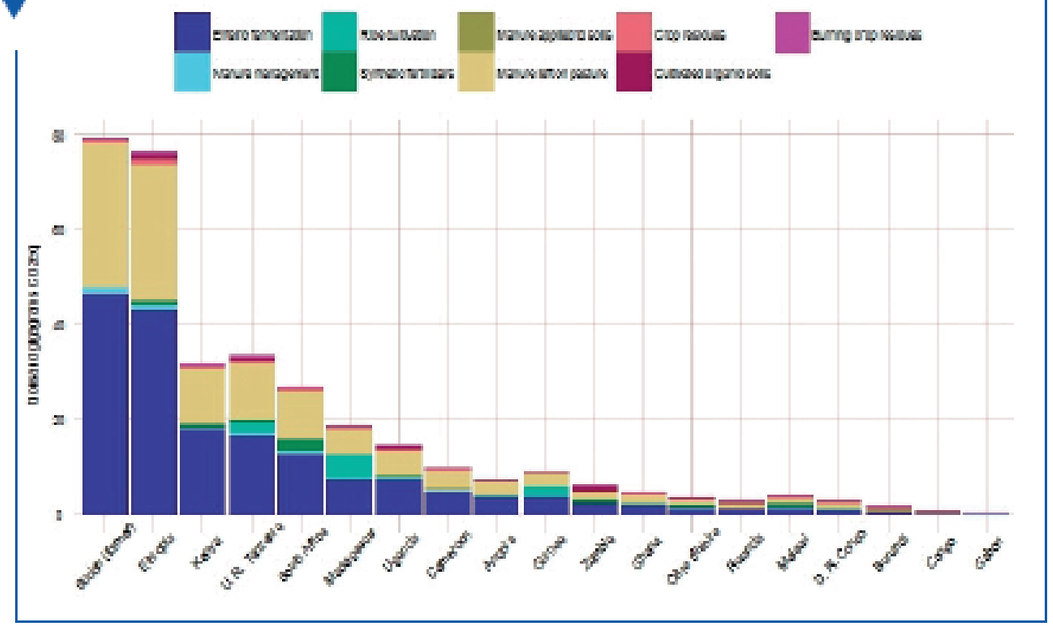

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Source: United Nations Population Division. Data after 2011 are projections.

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Capital and Investment

The world's population is ageing. Today, roughly 27 percent of people worldwide are below the age of 15, and approximately 8 percent are 65 years or older. Two decades ago, these statistics stood at 33 and 6 percent, respectively. This ageing profile is being shaped by rising longevity twinned with low fertility rates in the more developed countries.

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Allied to rising urbanization is an increase in population densities. In 2010, at the world level, there were an average of 53 people living in every square kilometre. Regional differences are signifi- cant. In Asia, for instance.

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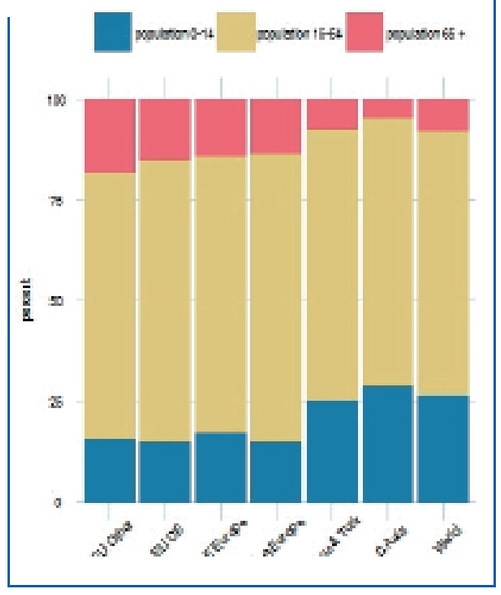
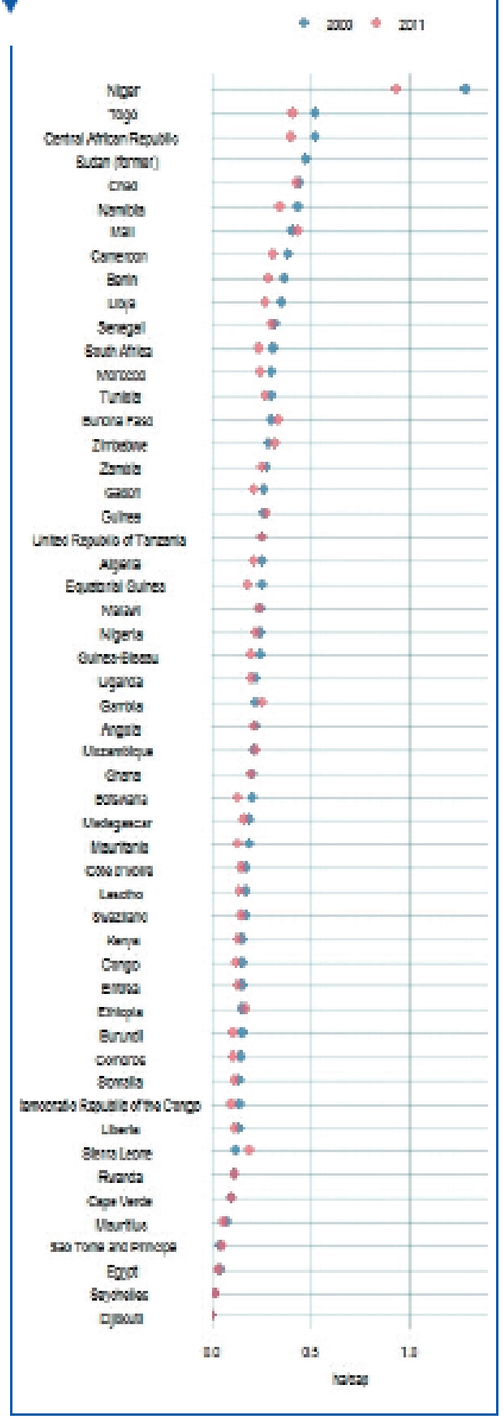
CHART 2: World rural and urban population



Source: FAO, Statistics Division (FAOSTAT).

CHART 3: World rural and urban population (1960–2050)



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Source: World Bank (WDI).

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MAP 2: World population annual growth (percent, 2000-2011)

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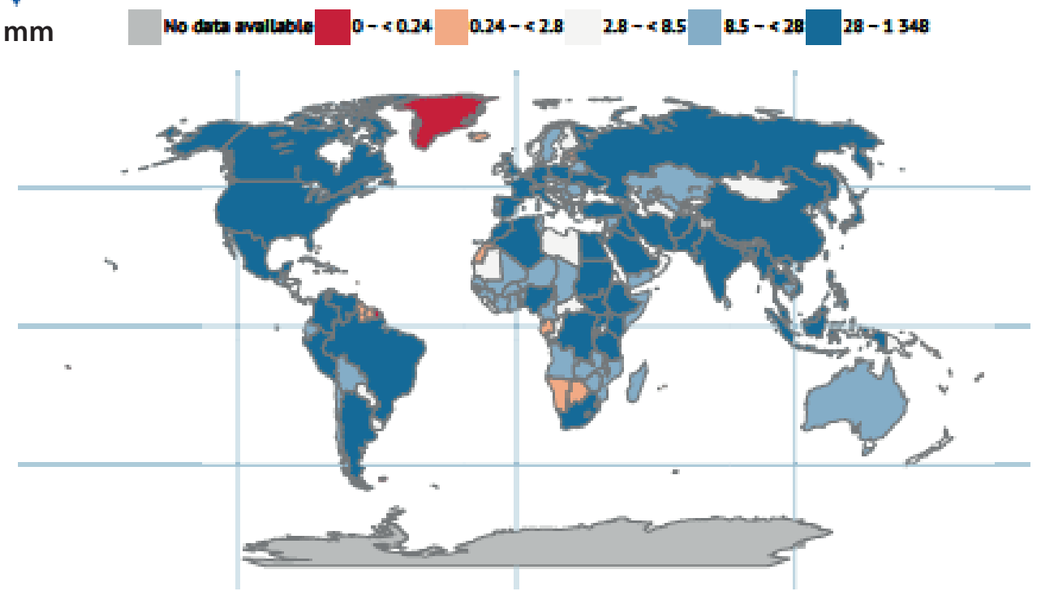

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Source: World Bank (WDI).

CHART 1: World rural and urban population (1960–2050)

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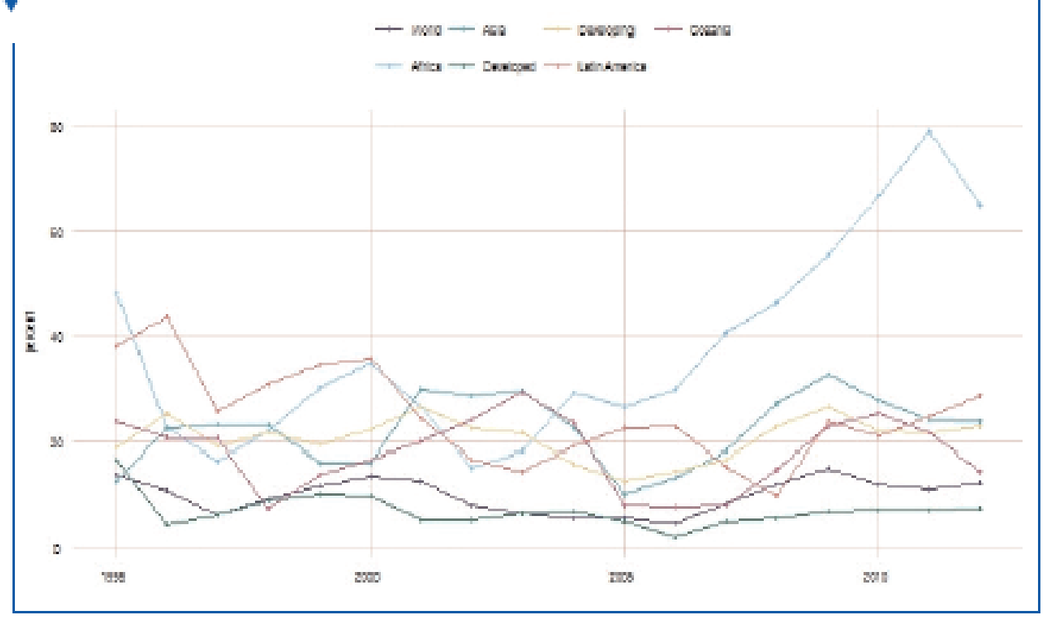

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Source: United Nations Population Division. Data after 2011 are projections.

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Further reading

- FAO Gender, Equity and Rural Employement Division (www.fao.org/economic/esw/)
- Food, Agriculture & Decent Work (www.fao-ilo.org)
- Decent Rural Employement for Food Security

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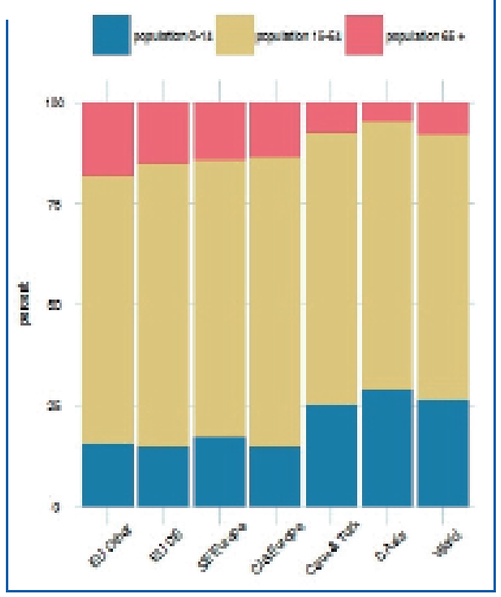
CHART 2: World rural and urban population



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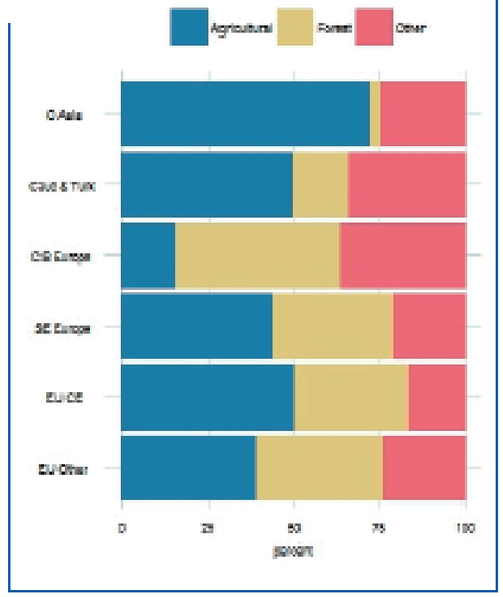

Source: World Bank (WDI).

MAP 2: World population annual growth (percent, 2000-2011)

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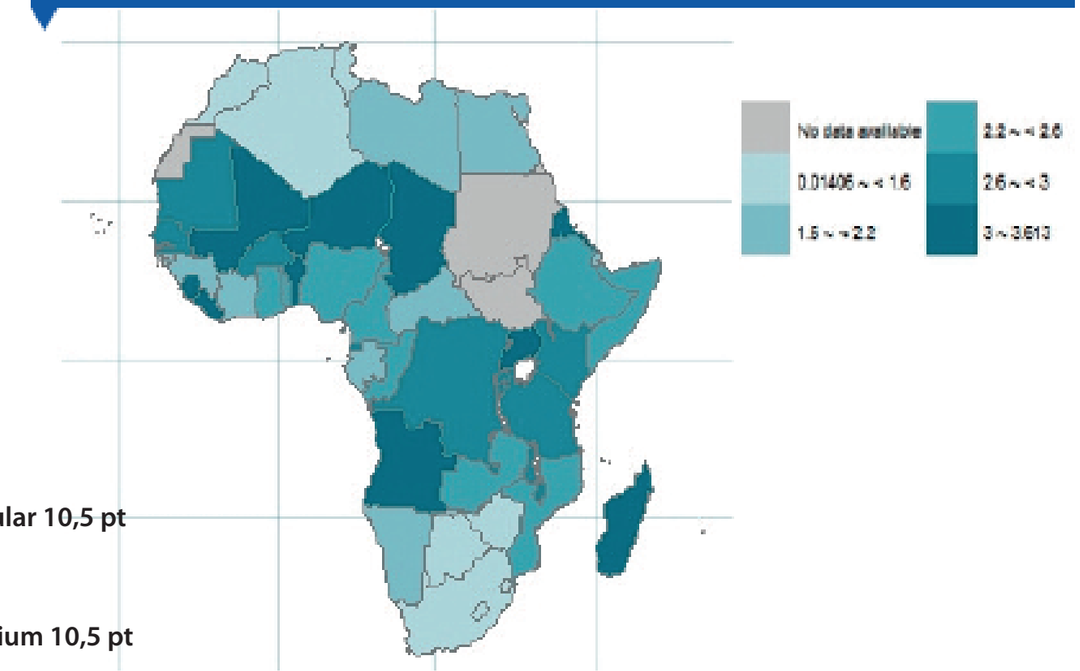

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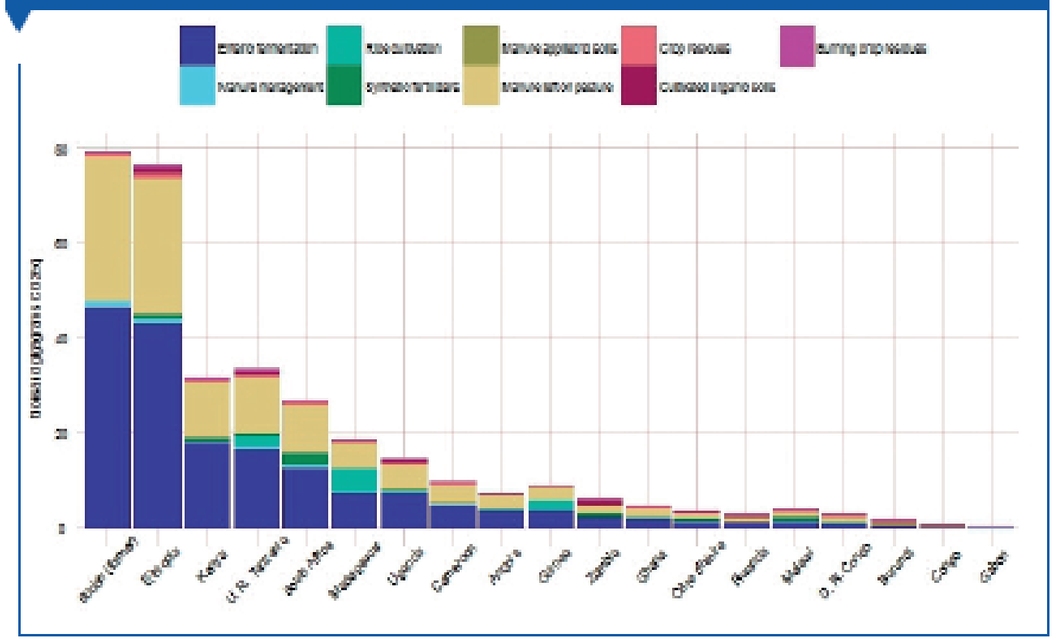

Source: United Nations Population Division. Data after 2011 are projections.