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Sustainability dimensions

Agriculture – including crops, livestock, forest, fisheries and aquaculture – is the main human activity responsible for natural resource management at the local and regional levels. Thirty percent of the earth's land is used for crops and pastures, and 70 percent of all abstracted freshwater is directed towards irrigation to produce the food that people and livestock need for a stable food supply. The results of such large-scale utilization of land and water resources are increasingly threatening environments.

Indiscriminate use of fertilizers and other chemicals can lead to significant pollution of air, water and soils, putting at risk pristine terrestrial and marine ecosystems downstream, and human health. For instance, agriculture is the main source of nitrate and ammonia pollution in both ground- and surface water and is a major contributor to phosphate pollution of waterways.

Emissions of greenhouse gases (GHGs) from agriculture, forestry and other land uses contribute significantly to the threat of global warming. The land sectors are responsible for nearly 30 percent of all

human-induced GHG emissions into the atmosphere, a contribution comparable to that of the energy sector and far exceeding total emissions from transportation. Crop and livestock production alone is responsible for half of the methane and two-thirds of the nitrous oxide emitted into the atmosphere by human activity.

Such negative impacts on air, soils and water have, in turn, a negative impact on agricultural production and human well-being. Increased soil salinity, aquifer depletion and land degradation reduce achievable yields, thus putting at risk farmers' ability to bridge production gaps and improve food security. Deforestation and unsustainable forest management lead to ecosystem degradation, with negative repercussions on the overall potential for a wide range of ecosystem services. Waste and nitrogen loads in aquaculture ponds, or genetic pollution of marine resources reduce resilience of the underlying natural systems without which aquaculture and marine resources cannot function.

However, it is increasingly recognized that with proper management, agricultural sectors have crucial positive externalities. In addition to food and fibre, these benefits include the provision of environmental services and amenities through water storage and purification, carbon sequestration and the maintenance of rural landscapes. In this context, research-driven sustainable pathways to agricultural intensification can save vast areas of natural forest and grasslands that would be developed in the absence of higher crop, meat and milk yields.

Both new and traditional demands for produce increase the pressure on scarce agricultural resources. While the agriculture sector will be forced to compete for land and water with expanding urban settlements and industrial zones, it will also be required to meet the growing demands of the emerging bio-based economy, increasingly through bioenergy and new emerging markets for renewable and sustainable industrial products.

Although agriculture will continue to be a major user of land and water, it will need to seek new ways of maintaining these resources to stay viable, and to minimize negative impacts on ecosystems and human well-being. Ensuring adequate food and water for all while achieving sustainable rural development hinges on renewed stewardship for the responsible management of natural resources, and therefore on a fully sustainable agriculture system.

Key Resources

The State of the World's Forests (SOFO)

The State of the World's Forests reports on the status of forests, recent major policy and institutional developments and key issues concerning the forest sector. It makes current, reliable and policy-relevant information widely available to facilitate informed discussion and decision-making with regard to the world's forests.

2012: The role of forests in human history

2011: Changing pathways, changing lives: forests as multiple pathways to sustainable development

2009: Society, forests and forestry: adapting for the future

Publication cycle: Biennial

Webpage: www.fao.org/forestry/sofo/en/

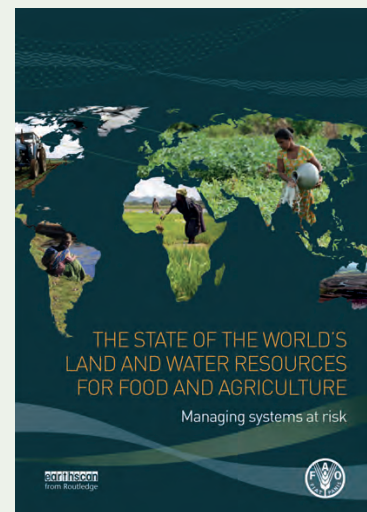


The State of the World's Land and Water Resources for Food and Agriculture (SOLAW)

The State of the World's Land and Water Resources for Food and Agriculture analyses a variety of options for overcoming constraints and improving resource management in these areas of heightened risk. By 2050, food production is projected to increase by about 70 percent globally and nearly 100 percent in developing countries. This incremental demand for food, together with demand from other competing uses, will place unprecedented pressure on many agricultural production systems across the world. These "systems at risk" are facing growing competition for land and water resources and they are often constrained by unsustainable agricultural practices. They therefore require particular attention and specific remedial action.

2011: Managing systems at risk

Webpage: www.fao.org/nr/solaw/en/



Land and Forestry

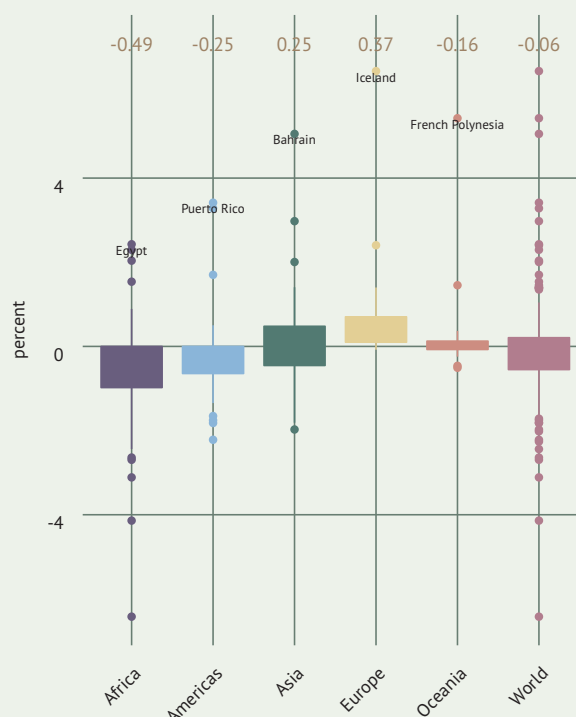
Forests play an essential role in mitigating climate change and providing products and ecosystem services that are essential to the prosperity of humankind. The latest estimate of the world's total forest area is more than 4 billion ha, corresponding to about 30 percent of total land area or an average of 0.6 ha per capita of human population. The five most forest-rich countries – the Russian Federation, Brazil, Canada, the United States of America and China – account for more than half of the planet's total forest area. Ten countries or areas have no forest at all, and an additional 54 have forest on less than 10 percent of their total land area.

Changes in land cover have caused the most pressing environmental issue in recent decades. Deforestation and land-use intensification, especially their impact on soil degradation, are at the heart of the issue. However, in much of the world, the current picture of land-cover change shows a continuing slowdown in the conversion of forests to areas for crop or livestock production and a steady growth of protected areas. At the global level, deforestation has decreased from an estimated 16 million ha per year in the 1990s to about 13 million ha per year in the last decade.

At the same time, afforestation and natural expansion of forests in some countries and areas have significantly reduced the net loss of forest area at the global level. The net change in forest area over the period 2000–2009 was estimated at -5.2 million ha per year, down by 35 percent per year in the prior decade. However, most of the loss of forest continued to take place in countries and areas in tropical regions, while most of the gain took place in temperate and boreal zones.

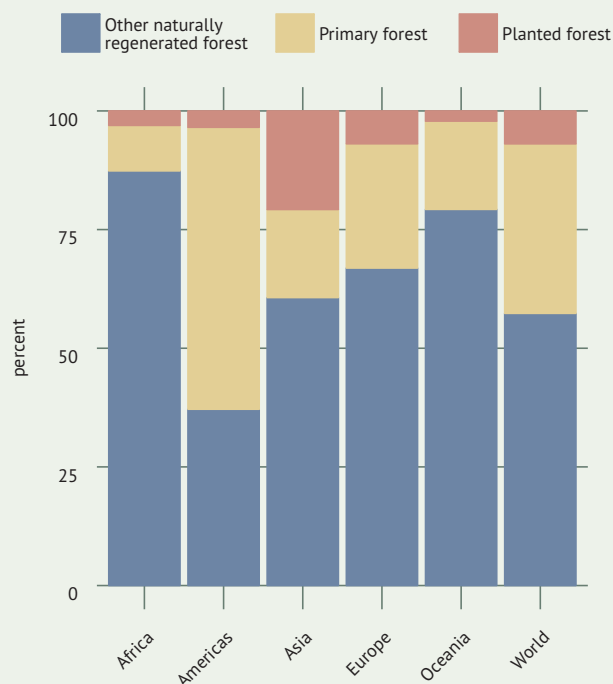
Forests, other wooded land and trees outside of forests can have important economic and social uses at the national level and/or for forest-dependent communities. Proper management of these resources is essential, to ensure that production and harvesting do not compromise these valuable options for future generations and the overall sustainability of forests over time. Good management includes monitoring removals of wood and non-wood forest products, designating forest areas for production and forest planting, and supporting afforestation and reforestation. The charts in this section highlight some of these trends towards sustainable forest management.

CHART 91: Annual growth rate in forest area (1990-2009)



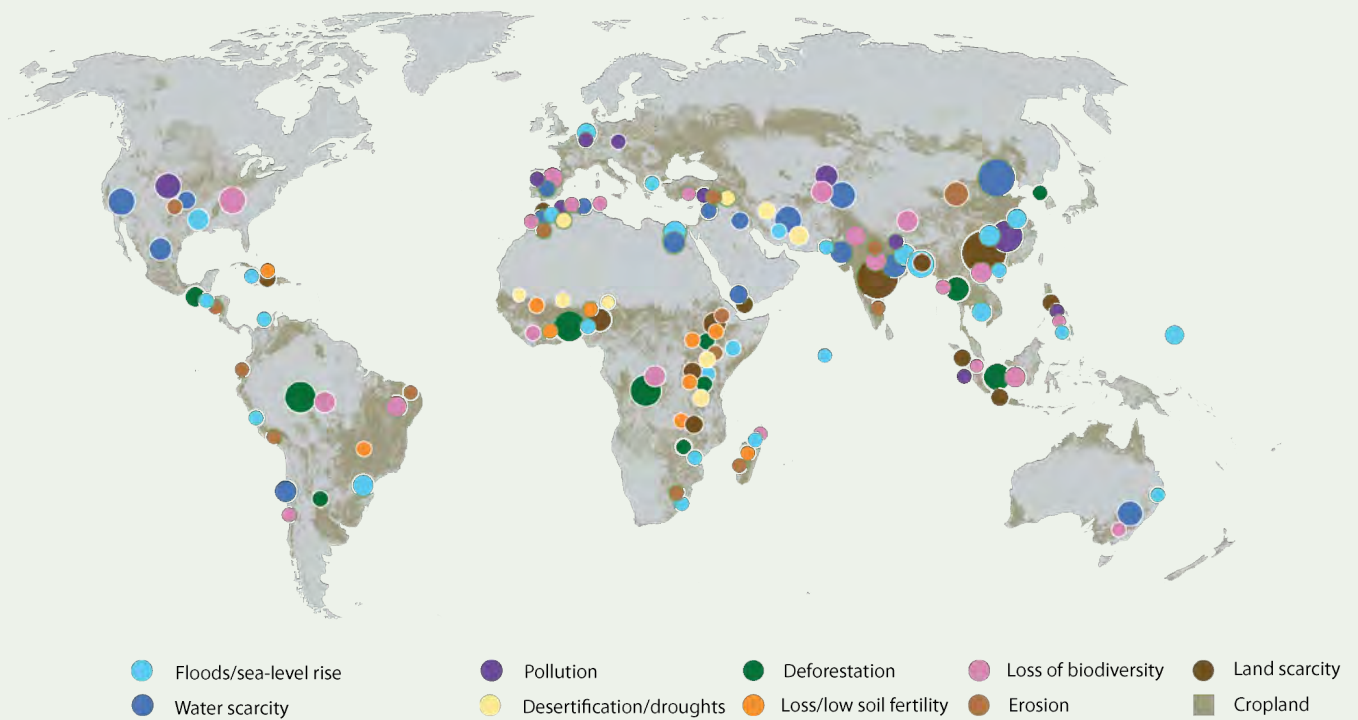
Source: FAO, Statistics Division (FAOSTAT).

CHART 92: Forest characteristics (2010)



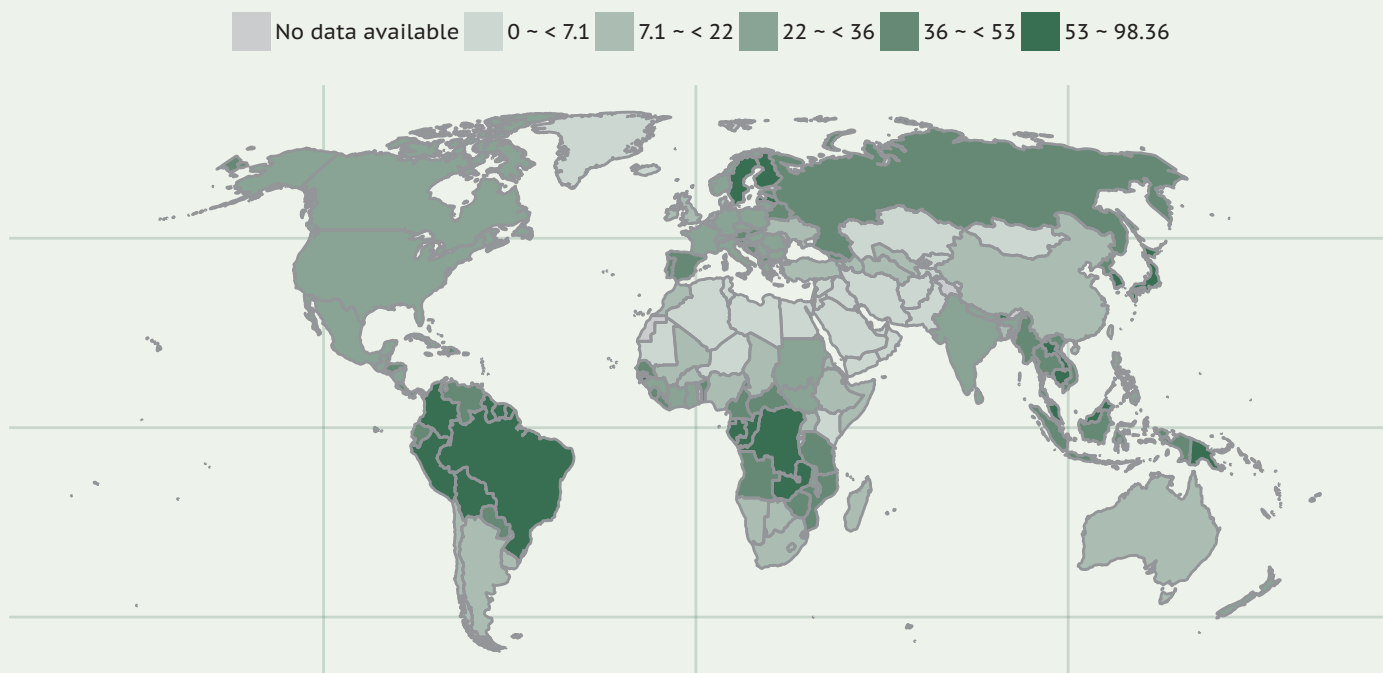
Source: FAO, Forestry Department.

MAP 54: Global distribution of risks associated with main agricultural production systems



Source: FAO, Land and Water Division.

MAP 55: Forest area as share of total land area (percent, 2009)



Source: FAO, Statistics Division (FAOSTAT).

On average, global production of the main forest products was between 1 and 4 percent higher in 2011 than in 2010. This shows that countries are slowly coming out of recession. For example, production of wood-based panels and paper in 2011 was above the pre-crisis levels of 2007 and appeared to be growing relatively strongly in most regions. On the other hand, global production of industrial roundwood – despite a 3 percent increase from 2010 – has not yet reached its pre-crisis levels.

In the markets for pulp and paper, overall growth was very modest over the period 2007–2011, with a growth trend of about 1 percent per year. However, this overall result conceals major differences at the regional level, with pulp and paper production and consumption increasing significantly in the Asia and the Pacific region, but generally declining in Europe and Northern America.

China is increasing its importance as a producer of forest products, becoming the world's second largest producer of sawnwood. The United States of America is the largest, with Canada in third place. China has also increased its lead over all other countries as a producer of wood-based panels, paper and paperboard. In 2011, China produced 11 percent of the world's sawnwood, 38 percent of panels and 26 percent of paper.

As the largest importer of industrial roundwood, sawnwood, pulp and wastepaper, and the largest exporter of wood-based panels, China also plays a key role in international trade in forest products. It is the fifth largest importer of paper and paperboard, despite a huge increase in domestic production since 2007. In 2011, China's imports of all forest products amounted to US\$43 billion, accounting for 16 percent of the global total.

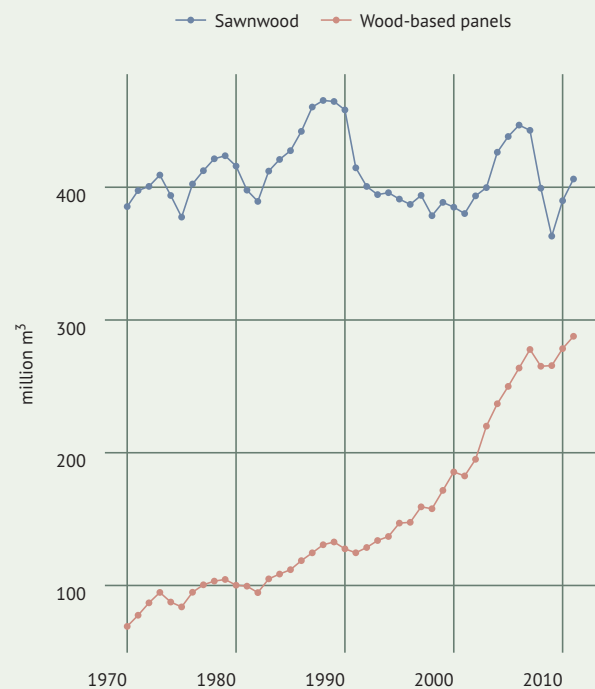
The structure of production and trade in the Russian Federation, the country with the most forest cover in the world, also changed between 2007 and 2011, with industrial roundwood exports declining by 29 million m³ – or nearly 60 percent – and sawnwood production increasing by 3 million m³ (8 percent). Over the same period, the Russian Federation increased its sawnwood exports by 13 percent.

A high proportion of Russian industrial roundwood exports previously went to China. This share fell between 2007 and 2009 because of log export restrictions in the Russian Federation. Nevertheless, Chinese imports of industrial roundwood have recovered, and several other major producing countries, including the United States of America, Canada and New Zealand, have expanded their exports to China.

Further reading

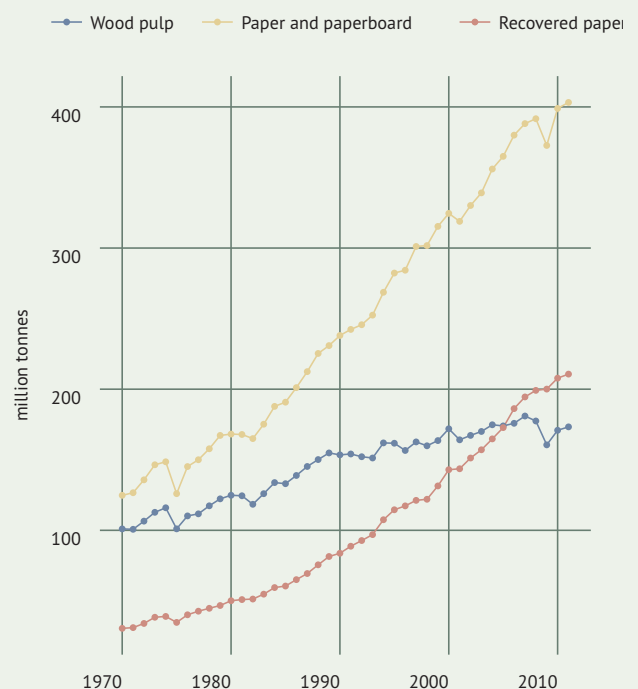
- FAO The State of the World's Land and Water Resources for Food and Agriculture (SOLAW) - Managing Systems at Risk 2011 (www.fao.org/nr/solaw/solaw-home/en/)
- UN International Year of Forests 2011 (www.fao.org/forestry/iyf2011/en/)
- FAO Land degradation assessment (www.fao.org/nr/land/degradation/en/)
- Global Forest Resources Assessment 2010 (www.fao.org/forestry/fra/fra2010/en/)

CHART 93: Production of selected forest products (1970-2011)



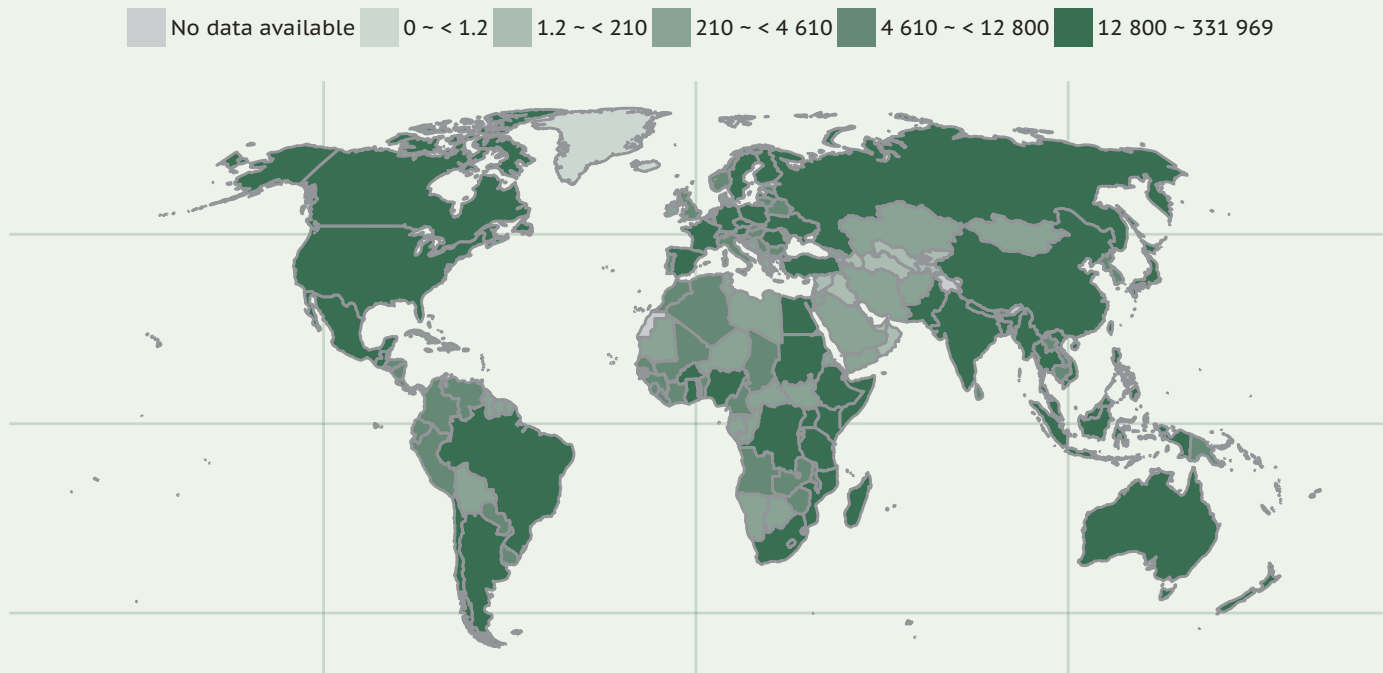
Source: FAO, Statistics Division (FAOSTAT).

CHART 94: Production of selected forest products (1970-2011)



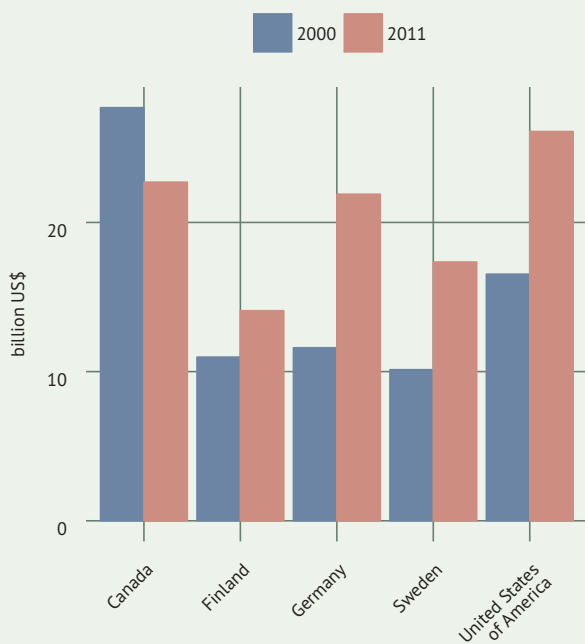
Source: FAO, Statistics Division (FAOSTAT).

MAP 56: Roundwood production (thousand m³, 2011)



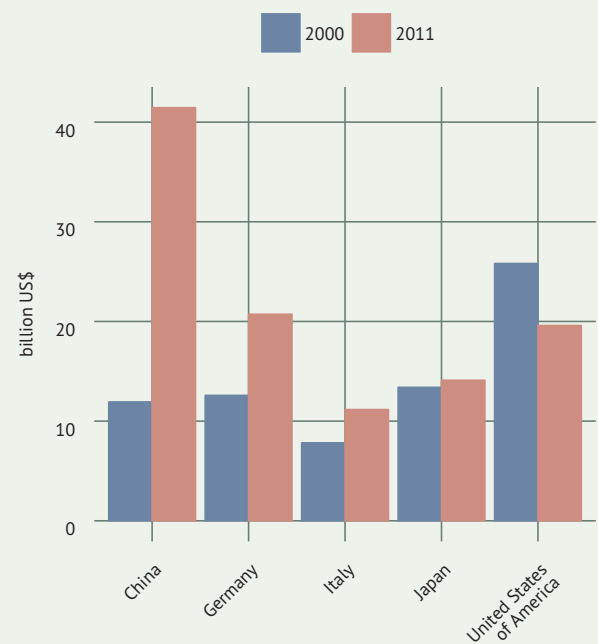
Source: FAO, Statistics Division (FAOSTAT).

CHART 95: Top five exporters of forest products, 2011 ranking (2000 and 2011)



Source: FAO, Statistics Division (FAOSTAT).

CHART 96: Top five importers of forest products, 2011 ranking (2000 and 2011)



Source: FAO, Statistics Division (FAOSTAT).

Water

A very small proportion of the planet's water is available for human use. Of the 2.5 percent of the world's water that is freshwater, more than two-thirds is locked in glaciers, ice caps and permafrost, about one-third is groundwater. The remaining 1.3 percent of the world's total freshwater is surface water in rivers, lakes and swamps and in other forms such as ice and snow.

Global demand for water has risen sharply over the last century. Total annual water withdrawal (for agriculture, industries and municipalities) rose from less than 600 km³/year at the beginning of the twentieth century, to 1 350 km³/year in the middle of the century and more than 3 800 km³/year by the beginning of the twenty-first.

Precipitation provides some of the water needed by crops to satisfy their transpiration requirements. The soil, acting as a buffer, stores part of precipitation water as soil moisture, returning it to the crops in times of deficit. In humid climates, this mechanism is usually sufficient to ensure satisfactory growth in rainfed agriculture. In arid climates or during the dry season, irrigation is required to compensate for the deficit resulting from insufficient or erratic precipitation.

Today, irrigated agriculture accounts for about 70 percent of freshwater withdrawals throughout the world. Irrigation has been crucial for gains in food production. It reduces drought risk and encourages crop diversification, thus enhancing rural incomes.

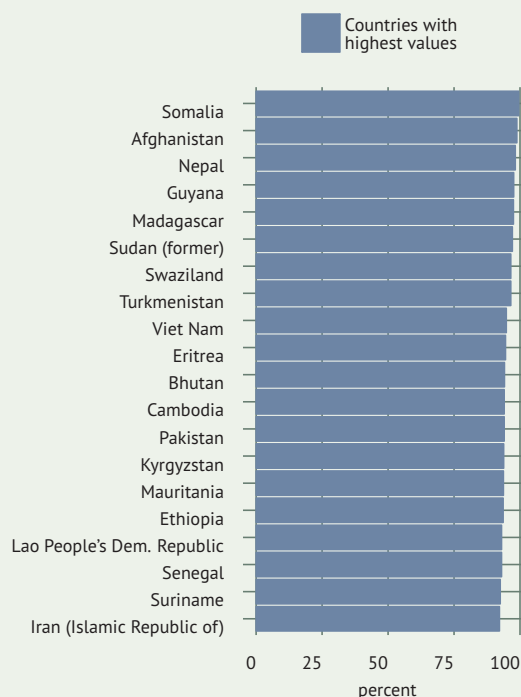
Increasing water productivity is therefore critical in many countries. It is also more generally necessary, to prevent the overextraction of groundwater, increase the infiltration of rainwater into soils, and reduce the deterioration of water quality owing to waterlogging and salinization. Some of these negative phenomena are fuelled by agricultural intensification, which affects water availability through increased contamination of ground- and surface water from fertilizers, pesticides and animal wastes.

Irrigation mismanagement can also contribute to waterlogging and salinization. Waterlogged soil results from overirrigation and inadequate drainage. It restricts plant growth and often precedes salinization. Generally, salinization results from the build-up of dissolved solids in soils, and can also occur in rainfed areas with inherently susceptible soils. Climate change makes solving these problems even more urgent. Appropriate measures can be implemented to limit the overextraction, waterlogging and salinization that can lead to considerable losses of irrigated land and result in unsustainably high operating costs.

Further reading

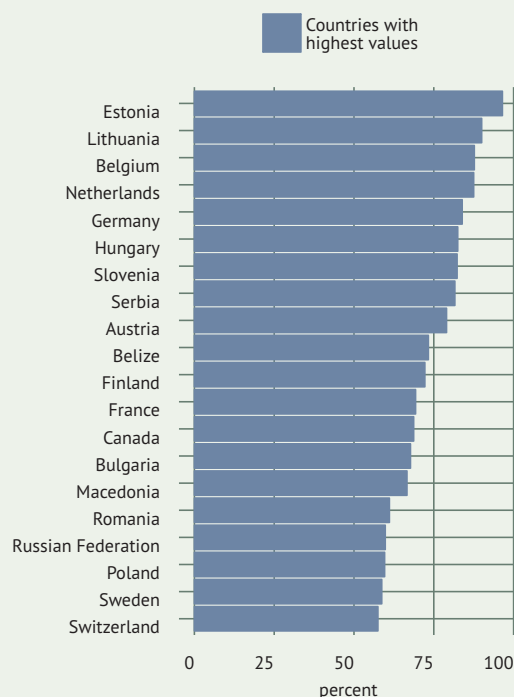
- FAO The State of the World's Land and Water Resources for Food and Agriculture (SOLAW) - Managing Systems at Risk 2011 (www.fao.org/nr/solaw/solaw-home/en/)
- FAO Water (www.fao.org/nr/water/)
- FAO AQUASTAT (www.fao.org/nr/aquastat/)

CHART 97: Freshwater withdrawal by agricultural sector, shares of total, top 20 countries (2000-2010*)

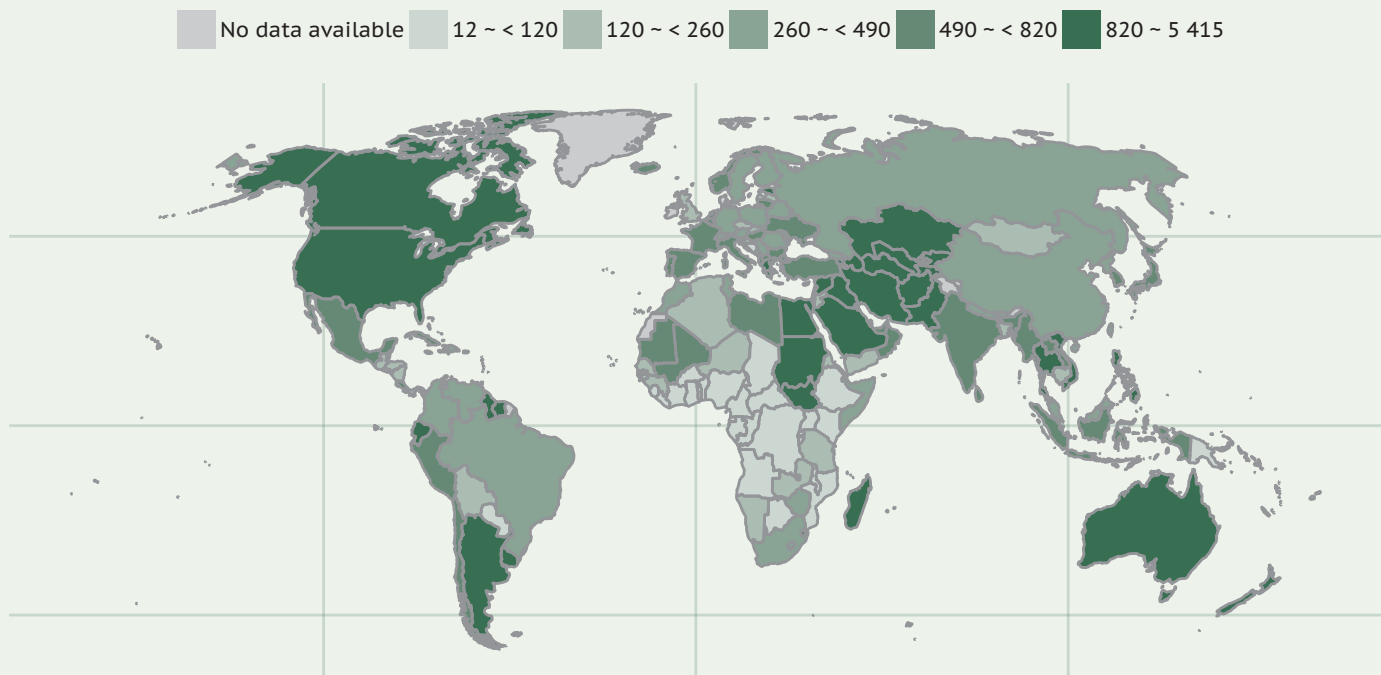



Source: FAO, Land and Water Division (AQUASTAT).

CHART 98: Freshwater withdrawal by industrial sector, shares of total, top 20 countries (2000-2010*)

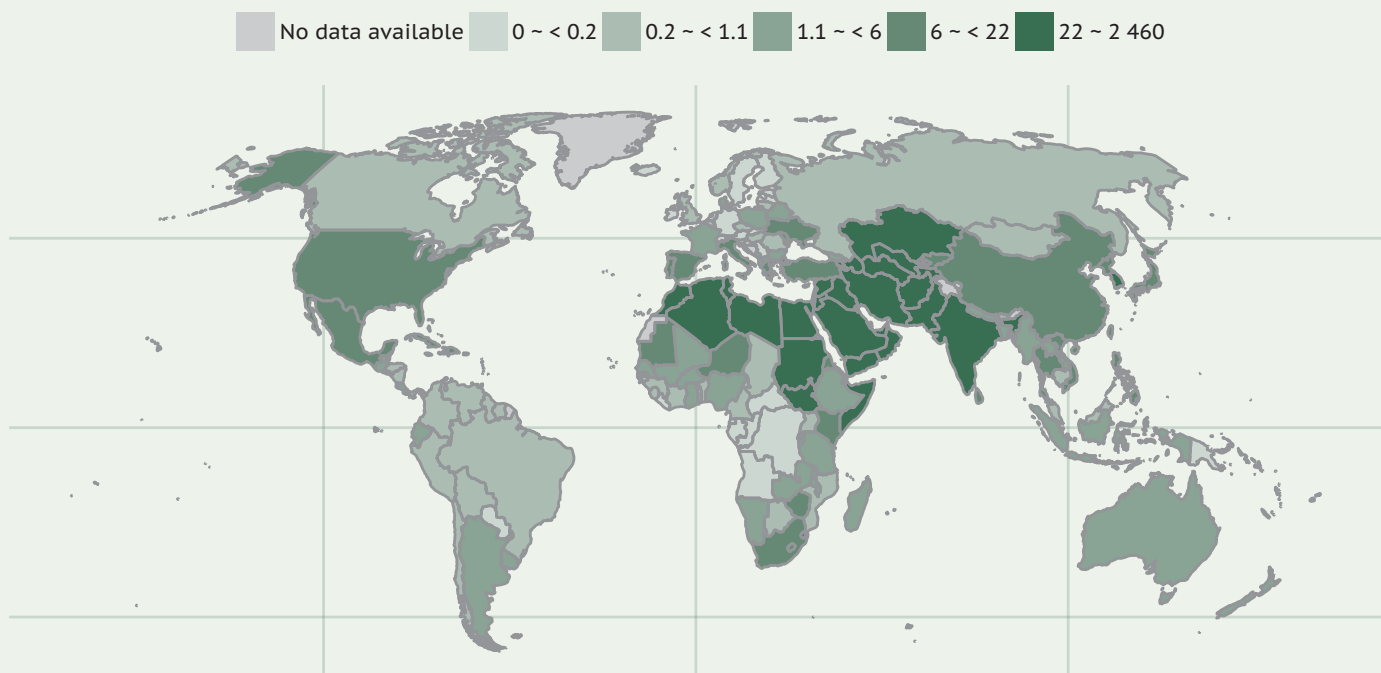



Source: FAO, Land and Water Division (AQUASTAT).

MAP 57: Total water withdrawal per capita (m^3 /cap/year, 2000-2010*)

Source: FAO, Land and Water Division (AQUASTAT). 

MAP 58: Freshwater resources withdrawn by agriculture (share, 2000-2010*)



Source: FAO, Land and Water Division (AQUASTAT). 

Biodiversity

Biodiversity concerns the degree of variation of life forms within a given ecosystem and serves as a measure of the health of the environment. Biodiversity for food and agriculture includes the components of biological diversity that are essential for feeding human populations and improving the quality of life. It applies to the genetic, species and ecosystem levels and includes the variety and variability of ecosystems, animals, plants and microorganisms that are necessary to sustain human life and the key functions of ecosystems. It is the result of thousands of years of farming and breeding activities, land and forest utilization, and fisheries and aquaculture activities, combined with millions of years of natural selection.

Different varieties of the same species have statistically different nutrient contents. The nutrient content measured at the subspecies level should therefore be among the criteria used to decide which cultivars to promote to decrease micronutrient deficiencies.

Much of the human population lives in areas where food production and nature coexist. Agriculture's main impacts on biodiversity are varied. For instance, the expansion of agriculture can lead to losses of natural wildlife habitat and a reduction in the area of natural forests and wetlands, resulting in an attendant loss of species. It can also cause a general decline in the species richness of forests, pastures and field margins, and the reduction of wild genetic resources related to domesticated crops and livestock.

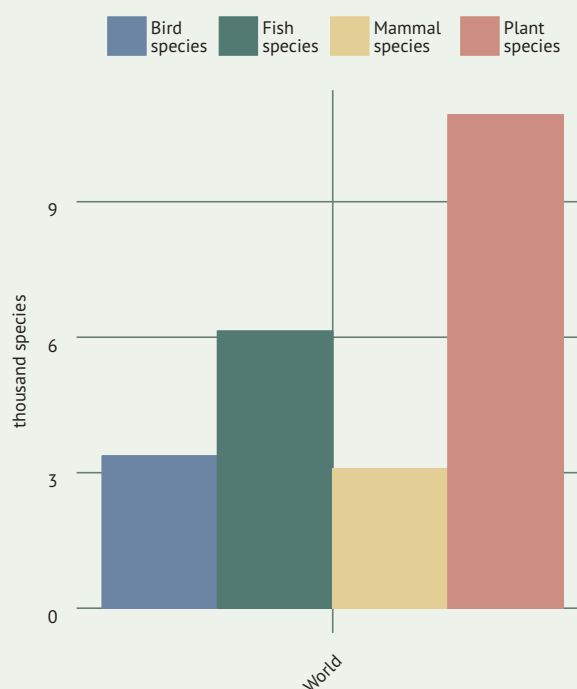
The intensification of agricultural production is putting biodiversity at risk. The conservation and sustainable use of biodiversity for food and agriculture play a critical role in the fight against hunger by ensuring environmental sustainability while increasing food and agriculture production. It is imperative to harvest resources sustainably, without compromising the natural capital – including biodiversity and ecosystem services – while capitalizing on biological processes.

To achieve sustainable increases in productivity, and provide a sounder ecological basis for agriculture, a large reservoir of genetic and species diversity needs to be maintained and sustainably used. Many traditional livestock farmers use herds or flocks of several species and breeds as a strategy for maintaining high diversity. Species combinations also enhance productivity in aquatic systems. Crop rotations, intercropping, alley farming and the use of several varieties of a single crop have all been shown to have beneficial effects on crop performance, nutrient availability, pest and disease control and water management. Ensuring diversity will help maintain and rehabilitate productive ecosystems, to supply future generations with abundant food and agriculture. Continuing to expand protected areas will also play a major role.

Further reading

- [FAO Biodiversity \(www.fao.org/biodiversity\)](http://www.fao.org/biodiversity)
- [UN International Year of Biodiversity 2010 \(www.fao.org/biodiversity/2010-international-year-of-biodiversity\)](http://www.fao.org/biodiversity/2010-international-year-of-biodiversity)
- [FAO/INFOODS: Nutrition and Biodiversity \(www.fao.org/infoods/infoods/food-biodiversity/en/\)](http://www.fao.org/infoods/infoods/food-biodiversity/en/)

CHART 99: Species threatened (2011)



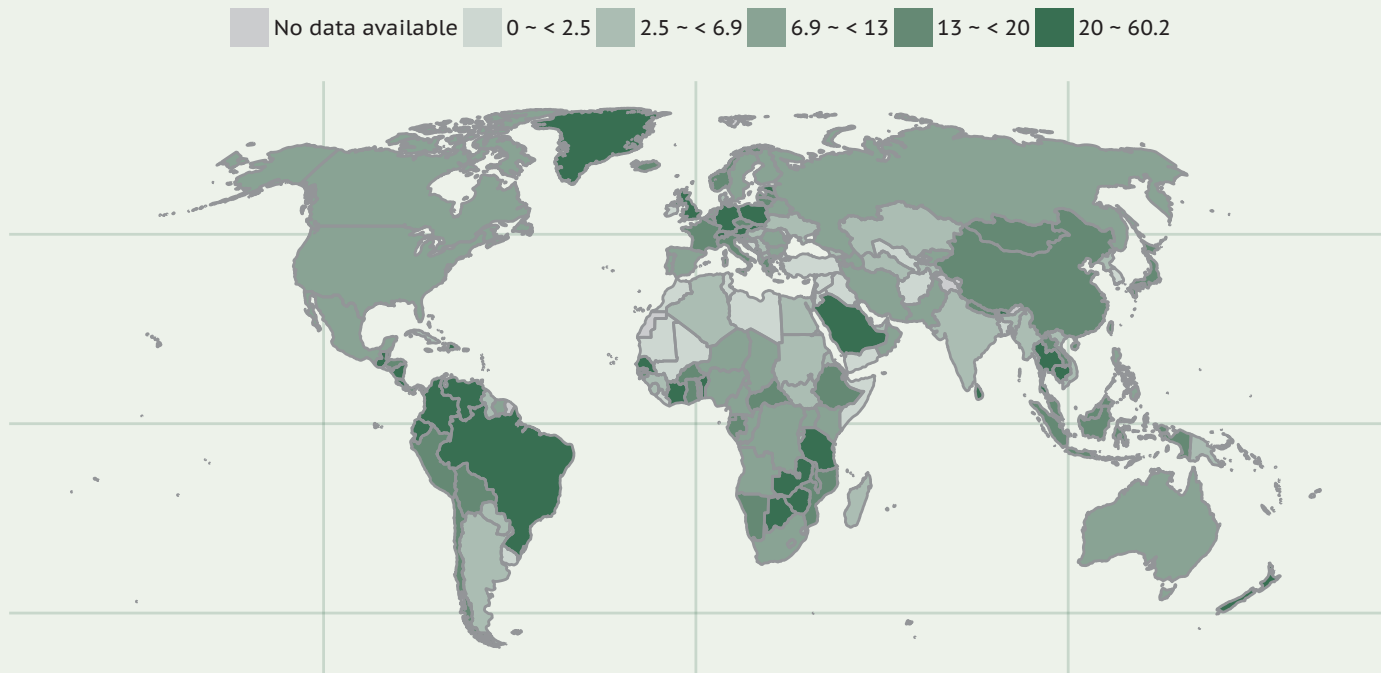
Source: World Bank (WDI).


CHART 100: Terrestrial protected areas, share of total land area (1990 and 2009)



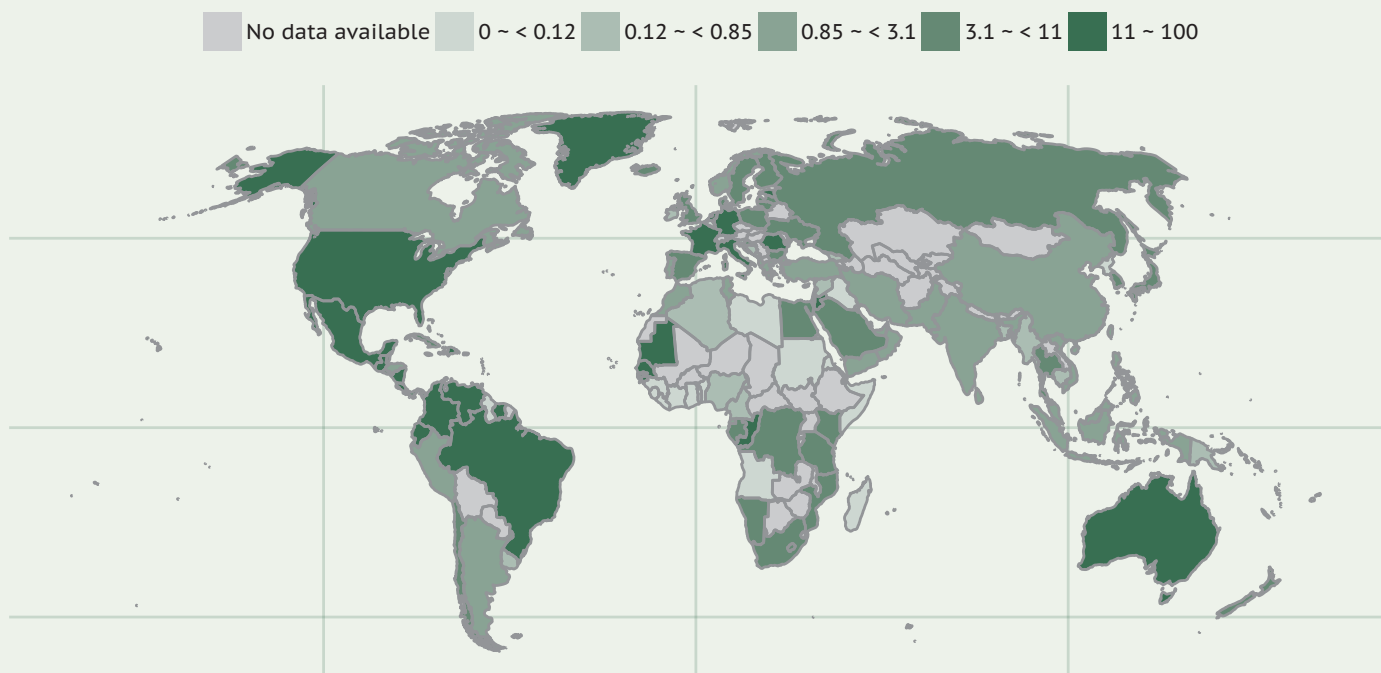
Source: World Bank (WDI).


MAP 59: Terrestrial protected areas (share of total land area, 2009)



Source: World Bank (WDI). 

MAP 60: Marine protected areas (share of territorial waters, 2009)



Source: World Bank (WDI). 

Agri-environmental indicators

Agricultural production systems require stewardship of their underlying ecosystems and respect of the natural resource boundaries within which they operate. In recent decades, however, increasing population and socio-economic pressures on the land, water and genetic resources that underpin the provision of food and other valuable environmental services are cause for concern, given that food production should roughly double by 2050 to satisfy the projected global population of 9 billion people. Agriculture already uses two-thirds of the freshwater resources withdrawn for human use, with irrigated crops providing about 40 percent of the total cereal harvest. Additional land suitable for good production is scarce, while the pressure to produce more food on marginal areas can lead to degradation and poverty.

Agri-environmental indicators are quantitative tools that help assess and quantify the status of and trends in the environmental performance of agriculture, facilitating the identification of effective management solutions and policy measures for avoiding potential damage, including soil and water degradation, air pollution and loss of biodiversity.

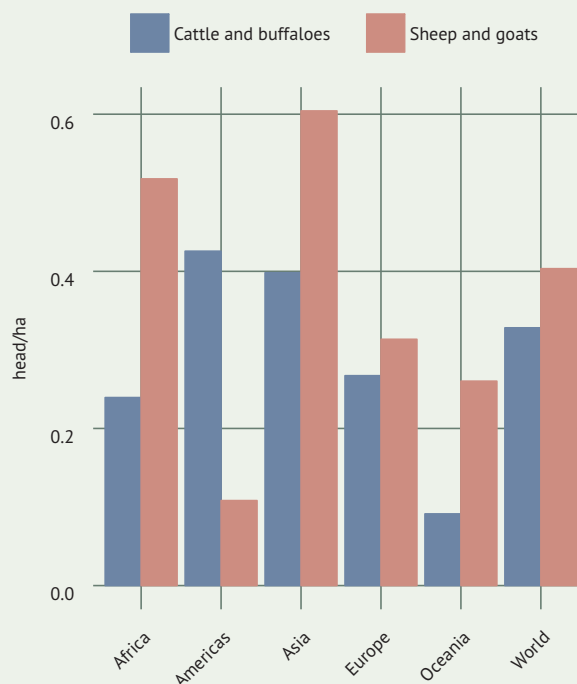
Most of the data presented in this section are from a selection of core indicators originally developed by OECD and Eurostat for their member countries, and recently expanded by FAO to achieve global coverage. They highlight critical trends that can help identify solutions for more sustainable production systems. In general, the indicators show different trends between developing and developed countries; for example, the agricultural area is decreasing in most developed countries but expanding in several developing ones. Increasing livestock density per hectare and growth in bio-fuels production can also be used to quantify the pressure that agriculture exerts on natural resources.

The indicators show considerable expansion of irrigated agricultural areas over the last decade, especially in developing countries, with the agriculture sector using the most water in most regions. Fertilizer consumption is increasing worldwide, although use is much lower in Africa than in other regions. Positive trends are also apparent; for instance, the share of area protected for environmental reasons has increased considerably in several countries over the last 20 years. The incidence of organic agriculture has also increased constantly; although its contribution remains small in developing countries, organic agriculture currently represents an important share in several developed countries.

Further reading

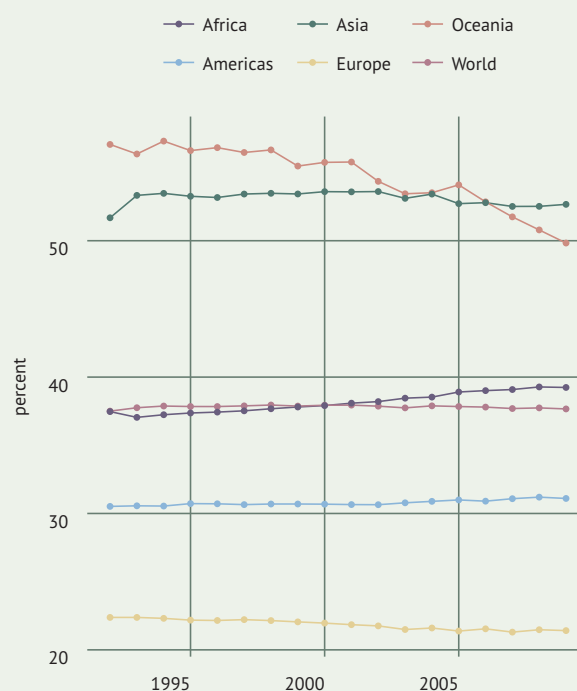
- OECD (www.oecd.org/agriculture/env/indicators)
- EUROSTAT (http://epp.eurostat.ec.europa.eu/portal/page/portal/agri_environmental_indicators/introduction)

CHART 101: Livestock density per ha of agricultural land, cattle and buffaloes, sheep and goats (2009)



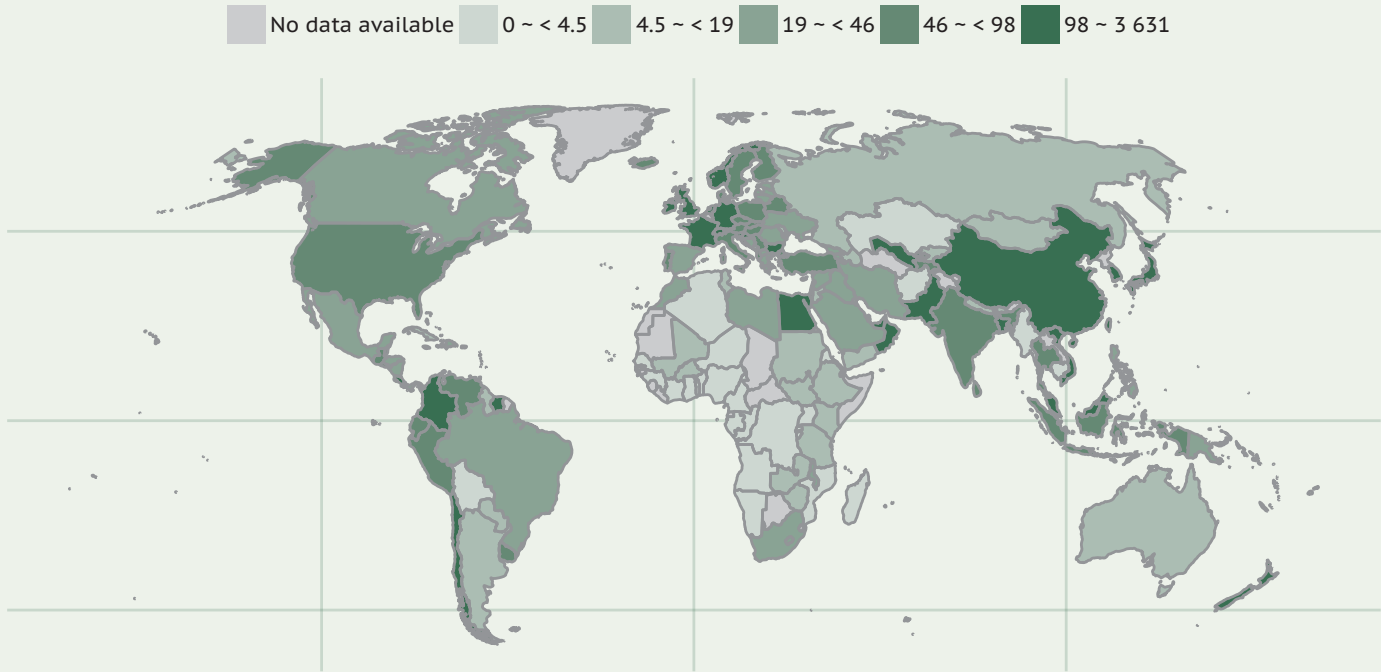
Source: FAO, Statistics Division (FAOSTAT).

CHART 102: Agricultural land, share of total land area (1992-2009)



Source: FAO, Statistics Division (FAOSTAT).

MAP 61: Nitrogen fertilizer consumption per ha of arable area and permanent crops (kg/ha, 2009)



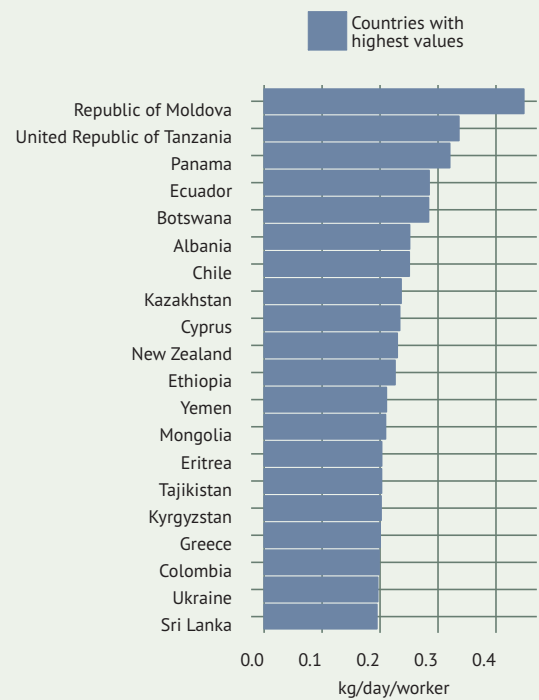
Source: FAO, Statistics Division (FAOSTAT).

CHART 103: Organic water pollutant (BOD) emissions, top 20 countries (2005-2006*)



Source: World Bank (WDI).

CHART 104: Organic water pollutant (BOD) emissions per worker, top 20 countries (2005-2006*)



Source: World Bank (WDI).

Organic farming

Organic agriculture is a production management system that aims to promote and enhance ecosystem health, including biological cycles and the biological activity of soil. It is based on minimizing the use of external inputs, and represents a deliberate attempt to make the best use of local natural resources. Methods are selected to minimize pollution of air, soil and water. Organic agriculture comprises a range of land, plant and animal management procedures, circumscribed by a set of rules and limits that are usually enforced by inspection and certification schemes. Synthetic pesticides, mineral fertilizers, synthetic preservatives, pharmaceuticals, genetically modified organisms (GMOs), sewage sludge and irradiation are prohibited in all organic standards.

The land area under organic management has been steadily increasing worldwide for several decades, reaching 37.2 million ha in 2011, up from 11 million ha in 1999. An additional 32.5 million ha is certified as non-agriculture organic areas, mainly for the collection of wild products and beekeeping. Today, 1.8 million producers in 162 countries produce organic products, including crops, livestock, fish and wild-harvested products. Most production in developing countries is export-oriented, providing new income opportunities for smallholders.

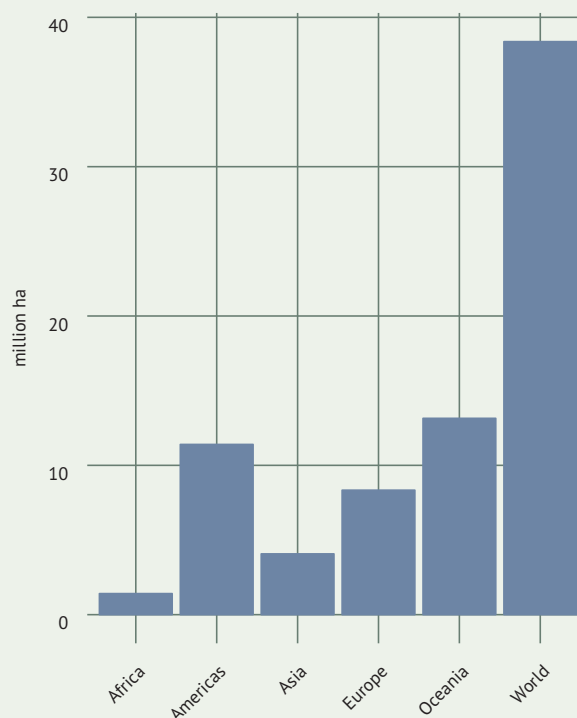
The total value of organic food and beverages sold in 2011 was almost US\$63 billion, some US\$4 billion higher than in 2010. The organic market has grown considerably since 2002, and – unlike the rest of the food sector – has continued to grow, despite the global economic slowdown. Although Northern America and Europe account for 90 percent of organic sales, organic markets are also expanding in developing countries, particularly in Asia.

Several countries have action plans for developing organic agriculture, and 86 currently have organic regulations. Countries set targets for the sector's growth, allocating resources to compensate farmers during, and sometimes after, the conversion period. At the international level, the general principles and requirements for organic food are defined by the Codex Alimentarius Commission. The Plant Production Guidelines were adopted in 1999, and the Animal Production Guidelines in 2011. Since 2005, the list of restricted substances has been regularly updated. Codex is currently expanding to include organic aquaculture and seaweed production. The growing interest in organic crop, livestock, forest and fish products is mainly driven by health and food-quality concerns, although the primary aim of organic production is to ensure that food production and processing methods respect the environment.

Further reading

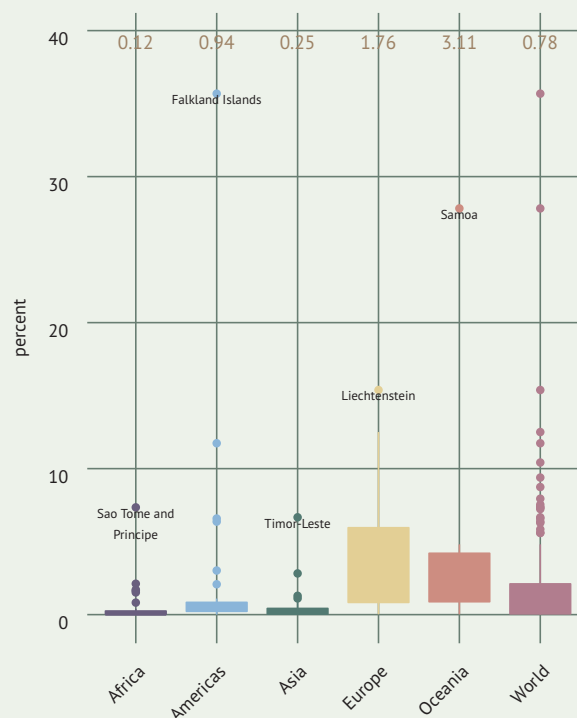
- FAO Organic Agriculture (www.fao.org/organicag/en/)
- FAO Organic Agriculture and Environmental Stability of the Food Supply - FAO (<ftp://ftp.fao.org/docrep/fao/meeting/012/ah950e.pdf>)

CHART 105: Organic agriculture area (2009)



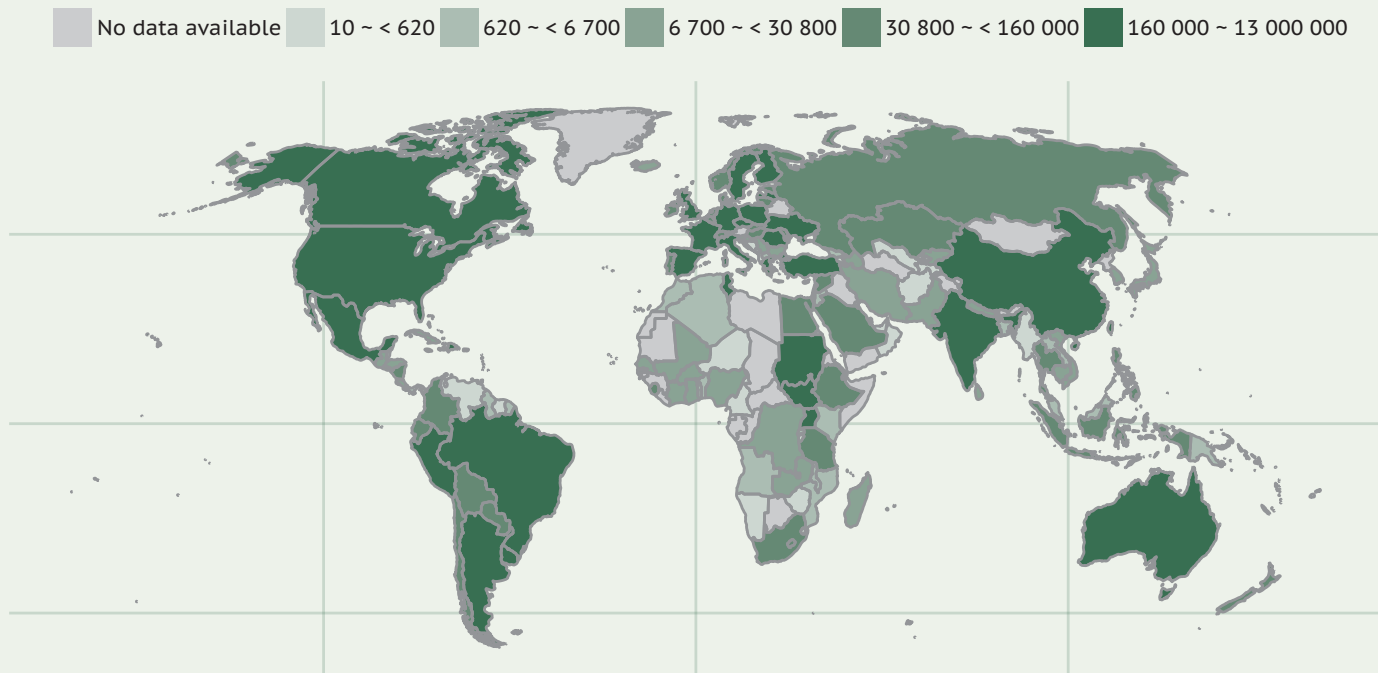
Source: FAO, Statistics Division (FAOSTAT).


CHART 106: Organic agriculture, share of total agricultural area (2009)



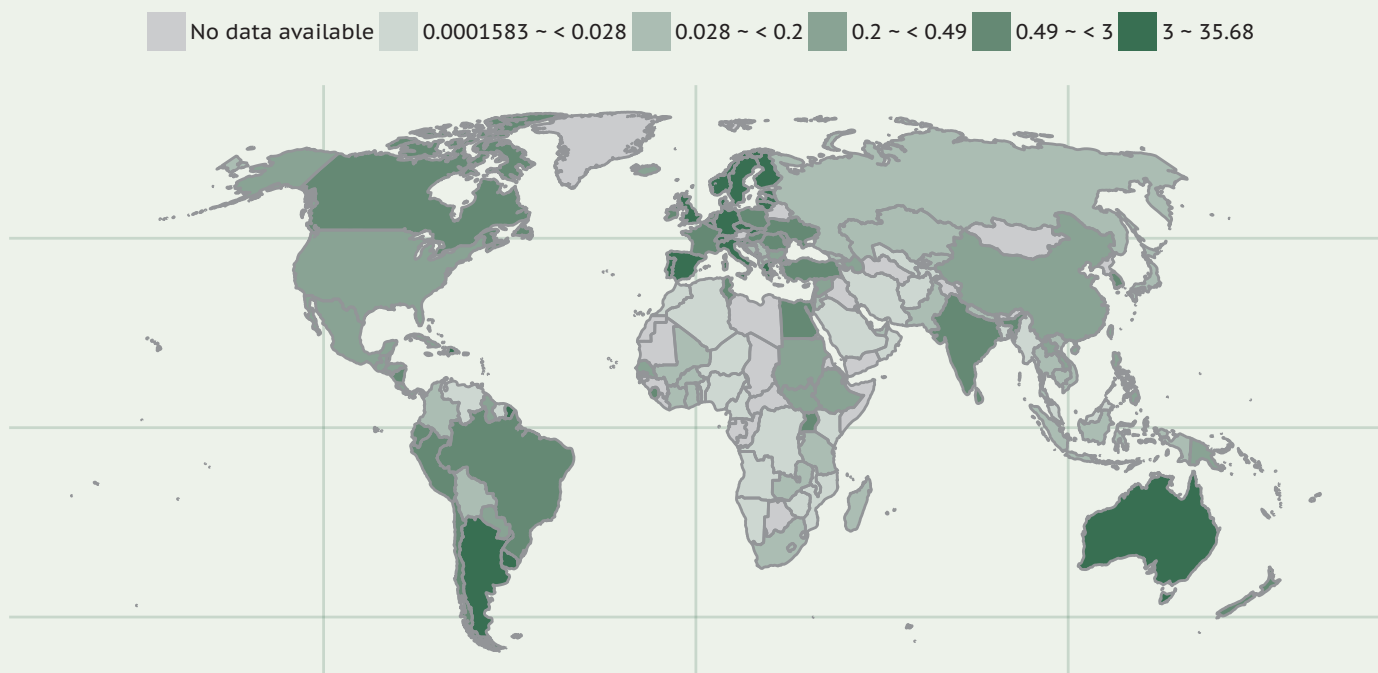
Source: FAO, Statistics Division (FAOSTAT).

MAP 62: Organic agriculture area (ha, 2009)



Source: FAO, Statistics Division (FAOSTAT). 

MAP 63: Organic agriculture, share of total agricultural area (percent, 2009)



Source: FAO, Statistics Division (FAOSTAT). 

Bio-based economy

Agriculture is playing an increasingly important role in the bio-based economy, providing feedstocks for the production of liquid fuels, chemicals and advanced materials, such as natural fibre composites for industry. The emergence of green industries provides new opportunities for the rural sector, beyond traditional forestry and the supply of wood. Biological science has the potential both to make incremental efficiency improvements and to bring radical change in a wide range of sectors, including through the use of enzymes, fermentation and organisms for processes and products in the energy, chemical, pharmaceutical, food, textile, and pulp and paper industries.

The application of biological and material science to agriculture has the greatest potential in the energy, natural fibre composite and starch sectors. Much of this potential is already being realized, especially through the rapid growth of the biofuel sector. Currently, ethanol is produced from easily fermentable agricultural feedstocks such as sugar cane, sugar beet, cereal grains and cassava. Biodiesel is produced from vegetable oil (typically rapeseed, soybean and palm oils) using a process of chemical modification.

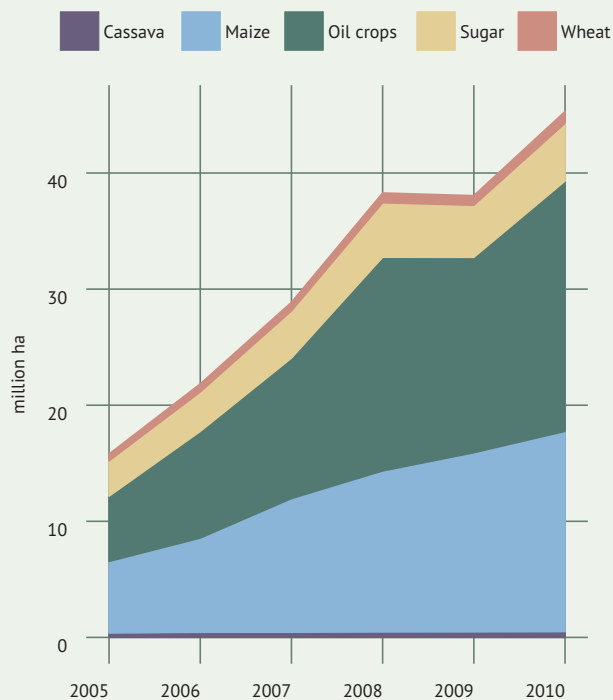
The emerging bio-based economy centres on energy efficiency, renewable feedstocks for polymer products, industrial processes that reduce carbon emissions, and recyclable materials. Natural fibres exemplify these attributes. For example, growing 1 tonne of jute fibre requires less than 10 percent of the energy used in the production of competing polypropylene.

The sustainability of a rapidly growing bio-based agricultural economy, especially one that relies on liquid fuels, has generated the “food-versus-fuel” debate. The links between bio-industries and food security are complex and multifaceted. Ensuring the sustainable development of biosectors becomes challenging when efforts are made to capture the potential benefits for development. For instance, the rapid growth and sheer scale of the biofuel sector has potentially negative implications for all four dimensions of food security – availability, access, stability and utilization – as it may increase the competition for land and water resources. However, it may also create new opportunities for employment, income generation and investment in production technologies, especially in countries with abundant marginal land and climates conducive to feedstock production where such land would be too costly to bring into food cultivation.

Further reading

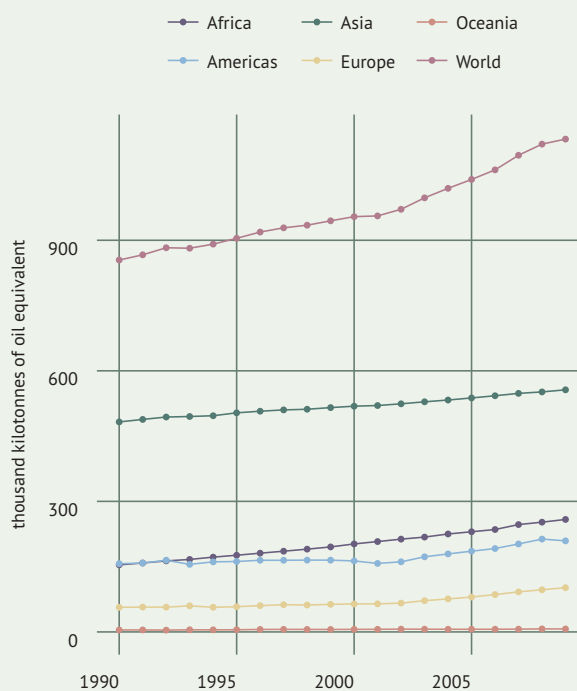
- FAO Bioenergy (www.fao.org/bioenergy)
- UN International Year of Natural Fibres (www.naturalfibres2009.org/en/index.html)

CHART 107: Area under bioenergy crops (2005-2010)



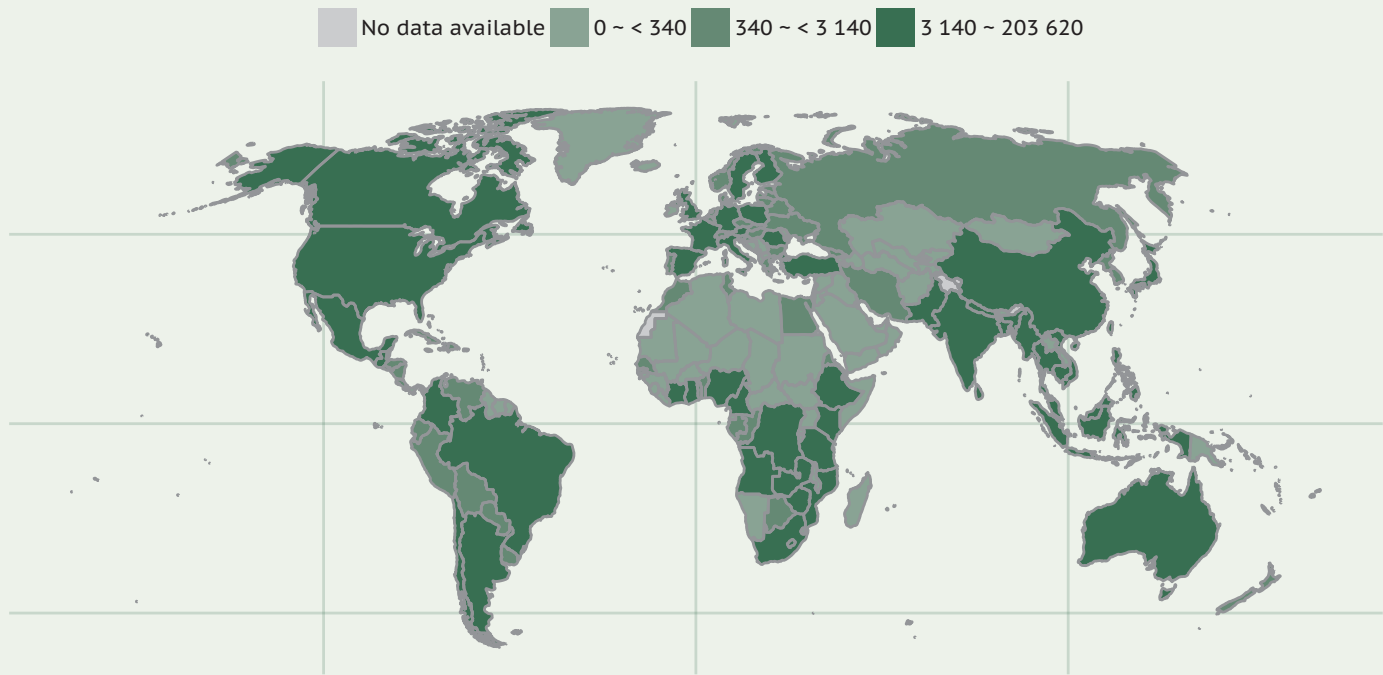
Source: FAO, Statistics Division.

CHART 108: Biofuel production (1990-2009)



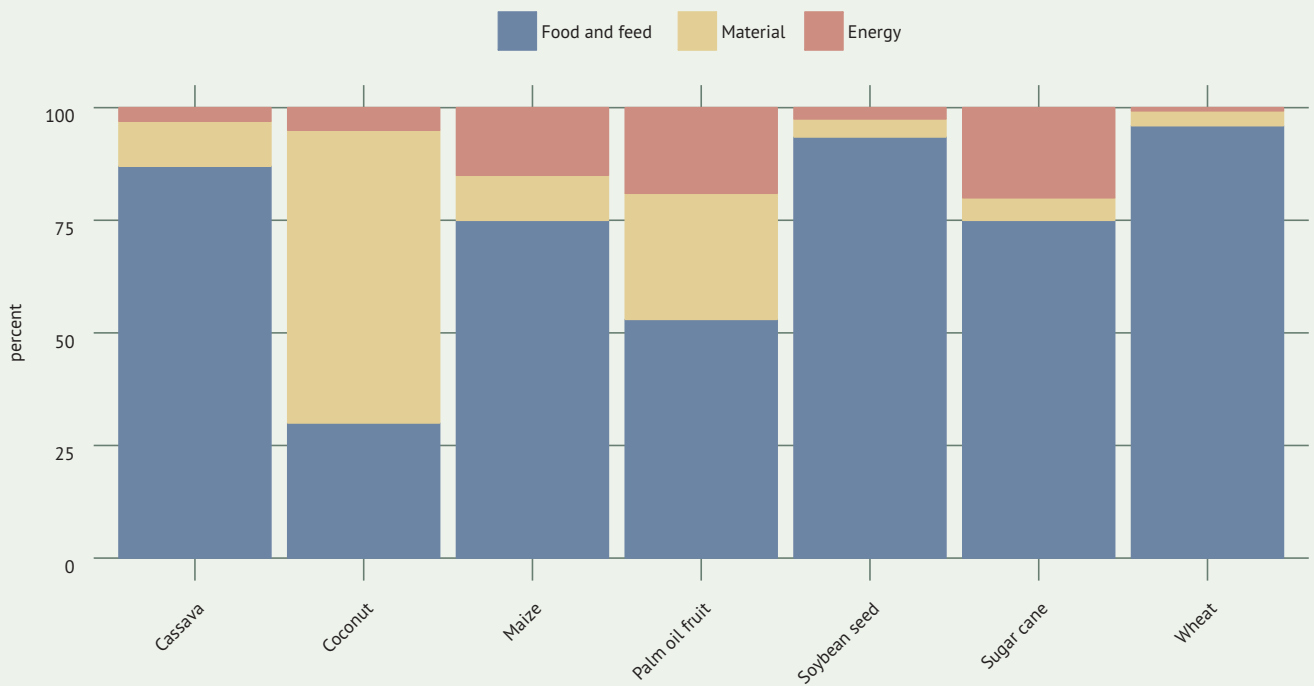
Source: IEA.

MAP 64: Biofuel production (kilotonnes of oil equivalent, 2009)



Source: IEA.

CHART 109: Share of food crop usage in world bio-based economy (2009)



Source: FAO, Statistics Division.

Climate change

The severity and pace of climate change in the twenty-first century is presenting an unprecedented challenge. Current global surface temperatures are now about 0.6 °C higher than the average for the last century. This increase is consistent with model predictions of the effects of rising atmospheric concentrations of carbon dioxide (CO₂) and other GHGs, which are a result of human activity. Also in line with the same model simulations, the observed warming is greater at higher latitudes – particularly in the northern hemisphere, where most land masses are located – than in the tropics. At the same time, extreme temperature events are becoming more frequent, causing increasing damage to ecosystems, agriculture and human health.

Such worrisome trends will intensify in this century if emissions of anthropogenic GHGs continue to follow a business-as-usual scenario, with global atmospheric surface temperatures predicted to rise by at least 4 °C by 2100. Moreover, the hydrological cycle will strengthen because of increased rates of evaporation from land and sea surfaces. As a result, rainfall may increase in the tropics and at higher latitudes, while decreasing over large continental interiors, with critically water-scarce areas of the world expected to become drier and hotter. More frequent climate extremes will increase the incidence and intensity of droughts and flood events worldwide. Finally, a sea-level rise will put millions of people at risk, presenting a significant challenge for rural, low-lying areas in many poor developing countries.

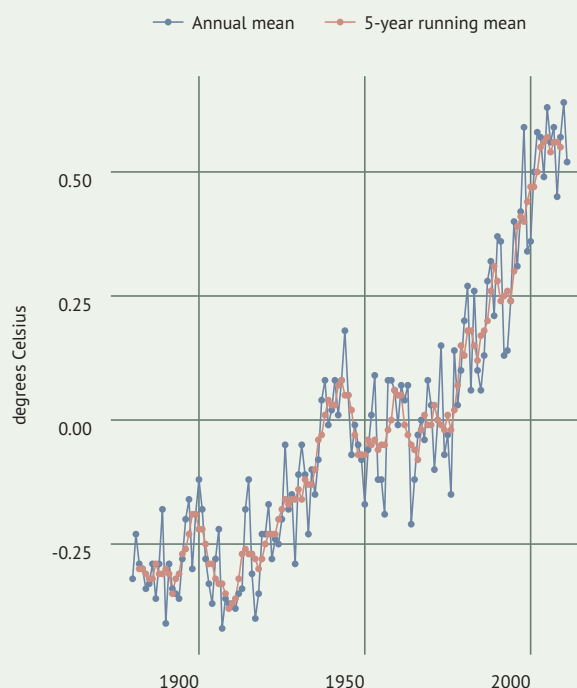
The future availability of water to match crops' water requirements will be particularly critical for agricultural production in arid and semi-arid regions, and in the southern, drier parts of Europe and Northern America. Runoff and groundwater recharge are both likely to decline dramatically in these areas. An excess of water may become a problem in specific areas. Where rainfall volume increases and becomes more intense, and where significant glacier melting alters water storage dynamics, a greater proportion of runoff may occur as flood flow. In particular, the expected loss of glaciers will have large impacts on some river systems, changing the availability of surface water for irrigation and the amount of groundwater recharge.

The poorest and most food-insecure regions around the globe will be the most vulnerable under climate change: first, already scarce land and water resources will likely become even more scarce; and second, insufficient technical and financial means will make adaptation to the new climate very difficult.

Further reading

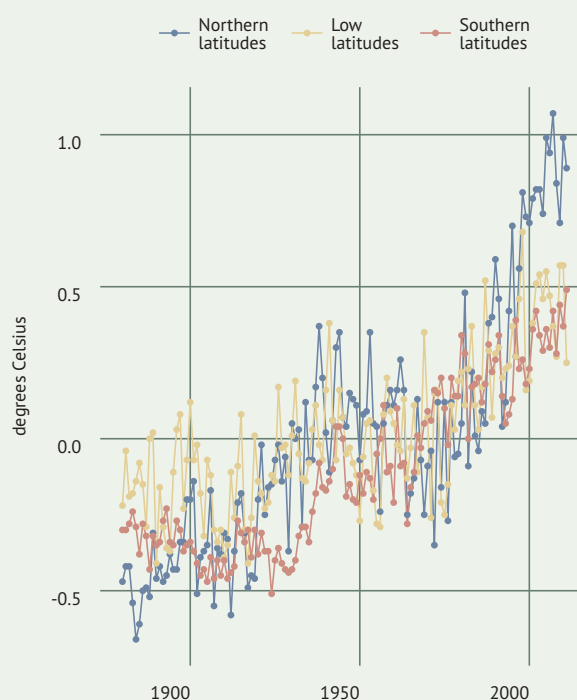
- FAO Climate Change (www.fao.org/climatechange/)
- FAO Climate Change, Water and Food Security 2011
- FAO Energy-smart food for people and climate (www.fao.org/docrep/014/i2454e/i2454e00.pdf)
- Intergovernmental Panel on Climate Change (IPCC) (www.ipcc.ch/)
- NASA (<http://data.giss.nasa.gov/gistemp/>)

CHART 110: Global land-ocean temperature index (base period 1951-1980) (1880-2011)



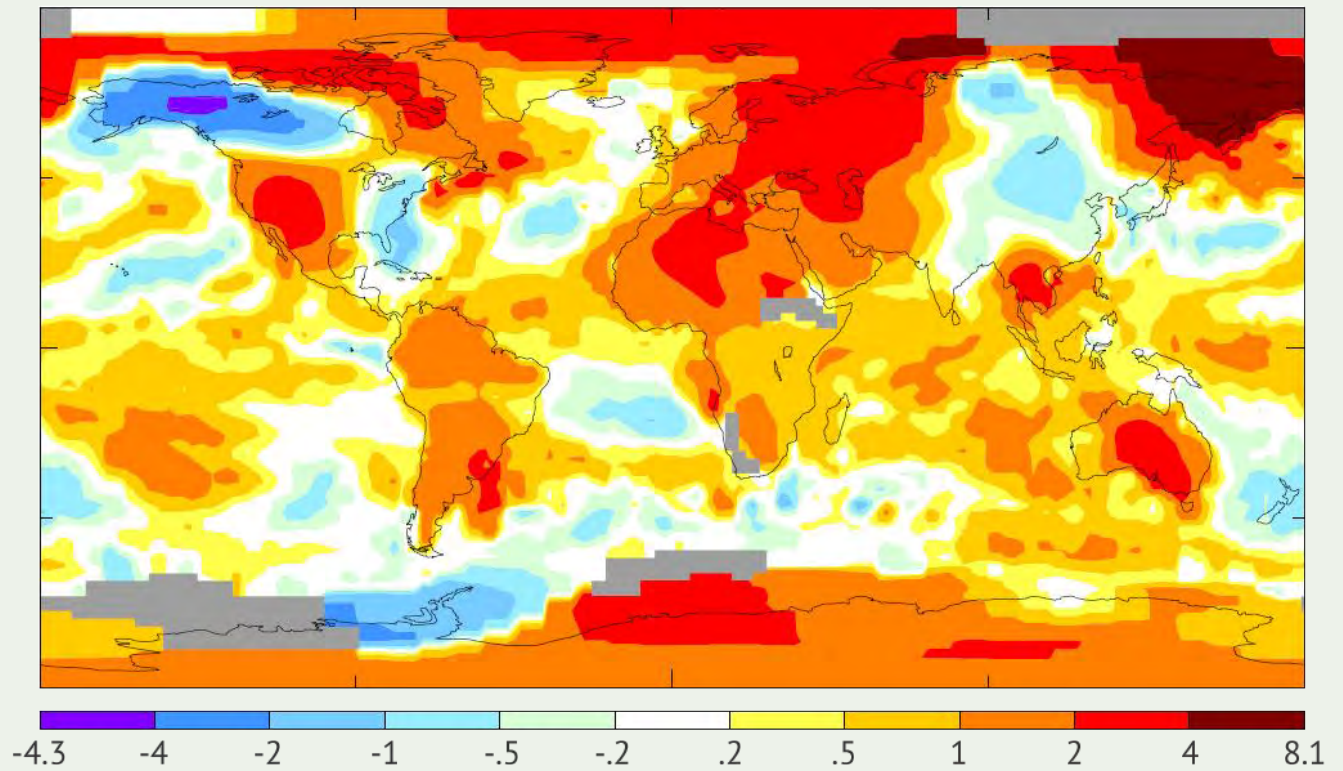
Source: NASA, GISS Surface Temperature Analysis.

CHART 111: Global land-ocean temperature index for three latitude bands (base period 1951-1981) (1880-2011)



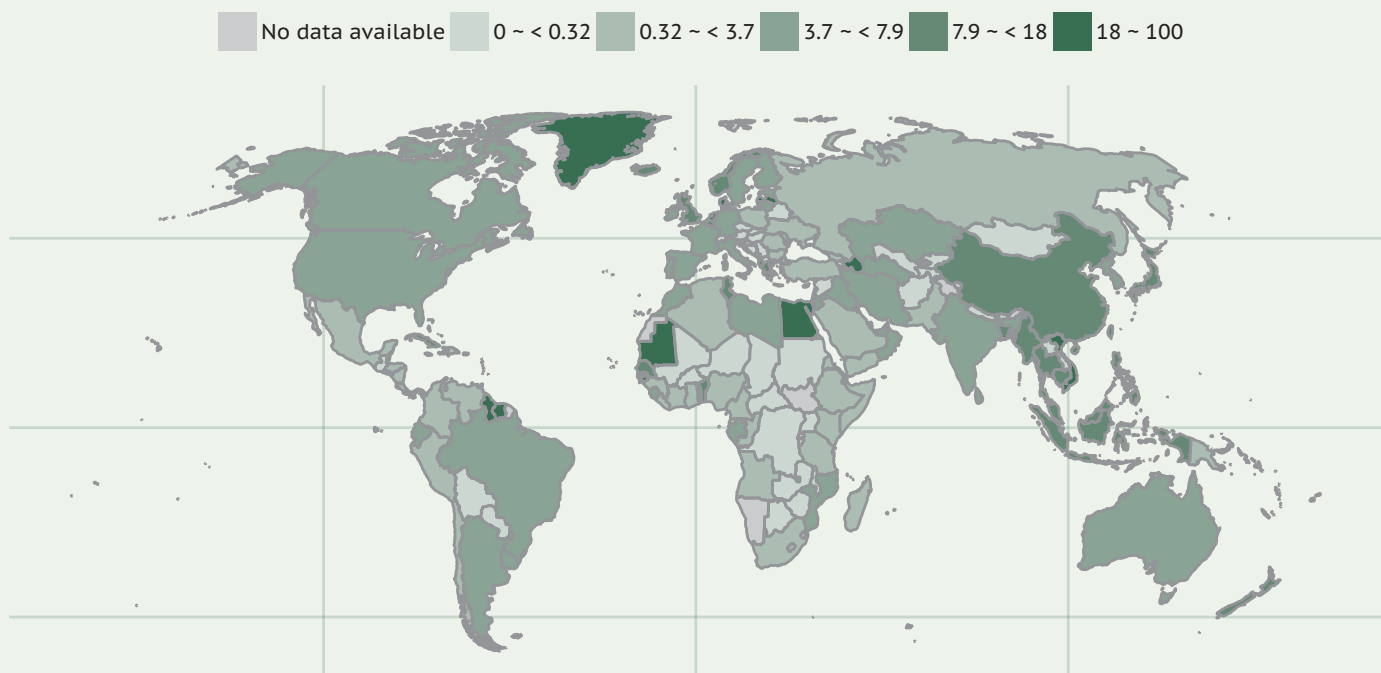
Source: NASA, GISS Surface Temperature Analysis.


MAP 65: Surface temperature, anomaly versus 1951-1980 (degrees Celsius, 2012)



Source: NASA, GISS Surface Temperature Analysis.

MAP 66: Share of population living in areas with elevation of 5 m or less (percent, 2000)



Source: World Bank (WDI). 

Greenhouse gas emissions

GHG emissions from agriculture, including crop and livestock production, forestry and associated land-use changes, are responsible for a significant fraction of human-induced emissions – up to 30 percent globally, according to the Intergovernmental Panel on Climate Change (IPCC). GHG emissions presented in this section are available from the newly launched FAOSTAT Emissions database.

GHG emissions from agriculture are dominated by non-CO₂ gases such as methane (CH₄) and nitrous oxide (N₂O), arising from crop and livestock production and management. These include emissions from the following categories: enteric fermentation, manure management systems, synthetic fertilizers, manure applied to soils, manure left on pastures, crop residues, rice cultivation, cultivated organic soils, and burning of crop residues. These emissions have increased by an average of 1.6 percent per year since 1990. Adding savannah burning and degraded organic soils under pasture, which are not currently available in FAOSTAT, total agricultural emissions in 2010 were estimated at 5 to 6 Gt CO₂/year.

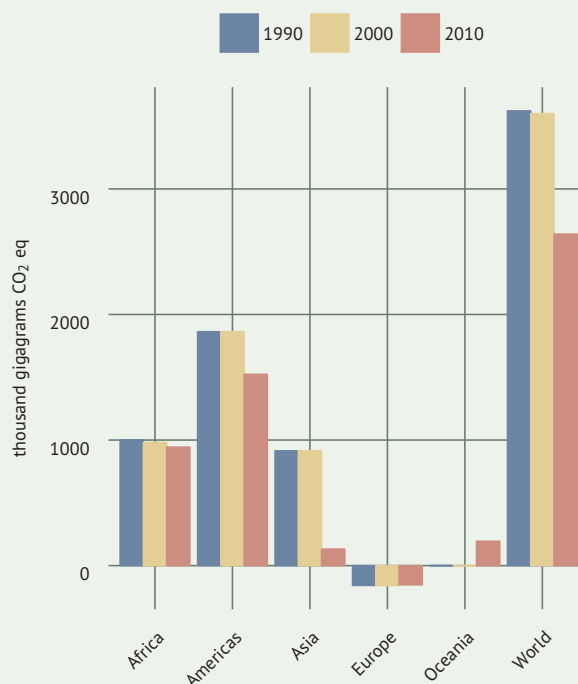
In particular, emissions from the cultivation of organic soils are receiving increased attention because of their importance in terms of absolute carbon stock changes when peat lands are drained and degraded, thus becoming a significant source of GHG emissions (CO₂ and N₂O).

More in general, changes in carbon stocks and ecosystem functions linked to human activities such as land-use change and land management determine the GHG emissions and removals that are reported by countries for IPCC's Land Use, Land-Use Change and Forestry (LULUCF) categories. Activities that increase terrestrial carbon stocks over time lead to removal of CO₂ from the atmosphere, while activities that decrease total carbon stocks lead to net CO₂ and non-CO₂ emissions. Global GHG emissions from net forest conversion decreased from 3.6 Gt CO₂/year to 2.6 Gt CO₂/year during the period 1990-2010.

Further reading

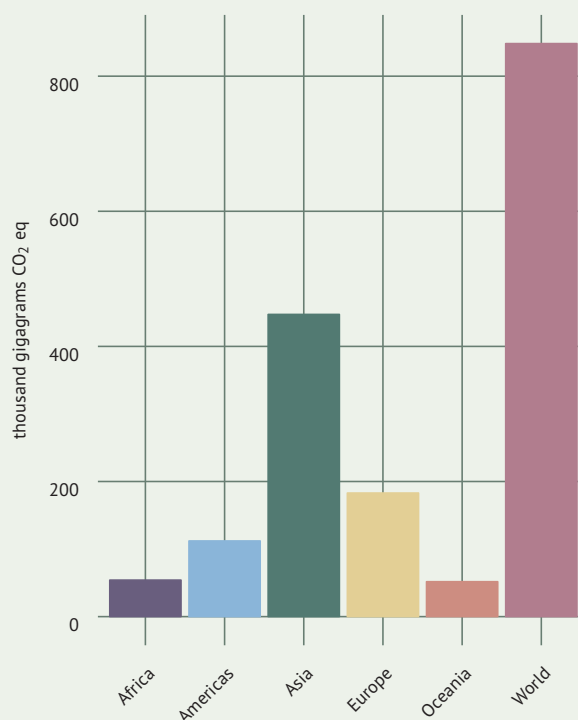
- IPCC (www.ipcc.ch/)
- FAOSTAT (<http://faostat.fao.org/>)
- Monitoring and Assessment of GHG Emissions and Mitigation Potentials in Agriculture, MICCA (www.fao.org/climatechange/micca/ghg/en/)

CHART 112: Regional net emissions/removals from net forest conversion (1990, 2000 and 2010)



Source: FAO, Statistics Division (FAOSTAT).

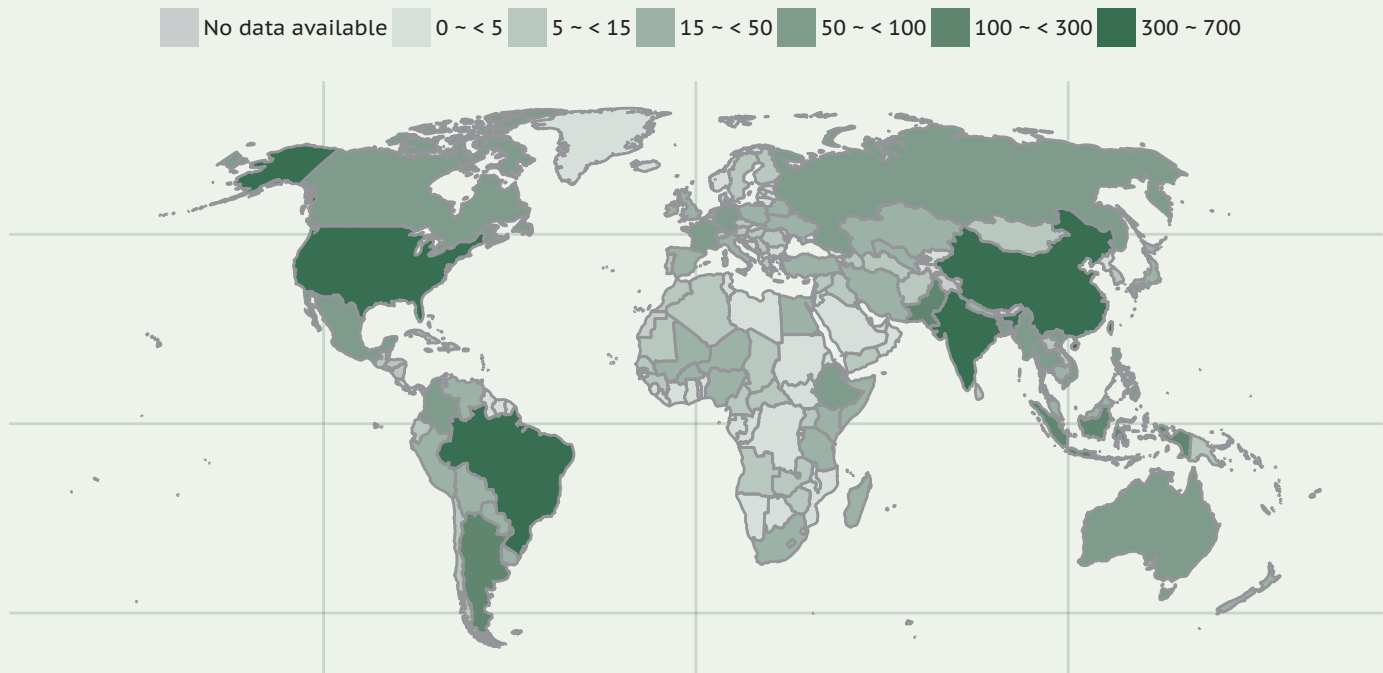
CHART 113: Regional greenhouse gas emissions from cultivated organic soils (2010)



Source: FAO, Statistics Division (FAOSTAT).

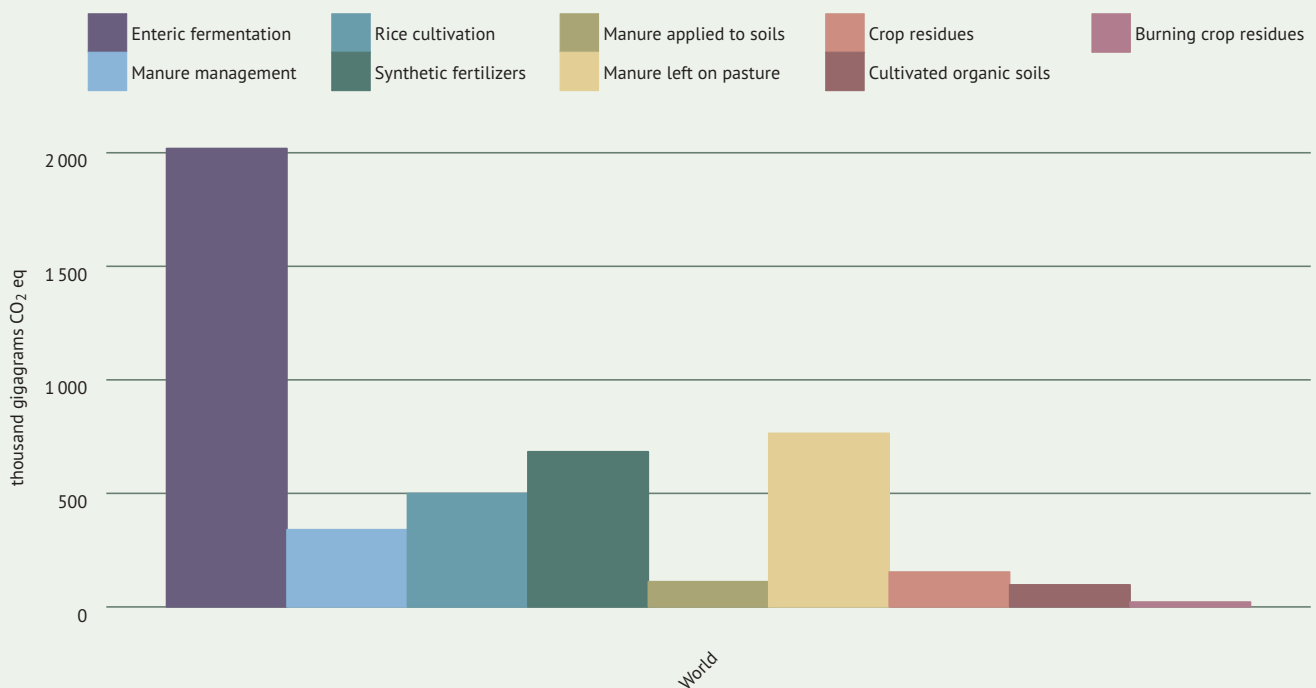
Total greenhouse gas emissions from cultivated organic soils, including nitrous oxide and carbon dioxide.

MAP 67: Total agricultural greenhouse gas emissions (gigagrams CO₂ eq, 2010)



Source: FAO, Statistics Division (FAOSTAT).

CHART 114: Global agricultural greenhouse gas emissions by sector (2010)



Source: FAO, Statistics Division (FAOSTAT).

Non-CO₂ greenhouse gas emissions only, including methane and nitrous oxide, as follows: enteric fermentation: methane; manure management: methane and nitrous oxide; synthetic fertilizer, manure left on pasture, crop residues, cultivated organic soils, burning crop residues: nitrous oxide.

TABLE 41: Land and forestry

	Forest area				Forest characteristics					
	total		% total land		primary forest		other naturally regenerated forest		planted forest	
	thousand ha 1990	thousand ha 2010	% 1990	% 2010	% 1990	% 2010	% 1990	% 2010	% 1990	% 2010
World	4 163 701	4 033 049	31.9	31.0	37.7	35.7	57.6	57.3	4.8	6.9
Africa	749 238	674 408	25.3	22.7	10.8	9.6	87.2	87.4	2.1	3.1
Eastern Africa	211 710	181 145	35.0	29.9	3.2	3.1	95.9	95.6	0.9	1.4
Burundi	289	172	11.3	6.7	38.1	23.3	61.9	36.6	0.0	40.1
Comoros	12	3	6.4	1.6	0.0	0.0	83.3	66.7	16.7	33.3
Djibouti	6	6	0.2	0.2	0.0	0.0	100.0	100.0	0.0	0.0
Eritrea		1 532		15.2	0.0	0.0	99.4	97.8	0.6	2.2
Ethiopia		12 296		12.3	0.0	0.0	96.8	95.8	3.2	4.2
Kenya	3 708	3 467	6.5	6.1	18.7	18.9	74.9	75.5	6.4	5.7
Madagascar	13 692	12 553	23.5	21.6	24.6	24.2	73.7	72.5	1.7	3.3
Malawi	3 896	3 237	41.3	34.3	44.3	28.9	52.3	59.9	3.4	11.3
Mauritius	39	35	19.1	17.2	0.0	0.0	61.3	57.7	38.7	42.3
Mayotte	18	3	47.2	9.1	4.3	5.5	94.2	87.3	1.5	7.2
Mozambique	43 378	39 022	55.2	49.6	0.0	0.0	99.9	99.8	0.1	0.2
Réunion	87	88	34.8	35.2	63.2	62.5	31.0	31.8	5.7	5.7
Rwanda	318	435	12.9	17.6	2.2	1.6	19.8	12.6	78.0	85.7
Seychelles	41	41	88.5	88.5	4.9	4.9	83.3	83.3	11.8	11.8
Somalia	8 282	6 747	13.2	10.8	0.0	0.0	100.0	100.0	0.0	0.0
Uganda	4 751	2 988	23.8	15.0	0.0	0.0	99.3	98.3	0.7	1.7
United Republic of Tanzania	41 495	33 428	46.8	37.7	0.0	0.0	99.6	99.3	0.4	0.7
Zambia	52 800	49 468	71.0	66.5	0.0	0.0	99.9	99.9	0.1	0.1
Zimbabwe	22 164	15 624	57.3	40.4	3.6	5.1	95.7	94.2	0.7	0.7
Middle Africa	328 581	312 725	50.6	48.1	22.7	17.5	77.2	82.3	0.2	0.2
Angola	60 976	58 480	48.9	46.9	0.0	0.0	99.8	99.8	0.2	0.2
Cameroon	24 316	19 916	51.4	42.1						
Central African Republic	23 203	22 605	37.2	36.3	16.8	10.5	83.2	89.5	0.0	0.0
Chad	13 110	11 525	10.4	9.2	1.6	1.6	98.3	98.3	0.1	0.1
Congo	22 726	22 411	66.5	65.6	33.2	33.2	66.6	66.5	0.2	0.3
Democratic Republic of the Congo	160 363	154 135	70.7	68.0						
Equatorial Guinea	1 860	1 626	66.3	58.0	0.0	0.0	100.0	100.0	0.0	0.0
Gabon	22 000	22 000	85.4	85.4	95.2	65.2	4.7	34.7	0.1	0.1
Sao Tome and Principe	27	27	28.1	28.1	40.7	40.7	59.3	59.3	0.0	0.0
Northern Africa	84 708	78 572	10.1	9.4	18.0	17.8	74.0	71.9	8.0	10.3
Algeria	1 667	1 492	0.7	0.6	0.0	0.0	80.0	72.9	20.0	27.1
Egypt	44	70	0.0	0.1	0.0	0.0	0.0	0.0	100.0	100.0
Libya	217	217	0.1	0.1	0.0	0.0	0.0	0.0	100.0	100.0
Morocco	5 049	5 131	11.3	11.5	0.0	0.0	90.5	87.9	9.5	12.1
South Sudan										
Sudan										
Sudan (former)	76 381	69 949	32.1	29.4	20.0	20.0	72.9	71.3	7.1	8.7
Tunisia	643	1 006	4.1	6.5	0.0	0.0	54.4	31.4	45.6	68.6
Western Sahara										
Southern Africa	32 233	28 489	12.2	10.7	2.9	3.3	91.5	90.0	5.6	6.7
Botswana	13 718	11 351	24.2	20.0	0.0	0.0	100.0	100.0	0.0	0.0
Lesotho	40	44	1.3	1.4	0.0	0.0	85.0	76.4	15.0	23.6
Namibia	8 762	7 290	10.6	8.9	0.0	0.0	100.0	100.0	0.0	0.0
South Africa	9 241	9 241	7.6	7.6	10.2	10.2	72.2	70.7	17.6	19.1
Swaziland	472	563	27.4	32.7	0.0	0.0	66.1	75.1	33.9	24.9
Western Africa	92 006	73 478	15.2	12.1	5.6	4.3	93.4	92.3	1.0	3.4
Benin	5 761	4 561	51.1	40.4	0.0	0.0	99.8	99.6	0.2	0.4
Burkina Faso	6 847	5 649	25.0	20.6	0.0	0.0	99.9	98.1	0.1	1.9
Cape Verde	58	85	14.3	21.0	0.0	0.0	0.0	0.0	100.0	100.0
Côte d'Ivoire	10 222	10 403	32.1	32.7	6.1	6.0	92.4	90.8	1.5	3.2
Gambia	442	480	43.7	47.4	0.3	0.2	99.4	99.5	0.3	0.3
Ghana	7 448	4 940	32.7	21.7	5.3	8.0	94.0	86.7	0.7	5.3
Guinea	7 264	6 544	29.6	26.6	0.9	1.0	98.3	97.6	0.8	1.4
Guinea-Bissau	2 216	2 022	78.8	71.9				100.0		
Liberia	4 929	4 329	51.2	44.9	3.6	4.0	96.3	95.8	0.2	0.2
Mali	14 072	12 490	11.5	10.2	0.0	0.0	100.0	95.8	0.0	4.2
Mauritania	415	242	0.4	0.2	0.0	0.0	98.8	91.3	1.2	8.7
Niger	1 945	1 204	1.5	1.0	11.3	18.3	86.2	69.4	2.5	12.3
Nigeria	17 234	9 041	18.9	9.9	9.0	0.0	89.5	95.8	1.5	4.2
Saint Helena, Ascension and Tristan da Cunha	2	2	5.1	5.1						
Senegal	9 348	8 473	48.6	44.0	18.8	18.3	79.0	76.2	2.2	5.5
Sierra Leone	3 118	2 726	43.5	38.1	7.2	4.1	92.6	95.3	0.2	0.5
Togo	685	287	12.6	5.3	0.0	0.0	96.5	85.4	3.5	14.6

TABLE 41: Land and forestry (continued)

	Forest area				Forest characteristics					
	total		% total land		primary forest		other naturally regenerated forest		planted forest	
	thousand ha 1990	thousand ha 2010	% 1990	% 2010	% 1990	% 2010	% 1990	% 2010	% 1990	% 2010
Americas	1 654 836	1 569 744	42.6	40.4	61.1	59.4	37.1	37.1	1.8	3.4
Latin America and the Caribbean	1 048 363	955 584	51.7	47.2	75.2	73.1	23.8	24.9	0.9	2.0
Anguilla	6	6	61.1	61.1						
Antigua and Barbuda	10	10	23.4	22.3						
Argentina	34 793	29 400	12.7	10.7	5.0	5.9	92.8	89.3	2.2	4.7
Aruba	0	0	2.2	2.3						
Bahamas	515	515	51.4	51.4	0.0	0.0	100.0	100.0	0.0	0.0
Barbados	8	8	19.4	19.4	0.0	0.0	99.5	99.0	0.5	1.0
Belize	1 586	1 393	69.5	61.1	37.8	43.0	62.1	56.8	0.1	0.2
Bolivia (Plurinational State of)	62 795	57 196	58.0	52.8	65.0	65.0	35.0	35.0	0.0	0.0
Bonaire, Sint Eustatius and Saba										
Brazil	574 839	519 522	68.0	61.4	92.2	91.7	6.9	6.8	0.9	1.4
British Virgin Islands	4	4	24.7	24.3						
Cayman Islands	12	13	51.7	52.9						
Chile	15 263	16 231	20.5	21.8	30.3	27.3	58.5	58.0	11.2	14.7
Colombia	62 519	60 499	56.3	54.5	14.1	14.1	85.7	85.2	0.2	0.7
Costa Rica	2 564	2 605	50.2	51.0	24.3	23.9	64.2	66.8	11.5	9.2
Cuba	2 058	2 870	19.2	27.0	0.0	0.0	83.1	83.1	16.9	16.9
Curaçao										
Dominica	50	45	66.7	59.5	56.8	59.8	43.2	39.9	0.0	0.2
Dominican Republic	1 972	1 972	40.8	40.8						
Ecuador	13 817	9 865	49.9	39.7		48.7		49.6		1.7
El Salvador	377	287	18.2	13.9	1.3	1.7	96.1	93.1	2.6	5.2
Falkland Islands (Malvinas)	0	0	0.0	0.0						
French Guiana	8 188	8 082	99.6	98.3	97.8	95.2	2.2	4.8	0.0	0.0
Grenada	17	17	50.0	50.0	13.7	13.7	85.1	85.1	1.2	1.2
Guadeloupe	68	64	40.5	38.2	22.0	23.3	71.8	70.1	6.2	6.6
Guatemala	4 748	3 657	44.3	34.1	49.7	44.3	49.2	51.0	1.1	4.7
Guyana	15 205	15 205	77.2	77.2		44.7		55.3		0.0
Haiti	116	101	4.2	3.7	0.0	0.0	89.7	72.3	10.3	27.7
Honduras	8 136	5 192	72.7	46.4		8.8		91.2		0.0
Jamaica	345	337	31.8	31.1	25.8	26.0	71.6	71.8	2.6	2.2
Martinique	48	48	45.8	45.8	0.0	0.0	95.1	95.1	4.9	4.9
Mexico	70 291	64 802	36.2	33.3	56.2	52.9	43.8	42.1	0.0	4.9
Montserrat	4	2	35.0	25.0	0.0	0.0	100.0	100.0	0.0	0.0
Nicaragua	4 514	3 114	37.5	25.9		37.9		59.8		2.4
Panama	3 792	3 251	51.0	43.7	0.0	0.0	99.7	97.6	0.3	2.4
Paraguay	21 157	17 582	53.3	44.3	8.7	10.5	91.1	89.2	0.1	0.3
Peru	70 156	67 992	54.8	53.1	89.7	88.5	10.0	10.0	0.4	1.5
Puerto Rico	287	552	32.4	62.2	0.0	0.0	100.0	100.0	0.0	0.0
Saint Barthélemy										
Saint Kitts and Nevis	11	11	42.3	42.3						
Saint Lucia	44	47	71.8	77.0	23.5	24.5	73.8	73.0	2.7	2.6
Saint-Martin (French Part)										
Saint Vincent and the Grenadines	25	27	64.9	68.5		0.0		99.6		0.4
Sint Maarten (Dutch Part)										
Suriname	14 776	14 758	94.7	94.6	96.2	94.9	3.8	5.0	0.1	0.1
Trinidad and Tobago	241	226	46.9	44.1	25.9	27.6	67.8	64.5	6.2	8.0
Turks and Caicos Islands	34	34	36.2	36.2						
United States Virgin Islands	24	20	67.4	57.7	0.0	0.0	100.0	100.0	0.0	0.0
Uruguay	920	1 744	5.3	10.0	31.3	17.5	46.8	26.4	21.8	56.1
Venezuela (Bolivarian Republic of)	52 026	46 275	59.0	52.5						
Northern America	606 474	614 160	32.6	32.9	38.8	39.2	58.0	55.2	3.2	5.6
Bermuda	1	1	20.0	20.0						
Canada	310 134	310 134	34.1	34.1	53.3	53.3	46.2	43.8	0.4	2.9
Greenland	0	0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0
Saint Pierre and Miquelon	3	3	14.8	12.6	0.0	0.0	100.0	100.0	0.0	0.0
United States of America	296 335	304 022	32.4	33.2	23.6	24.8	70.3	66.9	6.1	8.3
Asia	560 209	592 512	20.9	19.2	13.4	18.6	70.8	60.7	15.8	20.8
Central Asia		12 075		3.1	5.9	6.1	82.5	79.8	11.7	14.0
Kazakhstan		3 309		1.2	0.0	0.0	69.8	72.8	30.2	27.2
Kyrgyzstan		954		5.0	28.4	28.2	66.2	65.8	5.4	5.9
Tajikistan		410		2.9	72.8	72.4	2.9	2.9	24.3	24.6
Turkmenistan		4 127		8.8	2.5	2.5	97.5	97.5	0.0	0.0
Uzbekistan		3 276		7.7	1.9	2.2	91.5	78.4	6.7	19.4

TABLE 41: Land and forestry (continued)

	Forest area				Forest characteristics					
	total		% total land		primary forest		other naturally regenerated forest		planted forest	
	thousand ha 1990	thousand ha 2010	% 1990	% 2010	% 1990	% 2010	% 1990	% 2010	% 1990	% 2010
Eastern Asia	209 198	254 626	18.3	22.3	11.1	9.9	62.5	54.6	26.3	35.4
China, Hong Kong SAR										
China, Macao SAR										
China	157 141	206 861	16.9	22.3	7.4	5.6	65.9	57.1	26.7	37.3
Democratic People's Republic of Korea	8 201	5 666	68.1	47.1	13.8	13.8	72.5	72.4	13.8	13.8
Japan	24 950	24 979	68.4	68.5	15.1	19.0	43.7	39.7	41.2	41.3
Mongolia	12 536	10 898	8.1	7.0	48.2	47.3	51.6	51.4	0.2	1.3
Republic of Korea	6 370	6 222	64.5	64.1		47.5		23.2		29.3
South-Eastern Asia	247 260	214 064	56.8	49.3	13.6	29.9	81.4	63.3	5.0	6.8
Brunei Darussalam	413	380	78.4	72.1	75.8	69.3	24.0	30.0	0.2	0.7
Cambodia	12 944	10 094	73.3	57.2	5.9	3.2	93.6	96.1	0.5	0.7
Indonesia	118 545	94 432	65.4	52.1		50.0		46.2		3.8
Lao People's Democratic Republic	17 314	15 751	75.0	68.2	8.6	9.5	91.4	89.1	0.0	1.4
Malaysia	22 376	20 456	68.1	62.3	17.1	18.7	74.2	72.5	8.7	8.8
Myanmar	39 218	31 773	60.0	48.6	8.1	10.0	90.9	86.8	1.0	3.1
Philippines	6 570	7 665	22.0	25.7	13.1	11.2	82.3	84.2	4.6	4.6
Singapore	2	2	3.4	3.3	100.0	100.0	0.0	0.0	0.0	0.0
Thailand	19 549	18 972	38.3	37.1	34.4	35.5	51.9	43.5	13.6	21.0
Timor-Leste	966	742	65.0	49.9	0.0	0.0	97.0	94.2	3.0	5.8
Viet Nam	9 363	13 797	28.8	44.5	4.1	0.6	85.6	74.0	10.3	25.5
Southern Asia	90 588	92 734	14.1	14.5	19.5	19.1	72.3	67.9	8.2	13.0
Afghanistan	1 350	1 350	2.1	2.1						
Bangladesh	1 494	1 442	11.5	11.1	29.2	30.2	54.8	53.3	16.0	16.4
Bhutan	3 035	3 249	64.6	84.6	13.6	12.7	86.4	87.2	0.0	0.1
India	63 939	68 434	21.5	23.0	24.6	22.9	66.5	62.1	8.9	14.9
Iran (Islamic Republic of)	11 075	11 075	6.8	6.8	1.8	1.8	90.6	90.6	7.6	7.6
Maldives	1	1	3.0	3.0						
Nepal	4 817	3 636	33.7	25.4	8.1	14.5	91.1	84.4	0.8	1.2
Pakistan	2 527	1 687	3.3	2.2	0.0	0.0	90.7	79.8	9.3	20.2
Sri Lanka	2 350	1 860	37.5	29.7	10.9	9.0	78.8	81.1	10.3	9.9
Western Asia	13 163	19 013	2.8	4.0	11.9	11.9	73.9	64.7	14.1	23.4
Armenia		262		9.2	4.9	5.0	91.1	87.0	4.0	8.0
Azerbaijan		936		11.3	42.7	42.7	55.1	55.1	2.1	2.1
Bahrain	0	1	0.3	0.7	0.0	0.0	0.0	0.0	100.0	100.0
Cyprus	161	173	17.4	18.7	8.2	7.6	76.7	74.7	15.1	17.6
Georgia		2 742		39.5	18.0	18.2	80.1	75.1	1.9	6.7
Iraq	804	825	1.8	1.9	0.0	0.0	98.1	98.2	1.9	1.8
Israel	132	154	6.1	7.1	0.0	0.0	50.0	42.9	50.0	57.1
Jordan	98	98	1.1	1.1			0.0	51.9		48.1
Kuwait	4	6	0.2	0.4	0.0	0.0	0.0	0.0	100.0	100.0
Lebanon	131	137	12.8	13.4			0.0	92.3		7.7
Occupied Palestinian Territory	9	9	1.5	1.5						
Oman	2	2	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0
Qatar	0	0	0.0	0.0						
Saudi Arabia	977	977	0.5	0.5	36.8	36.8	63.2	63.2	0.0	0.0
Syrian Arab Republic	372	491	2.0	2.7	0.0	0.0	53.1	40.2	46.9	59.8
Turkey	9 680	11 334	12.6	14.7	7.6	8.6	74.0	61.3	18.4	30.2
United Arab Emirates	245	317	2.9	3.8	0.0	0.0	0.0	0.0	100.0	100.0
Yemen	549	549	1.0	1.0	0.0	0.0	100.0	100.0	0.0	0.0
Europe	1 000 821	1 005 001	37.7	45.5	25.1	26.2	69.0	66.9	5.9	6.9
Eastern Europe	869 812	854 267	38.4	47.3	28.5	30.2	67.4	65.1	4.1	4.7
Belarus		8 630		42.5	5.1	4.6	75.3	73.8	19.5	21.5
Bulgaria	3 327	3 927	30.1	36.2	4.7	8.6	64.3	70.6	31.0	20.8
Czech Republic		2 657		34.4	0.3	0.3	0.4	0.5	99.3	99.2
Hungary	1 801	2 029	20.0	22.4	0.0	0.0	19.3	20.6	80.7	79.4
Poland	8 881	9 337	29.2	30.7	0.3	0.6	3.8	4.2	95.8	95.2
Republic of Moldova		386		11.7	0.0	0.0	99.7	99.5	0.3	0.5
Romania	6 371	6 573	27.8	28.6	4.7	4.6	73.3	73.4	22.0	22.0
Russian Federation		809 090		49.4	29.9	31.7	68.6	66.2	1.6	2.1
Slovakia		1 933		40.2	1.2	1.2	48.8	49.1	49.9	49.6
Ukraine		9 705		16.8	0.6	0.6	49.4	49.5	50.0	49.9
Northern Europe	61 834	72 354	41.9	44.1	4.3	5.3	78.3	73.1	17.4	21.6
Åland Islands										
Channel Islands	1	1	4.1	4.2						
Denmark	445	544	10.5	12.8	4.7	4.6	20.9	20.6	74.4	74.8
Estonia		2 217		52.3			43.5	48.9		7.6
Faroe Islands	0	0	0.1	0.1						
Finland	21 889	22 157	71.9	72.9	0.0	0.0	79.9	73.4	20.1	26.6
Guernsey										
Iceland	9	30	0.1	0.3	0.0	0.0	34.5	10.0	65.5	90.0

TABLE 41: Land and forestry (continued)

	Forest area				Forest characteristics					
	total		% total land		primary forest		other naturally regenerated forest		planted forest	
	thousand ha 1990	thousand ha 2010	% 1990	% 2010	% 1990	% 2010	% 1990	% 2010	% 1990	% 2010
Ireland	465	739	6.7	10.7	0.0	0.0	17.6	11.1	82.4	88.9
Isle of Man	3	3	6.1	6.1						
Jersey										
Latvia		3 354		53.9	0.5	0.4	76.6	80.8	22.8	18.7
Lithuania		2 160		34.5	1.0	1.2	77.8	74.7	21.1	24.1
Norway	9 130	10 065	30.0	33.1	2.4	2.2	85.6	83.1	11.9	14.7
Sark										
Svalbard and Jan Mayen Islands										
Sweden	27 281	28 203	66.5	68.7	9.6	9.3	81.9	77.9	8.5	12.8
United Kingdom	2 611	2 881	10.8	11.9	0.0	0.0	24.7	23.0	75.3	77.0
Southern Europe	37 856	45 086	29.2	34.8	0.7	0.7	87.1	86.3	12.1	13.0
Albania	789	776	28.8	28.3	10.8	10.9	76.2	77.0	13.1	12.1
Andorra	16	16	34.0	34.0						
Bosnia and Herzegovina		2 185		42.8	0.1	0.1	52.5	54.2	47.4	45.7
Croatia		1 920		34.3	0.4	0.4	94.6	96.0	5.0	3.6
Gibraltar	0	0	0.0	0.0						
Greece	3 299	3 903	25.6	30.3	0.0	0.0	96.4	96.4	3.6	3.6
Holy See										
Italy	7 590	9 149	25.8	31.1	1.2	1.0	91.6	92.2	7.2	6.8
Malta	0	0	0.9	0.9	0.0	0.0	0.0	0.0	100.0	100.0
Montenegro		543		40.4						
Portugal	3 327	3 456	36.4	37.8		0.7		74.7		24.6
San Marino	0	0	0.0	0.0						
Serbia		2 713		31.0	0.0	0.0	98.3	93.3	1.7	6.6
Slovenia		1 253		62.2	5.3	8.7	91.8	88.7	2.9	2.6
Spain	13 818	18 173	27.7	36.4	0.0	0.0	85.3	85.3	14.7	14.7
The former Yugoslav Republic of Macedonia		998		39.6	0.0	0.0	88.5	89.5	11.5	10.5
Western Europe	31 320	33 293	28.8	30.7	0.3	0.2	72.0	73.0	27.7	26.8
Austria	3 776	3 887	45.8	47.2						
Belgium		678		22.4	0.0	0.0	34.1	41.6	65.9	58.4
France	14 537	15 954	26.5	29.1	0.2	0.2	89.2	89.6	10.6	10.2
Germany	10 741	11 076	30.8	31.8	0.0	0.0	52.3	52.3	47.7	47.7
Liechtenstein	6	7	40.6	43.1	23.1	21.7	73.8	73.9	3.1	4.3
Luxembourg		87		33.5	0.0	0.0	67.1	67.5	32.9	32.5
Monaco										
Netherlands	345	365	10.2	10.8	0.0	0.0	0.0	0.0	100.0	100.0
Switzerland	1 151	1 240	28.8	31.0	3.5	3.2	82.7	82.9	13.8	13.9
Oceania	198 596	191 384	23.4	22.6	93.4	18.6	5.9	79.3	6.7	2.1
Australia and New Zealand	162 220	157 569	20.4	19.8		4.6		93.1		2.4
Australia	154 500	149 300	20.1	19.4		3.4		95.4		1.3
New Zealand	7 720	8 269	29.3	31.4		25.9		52.2		21.9
Norfolk Island	0	0	11.5	11.5						
Melanesia	36 079	33 232	68.1	62.8	93.6	86.0	5.8	13.1	0.6	0.9
Fiji	953	1 014	52.2	55.5	51.4	44.3	39.0	38.3	9.7	17.4
New Caledonia	839	839	45.9	45.9	51.3	51.3	47.6	47.4	1.1	1.2
Papua New Guinea	31 523	28 726	69.6	63.4	99.4	91.2	0.4	8.5	0.2	0.3
Solomon Islands	2 324	2 213	83.0	79.1	47.6	50.0	50.5	48.8	1.9	1.2
Vanuatu	440	440	36.1	36.1						
Micronesia	38	185	27.8	58.5	47.4	54.3	13.0	11.5	39.5	34.2
Guam	26	26	47.9	47.9						
Kiribati	12	12	15.0	15.0	0.0	0.0	100.0	100.0	0.0	0.0
Marshall Islands		13		70.2	64.8	64.8	0.0	0.0	35.2	35.2
Micronesia (Federated States of)		64		91.6	62.2	75.4	5.9	2.4	31.9	22.2
Nauru	0	0	0.0	0.0						
Northern Mariana Islands		30		65.9	30.0	27.1	0.0	0.0	70.0	72.9
Palau		40		87.6						
Polynesia	258	397	31.7	48.8	16.7	13.5	77.0	74.5	7.1	12.2
American Samoa	18	18	92.0	88.5						
Cook Islands	15	16	62.1	64.6	0.0	0.0	96.6	92.9	3.4	7.1
French Polynesia	55	155	15.0	42.3		25.8		67.7		6.5
Niue	21	19	79.2	71.5		30.1		68.3		1.6
Pitcairn Islands	4	4	74.5	74.5						
Samoa	130	171	45.9	60.4		0.0		81.2		18.8
Tokelau	0	0	0.0	0.0						
Tonga	9	9	12.5	12.5	44.4	44.4	44.4	44.4	11.1	11.1
Tuvalu	1	1	33.3	33.3						
Wallis and Futuna Islands	6	6	41.5	41.9						

TABLE 42: Forestry production and trade

	Production of selected forest products							
	industrial roundwood		woodfuel		roundwood			
	total	p.a. growth %	total	p.a. growth %	total	p.a. growth %	export	import
	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand m ³ 2011	thousand m ³ 2011
World	1 577 974		1 891 405	1.1	3 469 379	1.2	122 663	129 191
Africa	72 357		631 124	2.1	703 481	2.1	3 418	567
Eastern Africa	17 778		276 486	2.2	294 264	2.2	305	77
Burundi	883	7.3	9 983	2.1	10 866	2.3	3	0
Comoros	25		273	3.7	297	3.9	0	0
Djibouti	0		362		362	10.1	0	1
Eritrea	1		1 264		1 265		0	0
Ethiopia	2 935		102 609		105 544		0	5
Kenya	1 246	2.0	26 400	2.3	27 646	2.3	4	13
Madagascar	281	-0.8	13 100	3.7	13 381	3.3	2	4
Malawi	1 400	4.6	5 466	1.1	6 866	1.4	6	0
Mauritius	4	-3.1	7	-3.7	11	-3.5	0	15
Mayotte	0		26		27		0	0
Mozambique	1 416	1.1	16 724	1.9	18 140	1.8	265	13
Réunion	5	-2.4	31	-2.6	36	-2.6	2	1
Rwanda	1 212	6.5	5 000	1.2	6 212	1.6	0	9
Seychelles	10		3		13		0	0
Somalia	110	1.9	13 957	3.4	14 067	3.4	1	2
Uganda	4 093	3.3	40 176	2.1	44 269	2.2	10	9
United Republic of Tanzania	2 314	2.1	23 069	1.3	25 383	1.4	10	5
Zambia	1 325	3.0	9 249	2.1	10 574	2.2	1	0
Zimbabwe	518	2.1	8 788	1.6	9 306	1.6	1	0
Middle Africa	15 488		103 995	2.6	119 483	2.5	2 006	11
Angola	1 096	1.1	4 101	2.6	5 196	2.2	7	6
Cameroon	2 175	2.1	9 993	0.8	12 168	1.0	582	1
Central African Republic	732	2.4	2 000	0.5	2 732	0.9	152	0
Chad	761	1.8	7 184	2.0	7 945	2.0	0	1
Congo	2 194	2.9	1 357	1.0	3 551	2.0	724	0
Democratic Republic of the Congo	4 592	2.1	77 736	2.9	82 328	2.9	176	2
Equatorial Guinea	525	1.1	447	0.8	972	0.9	330	0
Gabon	3 400	1.4	1 070	2.2	4 470	1.6	35	0
Sao Tome and Principe	13		108	1.7	122	2.0	0	0
Northern Africa	3 286		54 681	1.3	57 967	1.3	18	404
Algeria	139	0.2	8 246	2.2	8 385	2.1	0	6
Egypt	268	3.1	17 556	1.1	17 824	1.1	3	136
Libya	116	3.4	964	2.4	1 080	2.5	0	5
Morocco	372	0.7	6 762	0.5	7 134	0.5	5	244
South Sudan	0		4 383		4 383		0	0
Sudan	2 173		14 583		16 756		10	1
Sudan (former)								
Tunisia	218	2.9	2 188	1.1	2 406	1.2	0	11
Western Sahara								
Southern Africa	18 387		16 691	4.5	35 079	3.3	172	12
Botswana	105	2.4	686	0.4	791	0.5	0	0
Lesotho	0		2 100	0.7	2 100	0.7	0	0
Namibia	0		827	1.8	827	1.8	17	9
South Africa	17 952	2.8	12 000	5.6	29 952	3.5	154	3
Swaziland	330	1.8	1 078		1 408	4.8	0	0
Western Africa	17 418		179 270	1.7	196 689	1.7	918	63
Benin	427	2.4	6 318	0.5	6 745	0.6	241	0
Burkina Faso	1 171	3.6	12 963	1.5	14 134	1.7	0	0
Cape Verde	0		197	1.8	197	1.8	5	2
Côte d'Ivoire	1 469	-0.1	8 989	0.7	10 458	0.6	132	0
Gambia	113	6.0	703	2.5	816	2.7	3	1
Ghana	1 289	-0.8	38 985	3.7	40 274	3.2	172	18
Guinea	651	1.9	12 010	0.6	12 661	0.7	38	0
Guinea-Bissau	132	0.7	2 637	3.9	2 769	3.6	15	0
Liberia	538	2.6	7 254	3.1	7 792	3.1	74	1
Mali	413	1.7	5 385	1.5	5 798	1.5	2	1
Mauritania	3	0.0	1 877	2.1	1 880	2.1	0	32
Niger	701	3.5	2 857	0.6	3 558	0.9	0	1
Nigeria	9 418	2.8	63 600	1.1	73 018	1.3	102	2
Saint Helena, Ascension and Tristan da Cunha	0		0		0		0	0
Senegal	804	2.2	5 453	1.3	6 257	1.4	1	4
Sierra Leone	124	0.4	5 619	0.0	5 743	0.0	19	0
Togo	166	1.5	4 424	0.5	4 590	0.5	113	0

TABLE 42: Forestry production and trade (continued)

	Production of selected forest products							
	industrial roundwood		woodfuel		roundwood			
	total	p.a. growth %	total	p.a. growth %	total	p.a. growth %	export	import
	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand m ³ 2011	thousand m ³ 2011
Americas	646 040		331 677	1.1	977 717	1.3	19 247	5 343
Latin America and the Caribbean	220 189		288 029	1.3	508 217	2.1	1 520	241
Anguilla	0		0		0		0	0
Antigua and Barbuda	0		0		0		0	0
Argentina	10 631	3.4	4 695	-1.4	15 326	0.6	27	3
Aruba	0		2	0.3	2	0.3	0	1
Bahamas	17	-5.2	33	0.6	50	-3.4	1	17
Barbados	6		5	0.2	11	1.8	0	1
Belize	41	-1.4	126	2.4	167	0.6	4	12
Bolivia (Plurinational State of)	913	4.9	2 368	1.1	3 281	1.7	13	8
Bonaire, Sint Eustatius and Saba								
Brazil	139 969	4.3	144 050	1.0	284 019	2.0	107	29
British Virgin Islands	0		1	2.4	1	2.4	0	0
Cayman Islands	0		0		0		0	2
Chile	39 150	5.3	15 998	4.0	55 148	4.8	53	3
Colombia	2 390	-0.5	8 826	1.0	11 216	0.6	29	0
Costa Rica	1 326	2.1	3 364	0.1	4 690	0.5	294	2
Cuba	719	1.5	1 141	-0.6	1 860	-0.0	0	15
Curaçao	0		0		0		0	0
Dominica	0		8	-0.8	8	-0.8	0	1
Dominican Republic	10	-6.5	920	1.7	930	0.6	7	40
Ecuador	2 091	2.1	4 952	2.0	7 043	2.1	142	0
El Salvador	682	3.7	4 217	1.0	4 899	1.3	24	1
Falkland Islands (Malvinas)	0		1	0.1	1	0.1	0	0
French Guiana	80	2.6	133	4.3	212	3.5	4	1
Grenada	0		0		0		0	0
Guadeloupe	0	-5.8	15	-1.6	15	-1.9	0	5
Guatemala	454	1.1	18 410	2.5	18 864	2.4	34	0
Guyana	501	1.7	845	0.1	1 346	0.6	101	1
Haiti	239	0.0	2 050	1.0	2 289	0.9	0	10
Honduras	431	-1.3	8 535	0.2	8 966	0.1	2	0
Jamaica	152	10.6	541	13.4	693	12.4	0	12
Martinique	2	1.8	10	-0.5	12	-0.2	0	3
Mexico	4 870	1.3	38 834	1.0	43 704	1.0	18	33
Montserrat	0		0		0		0	0
Nicaragua	118	-2.5	6 110	0.8	6 228	0.6	4	7
Panama	188	0.9	1 112	-0.3	1 300	-0.2	157	0
Paraguay	4 044	4.8	6 684	2.8	10 728	3.4	16	0
Peru	1 496	2.2	7 425	1.2	8 921	1.4	2	0
Puerto Rico	0		0		0		0	0
Saint Barthélemy								
Saint Kitts and Nevis	0		0		0		0	1
Saint Lucia	0		10	0.8	10	0.8	0	7
Saint-Martin (French Part)	0		0		0		0	0
Saint Vincent and the Grenadines	0		7	-1.0	7	-1.0	0	1
Sint Maarten (DutchPart)	0		0		0		0	0
Suriname	365	0.9	48	-1.2	413	0.5	92	0
Trinidad and Tobago	47	-1.6	33	0.5	80	-1.0	5	13
Turks and Caicos Islands	0		1	3.9	1	3.9	0	0
United States Virgin Islands	0		0		0		0	0
Uruguay	8 000	7.6	2 430	0.8	10 430	3.5	384	9
Venezuela (Bolivarian Republic of)	1 256	2.8	4 089	2.2	5 345	2.3	0	1
Northern America	425 851		43 648	-0.2	469 499	0.4	17 727	5 103
Bermuda	0		0		0		0	0
Canada	141 855	1.0	3 211	-1.5	145 066	0.9	5 811	4 258
Greenland	0		0		0		0	1
Saint Pierre and Miquelon	0		1		1		0	0
United States of America	283 996	0.3	40 437	-0.0	324 433	0.2	11 916	844
Asia	276 477		756 230	0.4	1 032 706	0.5	6 463	65 420
Central Asia	90		431		521		4	363
Kazakhstan	73		272		345		0	85
Kyrgyzstan	9		37		46		0	3
Tajikistan	0		90		90		0	0
Turkmenistan	0		10		10		0	0
Uzbekistan	8		22		30		4	274

TABLE 42: Forestry production and trade (continued)

	Production of selected forest products							
	industrial roundwood		woodfuel		roundwood			
	total	p.a. growth %	total	p.a. growth %	total	p.a. growth %	export	import
	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand m ³ 2011	thousand m ³ 2011
Eastern Asia	126 050		194 787	-0.7	320 837	-0.2	251	55 086
China, Hong Kong SAR	0		85		85		86	176
China, Macao SAR	0		8	-7.2	8	-7.2	0	0
China	103 035	2.2	185 337	-0.8	288 373	-0.2	34	43 134
Democratic People's Republic of Korea	1 500	1.8	6 027	2.0	7 527	1.9	29	3
Japan	18 290	-2.0	84	-9.9	18 374	-2.5	101	4 640
Mongolia	49	-4.1	766	0.5	815	-0.4	1	1
Republic of Korea	3 176	1.9	2 479	-0.3	5 655	0.6	0	7 133
South-Eastern Asia	102 781		164 564	-0.4	267 345	-0.1	6 159	1 843
Brunei Darussalam	107	2.2	12	-2.7	119	0.7	0	0
Cambodia	170	-2.3	8 299	-1.1	8 469	-1.1	5	0
Indonesia	60 706	4.9	57 288	-2.8	117 994	-1.4	55	69
Lao People's Democratic Republic	218	2.3	5 935	0.4	6 153	0.4	331	0
Malaysia	18 051	2.0	2 760	-1.6	20 811	0.9	3 322	93
Myanmar	4 262	1.3	38 286	2.8	42 548	2.6	2 230	0
Philippines	3 867	-1.5	12 250	-0.8	16 117	-1.0	18	89
Singapore	0		32		32		1	16
Thailand	8 700	2.2	19 187	-0.2	27 887	0.3	9	315
Timor-Leste	0		115		115		1	0
Viet Nam	6 700	2.7	20 400	0.5	27 100	0.8	187	1 261
Southern Asia	30 883		389 776	1.3	420 660	1.4	21	6 469
Afghanistan	1 760	1.6	1 655	2.1	3 415	1.9	12	0
Bangladesh	282	-1.6	27 128	1.0	27 410	0.9	0	7
Bhutan	128		4 897	1.2	5 025	1.3	3	2
India	23 192	2.5	308 776	1.4	331 969	1.5	3	6 326
Iran (Islamic Republic of)	660	-4.0	45	-6.3	705	-4.3	0	86
Maldives	0		16	1.3	16	1.3	0	0
Nepal	1 260	1.4	12 464	0.7	13 724	0.8	0	1
Pakistan	2 990	3.2	29 660	1.7	32 650	1.8	0	46
Sri Lanka	611	0.1	5 136	-0.1	5 747	-0.1	3	0
Western Asia	16 672		6 672	0.1	23 344	1.9	28	1 659
Armenia	1		40		41		0	0
Azerbaijan	3		3		6		0	11
Bahrain	0		7	1.9	7	1.9	0	5
Cyprus	5	-3.8	4	-2.7	8	-3.4	0	1
Georgia	105		733		838		1	17
Iraq	59	1.9	118	3.2	177	2.6	0	4
Israel	25	-0.0	2	-2.9	27	-0.5	1	5
Jordan	4	1.4	310	3.2	314	3.2	0	2
Kuwait	0		19	5.2	19	5.2	1	1
Lebanon	7	-0.2	19	-1.4	26	-1.1	1	75
Occupied Palestinian Territory	0		0		0		0	0
Oman	0		40	4.9	40	4.9	0	19
Qatar	0		5	6.3	5	6.3	2	1
Saudi Arabia	0		254	5.7	254	5.7	2	35
Syrian Arab Republic	40	0.6	28	-1.1	68	-0.3	2	0
Turkey	16 423	4.6	4 616	-0.8	21 039	1.8	4	1 315
United Arab Emirates	0		18	9.0	18	9.0	12	158
Yemen	0		456	3.1	456	3.1	0	11
Europe	524 272		161 628	0.7	685 900	0.8	73 682	57 842
Eastern Europe	240 155		73 482	0.9	313 637	1.0	38 290	7 504
Belarus	8 073		2 292		10 364		2 222	35
Bulgaria	3 364	-0.2	2 841	1.5	6 205	0.4	920	60
Czech Republic	13 467		1 914		15 381		3 599	1 830
Hungary	2 922	1.1	3 152	0.9	6 073	1.0	1 276	361
Poland	32 200	1.6	4 980	2.3	37 180	1.7	1 904	3 450
Republic of Moldova	43		309		352		3	41
Romania	10 344	-0.3	4 014	-1.3	14 359	-0.6	832	686
Russian Federation	153 183		43 817		197 000		20 700	1
Slovakia	8 570		643		9 213		2 684	1 016
Ukraine	7 989		9 521		17 510		4 152	23
Northern Europe	155 373		20 327	-0.1	175 700	0.7	14 467	17 602
Åland Islands								
Channel Islands	0		0		0		0	0
Denmark	1 468	0.2	1 115	2.1	2 583	0.8	793	829
Estonia	5 454		2 016		7 470		2 799	347
Faroe Islands	0		0		0		0	1
Finland	45 526	0.4	5 241	-1.8	50 767	0.0	731	5 823
Guernsey								
Iceland	0		0		0		0	0

TABLE 42: Forestry production and trade (continued)

	Production of selected forest products							
	industrial roundwood		woodfuel		roundwood			
	total	p.a. growth %	total	p.a. growth %	total	p.a. growth %	export	import
	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand m ³ 2011	thousand m ³ 2011
Ireland	2 432	4.0	195	2.0	2 627	3.8	311	113
Isle of Man	0		0		0		0	0
Jersey								
Latvia	11 649		1 184		12 833		5 264	449
Lithuania	5 346		1 658		7 004		1 990	267
Norway	8 506	0.1	1 785	0.2	10 291	0.1	963	1 641
Sark								
Svalbard and Jan Mayen Islands								
Sweden	66 203	1.0	5 900	0.4	72 103	0.9	892	7 519
United Kingdom	8 788	2.5	1 234	2.5	10 021	2.5	724	613
Southern Europe	32 871		22 559	-1.2	55 430	0.1	6 380	9 162
Albania	80	-3.6	350	-2.2	430	-2.5	57	1
Andorra	0		0		0		0	3
Bosnia and Herzegovina	2 535		1 316		3 851		814	112
Croatia	3 836		1 422		5 258		1 080	15
Gibraltar	0		0		0		0	0
Greece	948	2.0	795	-2.4	1 743	-1.1	36	490
Holy See	0		0		0		0	0
Italy	1 662	-2.1	4 643	-0.6	6 306	-1.1	106	4 376
Malta	0		0		0		0	0
Montenegro	208		156		364		21	5
Portugal	8 540	2.2	600	-3.2	9 140	0.9	1 034	1 213
San Marino	0		0		0		0	0
Serbia	1 361		6 345		7 706		44	74
Slovenia	2 052		1 336		3 388		1 142	448
Spain	11 528	2.0	5 120	-1.3	16 648	0.3	2 044	2 356
The former Yugoslav Republic of Macedonia	121		476		597		2	69
Western Europe	95 873		45 259	1.8	141 132	1.0	14 545	23 575
Austria	13 631	0.6	5 065	2.5	18 696	1.0	1 082	8 252
Belgium	4 235		893		5 128		1 031	4 433
France	28 387	0.5	26 653	1.6	55 041	1.0	7 228	15 131
Germany	45 358	0.8	10 783	2.3	56 142	1.0	3 652	7 657
Liechtenstein	8		18		26		5	0
Luxembourg	244		18		261		173	1 104
Monaco	0		0		0		0	0
Netherlands	688	0.1	290	3.6	978	0.6	430	354
Switzerland	3 322	0.6	1 539	0.4	4 861	0.6	944	261
Oceania	58 828		10 747	0.9	69 575	2.4	19 852	19
Australia and New Zealand	51 883		4 862	0.7	56 745	2.3	14 632	5
Australia	26 760	1.8	4 862	0.7	31 622	1.6	2 005	2
New Zealand	25 123	3.3	0		25 123	3.1	12 627	3
Norfolk Island	0		0	2.9	0	2.9	0	0
Melanesia	6 931		5 802	1.0	12 733	3.1	5 217	4
Fiji	445	4.2	37	1.0	482	3.7	7	0
New Caledonia	15	1.0	12	1.1	27	1.0	1	2
Papua New Guinea	4 476	7.0	5 533	1.0	10 009	2.1	3 271	2
Solomon Islands	1 967	11.1	129	1.6	2 096	7.1	1 937	0
Vanuatu	28	11.9	91		119	15.2	1	0
Micronesia	0		5	2.6	5	2.6	0	1
Guam	0		0		0		0	0
Kiribati	0		3	2.6	3	2.6	0	0
Marshall Islands	0		0		0		0	0
Micronesia (Federated States of)	0		2		2		0	1
Nauru	0		0		0		0	0
Northern Mariana Islands	0		0		0		0	0
Palau	0		0		0		0	1
Polynesia	14		77	0.5	91	0.7	3	8
American Samoa	0		0		0		0	0
Cook Islands	5		0		5		1	0
French Polynesia	1		4	0.8	5	1.2	0	3
Niue	0		0	-2.7	0	-2.7	0	0
Pitcairn Islands	0		0		0		0	0
Samoa	6	3.5	70	0.5	76	0.6	0	1
Tokelau	0		0		0		0	0
Tonga	2		2	0.3	4	1.7	2	4
Tuvalu	0		0		0		0	0
Wallis and Futuna Islands	0		0		0		0	0

TABLE 43: Production of finished forestry products

	Production of selected forest products							
	sawnwood		wood-based panels		wood pulp		paper and paperboard	
	total	p.a. growth %	total	p.a. growth %	total	p.a. growth %	total	p.a. growth %
	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand tonnes 2011	1961-2011	thousand tonnes 2011	1961-2011
World	406 187		287 720		173 309		403 183	
Africa	7 991		2 711		2 725		3 472	
Eastern Africa	1 219		319		104		231	
Burundi	83		0		0		0	
Comoros	0		0		0		0	
Djibouti	0		0		0		0	
Eritrea	0		0		0		0	
Ethiopia	18		103		0		78	
Kenya	142	2.1	83		0		0	-100.0
Madagascar	104	1.7	1		1		10	
Malawi	45	2.8	18		0		0	
Mauritius	2	-0.6	0		0		0	
Mayotte	0		0		0		0	
Mozambique	198	1.0	1	-0.8	0		2	
Réunion	2	-1.4	0		0		0	
Rwanda	135		0		0		0	
Seychelles	1		0		0		0	
Somalia	14	2.1	0		0		0	
Uganda	117	2.1	24	4.0	0		3	
United Republic of Tanzania	24	-2.8	5	5.0	56		25	
Zambia	157	3.3	18		0		4	
Zimbabwe	177	2.4	68		47	5.1	109	5.1
Middle Africa	1 354		463		15		6	
Angola	5	-5.1	11		15		0	-100.0
Cameroon	693	4.2	78	3.8	0		0	
Central African Republic	54	0.7	5		0		0	
Chad	2		0		0		0	
Congo	248	4.2	69	4.2	0		3	
Democratic Republic of the Congo	92	-1.7	4	-4.4	0		3	3.3
Equatorial Guinea	4	-2.6	28		0		0	
Gabon	250	4.7	268	2.6	0		0	
Sao Tome and Principe	5		0		0		0	
Northern Africa	210		248		262		999	
Algeria	13	-3.0	48		0		46	0.3
Egypt	12		59	5.0	41		660	5.3
Libya	31	3.7	0		0		6	1.9
Morocco	83	2.7	35	3.7	221	4.9	127	2.4
South Sudan	0		0		0		0	
Sudan	51		2		0		3	
Sudan (former)								
Tunisia	20	4.3	104		0		157	7.1
Western Sahara								
Southern Africa	1 669		625		2 321		2 216	
Botswana	0		0		0		0	
Lesotho	0		0		0		0	
Namibia	0		0		0		0	
South Africa	1 567	1.4	617	3.8	2 306	4.4	2 167	4.9
Swaziland	102	2.4	8		15	0.9	49	
Western Africa	3 540		1 056		23		20	
Benin	84	4.8	0		0		0	
Burkina Faso	5		0		0		0	
Cape Verde	0		0		0		0	
Côte d'Ivoire	700	3.7	477	10.0	0		0	
Gambia	1		0		0		0	
Ghana	515	0.4	437	8.1	0		0	
Guinea	30	1.1	42		0		0	
Guinea-Bissau	16	1.4	0		0		0	
Liberia	80	1.2	0		0		0	
Mali	13	0.7	0		0		0	
Mauritania	14		2		0		1	
Niger	4		0		0		0	
Nigeria	2 002	3.5	97	3.2	23		19	
Saint Helena, Ascension and Tristan da Cunha	0		0		0		0	
Senegal	25	0.4	0		0		0	
Sierra Leone	5	-1.3	0		0		0	
Togo	46	8.7	1		0		0	

TABLE 43: Production of finished forestry products (continued)

	Production of selected forest products							
	sawnwood		wood-based panels		wood pulp		paper and paperboard	
	total	p.a. growth	total	p.a. growth	total	p.a. growth	total	p.a. growth
	thousand m ³ 2011	% 1961-2011	thousand m ³ 2011	% 1961-2011	thousand tonnes 2011	% 1961-2011	thousand tonnes 2011	% 1961-2011
Americas	142 959		57 479		91 571		109 719	
Latin America and the Caribbean	42 407		16 460		21 842		20 226	
Anguilla	0		0		0		0	
Antigua and Barbuda	0		0		0		0	
Argentina	2 159	2.1	1 285	5.9	1 007	6.1	1 283	2.5
Aruba	0		0		0		0	
Bahamas	1	-3.1	0		0		0	
Barbados	0		0		0		2	
Belize	35	-0.7	0		0		0	
Bolivia (Plurinational State of)	462	5.7	45	11.4	0		0	-100.0
Bonaire, Sint Eustatius and Saba								
Brazil	25 210	2.8	9 401	7.3	14 282	8.0	10 159	6.1
British Virgin Islands	0		0		0		0	
Cayman Islands	0		0		0		0	
Chile	6 785	4.1	2 890	10.4	4 896	7.3	1 437	5.0
Colombia	525	-1.4	329	4.2	229		1 154	5.9
Costa Rica	540	1.4	69	4.9	3		20	4.1
Cuba	157	1.1	149		0		20	-2.9
Curaçao	0		0		0		0	
Dominica	0		0		0		0	
Dominican Republic	12	-3.9	0		0		130	10.5
Ecuador	519	1.0	609		2		198	12.3
El Salvador	16	0.6	0		0		115	11.1
Falkland Islands (Malvinas)	0		0		0		0	
French Guiana	32	2.8	0		0		0	
Grenada	0		0		0		0	
Guadeloupe	1	-1.8	0		0		0	
Guatemala	379	2.5	57	5.8	0		31	5.0
Guyana	76	0.2	15	5.0	0		0	
Haiti	14	-1.0	0		0		0	
Honduras	234	-1.5	18	4.5	7		95	
Jamaica	66		0		0		0	
Martinique	1	0.7	0		0		0	
Mexico	2 344	1.7	667	4.7	261	0.8	4 701	5.1
Montserrat	0		0		0		0	
Nicaragua	62	-1.5	0		0		0	
Panama	45	0.8	12	2.2	0		0	-100.0
Paraguay	550	5.0	161	8.9	0		13	7.2
Peru	711	3.5	54		0		215	2.7
Puerto Rico	0		0		0		0	
Saint Barthélemy								
Saint Kitts and Nevis	0		0		0		0	
Saint Lucia	0		0		0		0	
Saint-Martin (French Part)	0		0		0		0	
Saint Vincent and the Grenadines	0		0		0		0	
Sint Maarten (Dutch Part)	0		0		0		0	
Suriname	113	1.5	6	-3.4	0		0	
Trinidad and Tobago	31	-1.5	2		0		0	
Turks and Caicos Islands	0		0		0		0	
United States Virgin Islands	0		0		0		0	
Uruguay	376	3.4	200	6.8	1 095	15.0	96	2.2
Venezuela (Bolivarian Republic of)	950	3.7	491	7.8	60		557	3.5
Northern America	100 552		41 018		69 729		89 493	
Bermuda	0		0		0		0	
Canada	38 858	2.0	10 213	3.9	18 887	1.2	12 069	0.8
Greenland	0		0		0		0	
Saint Pierre and Miquelon	0		0		0		0	
United States of America	61 694	0.1	30 805	2.1	50 842	1.6	77 424	1.9
Asia	102 627		149 426		29 411		179 474	
Central Asia	197		119		0		637	
Kazakhstan	108		116		0		211	
Kyrgyzstan	80		0		0		424	
Tajikistan	0		0		0		0	
Turkmenistan	0		0		0		0	
Uzbekistan	10		3		0		2	

TABLE 43: Production of finished forestry products (continued)

	Production of selected forest products							
	sawnwood		wood-based panels		wood pulp		paper and paperboard	
	total	p.a. growth %	total	p.a. growth %	total	p.a. growth %	total	p.a. growth %
	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand tonnes 2011	1961-2011	thousand tonnes 2011	1961-2011
Eastern Asia	58 847		118 269		18 437		141 270	
China, Hong Kong SAR	15	-4.2	48		15		180	
China, Macao SAR	0		0		0		0	
China	45 020	2.9	110 487	13.9	8 702	5.1	102 921	7.7
Democratic People's Republic of Korea	280	0.0	0		56		80	0.6
Japan	9 434	-2.1	4 339	1.8	9 079	1.6	26 609	3.2
Mongolia	300	1.4	2		0		0	
Republic of Korea	3 798	4.6	3 393	9.0	585	6.5	11 480	10.8
South-Eastern Asia	19 308		18 457		8 167		20 547	
Brunei Darussalam	51	2.9	0		0		0	
Cambodia	72	0.2	15	4.2	0		0	-100.0
Indonesia	4 169	1.8	4 691	16.1	6 455		11 527	15.1
Lao People's Democratic Republic	130	6.0	24		0		0	
Malaysia	4 011	1.8	6 791	13.5	145		1 795	
Myanmar	1 610	2.5	149	11.0	1		45	
Philippines	372	-2.0	430	1.8	185	6.5	1 097	5.2
Singapore	25	5.8	355		0		87	
Thailand	2 868	2.3	5 400	11.5	1 001		4 396	14.3
Timor-Leste	0		0		0		0	
Viet Nam	6 000	5.3	602		380		1 600	11.7
Southern Asia	17 707		4 902		2 731		12 436	
Afghanistan	400	1.8	1		0		0	
Bangladesh	388	0.6	9		47	1.2	58	-0.2
Bhutan	27		29		0		10	
India	14 789	4.3	2 964	7.4	2 308	10.2	10 870	6.6
Iran (Islamic Republic of)	31	-2.7	1 121		292		381	9.1
Maldives	0		0		0		0	
Nepal	630	2.0	69		0		13	
Pakistan	1 381	5.3	547	11.5	82	6.5	1 079	8.4
Sri Lanka	61	-1.3	161	5.8	3		24	3.5
Western Asia	6 568		7 679		75		4 584	
Armenia	1		6		0		11	
Azerbaijan	2		0		0		4	
Bahrain	0		0		0		15	
Cyprus	3	-4.2	1		0		0	
Georgia	70		5		0		2	
Iraq	12	2.4	5		0		13	
Israel	0		181	2.2	0		403	4.8
Jordan	0		0		0		54	
Kuwait	0		0		0		57	
Lebanon	9	0.8	46	0.8	0		103	8.3
Occupied Palestinian Territory	0		0		0		0	
Oman	0		0		0		4	
Qatar	0		0		0		3	
Saudi Arabia	0		0		0		1 150	
Syrian Arab Republic	9	1.1	27	1.8	0		75	
Turkey	6 461	4.4	7 408	10.9	75	1.3	2 389	7.5
United Arab Emirates	0		0		0		300	
Yemen	0		0		0		1	
Europe	144 141		74 232		46 595		106 563	
Eastern Europe	52 769		29 645		10 066		15 823	
Belarus	2 571		479		51		588	
Bulgaria	728	-1.6	953	3.9	135	2.8	291	2.5
Czech Republic	4 454		1 305		700		775	
Hungary	324	-1.5	1 056	4.7	1	-7.8	696	3.1
Poland	4 422	-0.8	8 396	6.2	1 102	1.7	3 756	3.4
Republic of Moldova	34		0		0		98	
Romania	4 442	0.0	2 824	5.5	0		297	0.8
Russian Federation	31 692		11 857		7 362		7 624	
Slovakia	2 204		683		716		748	
Ukraine	1 898		2 092		0		951	
Northern Europe	39 723		9 250		24 591		29 213	
Åland Islands								
Channel Islands	0		0		0		0	
Denmark	372	-0.9	456	4.0	5	-1.8	423	1.6
Estonia	1 800		405		220		73	
Faroe Islands	0		0		0		0	
Finland	9 750	0.4	1 352	1.3	10 362	1.8	11 329	3.1
Guernsey								
Iceland	0		0		0		0	

TABLE 43: Production of finished forestry products (continued)

	Production of selected forest products							
	sawnwood		wood-based panels		wood pulp		paper and paperboard	
	total	p.a. growth %	total	p.a. growth %	total	p.a. growth %	total	p.a. growth %
	thousand m ³ 2011	1961-2011	thousand m ³ 2011	1961-2011	thousand tonnes 2011	1961-2011	thousand tonnes 2011	1961-2011
Ireland	759	5.7	738	7.3	0		47	-1.2
Isle of Man	0		0		0		0	
Jersey								
Latvia	3 432		923		0		54	
Lithuania	1 260		824		0		157	
Norway	2 271	0.7	520	1.9	1 912	0.5	1 492	1.2
Sark								
Svalbard and Jan Mayen Islands								
Sweden	16 800	1.4	648	-0.4	11 858	1.6	11 298	3.2
United Kingdom	3 279	2.4	3 384	6.0	234	-0.2	4 341	0.2
Southern Europe	7 702		10 441		4 690		19 209	
Albania	8	-5.9	11	0.0	0		0	
Andorra	0		0		0		0	
Bosnia and Herzegovina	1 108		36		79		146	
Croatia	754		143		99		540	
Gibraltar	0		0		0		0	
Greece	108	-1.0	918		0		409	3.5
Holy See	0		0		0		0	
Italy	1 250	-0.9	4 361	5.3	386	-0.5	9 130	3.5
Malta	0		0		0		0	
Montenegro	50		0		0		227	
Portugal	1 044	-0.3	1 349	7.8	2 107	6.2	1 457	5.2
San Marino	0		0		0		0	
Serbia	512		268		0		382	
Slovenia	703		361		43		691	
Spain	2 162	0.6	2 993	6.4	1 976	5.0	6 203	7.0
The former Yugoslav Republic of Macedonia	3		0		0		25	
Western Europe	43 945		24 896		7 248		42 317	
Austria	9 636	1.4	3 335	5.7	2 005	2.2	4 901	5.3
Belgium	1 369		2 177		504		2 040	
France	8 675	0.1	5 765	3.8	1 837	0.9	8 527	2.3
Germany	22 628	1.3	12 092	3.2	2 725	0.6	22 704	5.7
Liechtenstein	8		0		0		0	
Luxembourg	78		516		0		21	
Monaco	0		0		0		0	
Netherlands	238	-0.3	46	-2.9	34	-2.6	2 748	1.9
Switzerland	1 313	0.2	966	3.6	142	-1.1	1 376	2.0
Oceania	8 469		3 872		3 008		3 955	
Australia and New Zealand	8 251		3 758		3 008		3 955	
Australia	4 556	0.6	1 867	4.0	1 417	2.7	3 155	3.6
New Zealand	3 695	1.6	1 891	7.2	1 591	3.5	800	2.9
Norfolk Island	0		0		0		0	
Melanesia	215		114		0		0	
Fiji	90	2.6	20		0		0	
New Caledonia	3	-0.8	0		0		0	
Papua New Guinea	81	1.3	94	4.5	0		0	
Solomon Islands	27	4.9	0		0		0	
Vanuatu	14		0		0		0	
Micronesia	0		0		0		0	
Guam	0		0		0		0	
Kiribati	0		0		0		0	
Marshall Islands	0		0		0		0	
Micronesia (Federated States of)	0		0		0		0	
Nauru	0		0		0		0	
Northern Mariana Islands	0		0		0		0	
Palau	0		0		0		0	
Polynesia	3		0		0		0	
American Samoa	0		0		0		0	
Cook Islands	0		0		0		0	
French Polynesia	0		0		0		0	
Niue	0		0		0		0	
Pitcairn Islands	0		0		0		0	
Samoa	1	4.7	0		0		0	
Tokelau	0		0		0		0	
Tonga	2		0		0		0	
Tuvalu	0		0		0		0	
Wallis and Futuna Islands	0		0		0		0	

TABLE 44: Water withdrawal and pressure on renewable water resources

	Years	Water withdrawal by sector			Water withdrawal		% of renewable freshwater resources	
		% of total			total	per capita	withdrawn	
		agricultural %	industrial %	municipal %	million m ³ /yr	m ³ /yr/cap	total %	by agriculture %
	1975-2010							
World								
Africa								
Eastern Africa								
Burundi	2000	77.1	5.9	17.0	288	43	2.3	1.8
Comoros	1999	47.0	5.0	48.0	10	17	0.8	0.4
Djibouti	2000	15.8	0.0	84.2	19	25	6.3	1.0
Eritrea	2004	94.5	0.2	5.3	582	121	9.2	8.7
Ethiopia	2002	93.6	0.4	6.0	5 558	81	4.6	4.3
Kenya	2003	79.2	3.7	17.2	2 735	73	8.9	7.1
Madagascar	2000	97.5	0.9	1.6	14 680	899	4.4	4.2
Malawi	2000	83.5	4.1	12.3	970	82	5.6	4.7
Mauritius	2003	67.7	2.8	29.5	725	568	26.4	17.9
Mayotte								
Mozambique	2000	73.9	3.3	22.8	744	39	0.3	0.3
Réunion								
Rwanda	2000	68.0	8.0	24.0	150	17	1.6	1.1
Seychelles	2003	6.6	27.7	65.7	14	161		
Somalia	2003	99.5	0.1	0.5	3 298	378	22.4	22.3
Uganda	2002	37.8	14.5	47.7	317	12	0.5	0.2
United Republic of Tanzania	2002	89.4	0.5	10.2	5 184	145	5.4	4.8
Zambia	2000	75.9	7.5	16.7	1 740	163	1.7	1.3
Zimbabwe	2002	78.9	7.1	14.0	4 205	334	21.0	16.6
Middle Africa								
Angola	2000	32.8	28.8	38.4	641	43	0.4	0.1
Cameroon	2000	76.1	7.1	16.8	959	58	0.3	0.3
Central African Republic	2000	1.5	16.5	82.0	67	17	0.0	0.0
Chad	2000	51.8	24.1	24.1	367	42	0.9	0.4
Congo	2002	8.7	21.7	69.6	46	14	0.0	0.0
Democratic Republic of the Congo	2000	17.7	19.8	62.6	622	12	0.0	0.0
Equatorial Guinea	2000	5.7	14.9	79.3	17	31	0.1	0.0
Gabon	2000	38.5	8.8	52.8	130	101	0.1	0.0
Sao Tome and Principe								
Northern Africa								
Algeria	2000	63.9	13.5	22.5	6 161	196	52.7	33.8
Egypt	2000	86.4	5.9	7.8	68 300	973	94.7	103.0
Libya	2000	82.8	3.1	14.1	4 326	796	609.7	512.0
Morocco	2000	87.3	2.9	9.8	12 607	428	43.5	38.0
South Sudan								
Sudan								
Tunisia	2000	82.0	4.2	13.8	2 640	296	61.3	47.1
Western Sahara								
Southern Africa								
Botswana	2000	41.2	18.0	40.7	194	107	1.6	0.7
Lesotho	2000	20.0	40.0	40.0	50	25	1.0	0.2
Namibia	2000	71.0	4.7	24.3	300	152	1.7	1.2
South Africa	2000	62.7	6.0	31.2	12 496	272	25.0	15.7
Swaziland	2000	96.5	1.2	2.3	1 042	962	23.1	22.3
Western Africa								
Benin	2001	45.4	23.1	31.5	130	19	0.5	0.2
Burkina Faso	2000	70.1	1.6	28.3	985	76	7.9	5.5
Côte d'Ivoire	2000	42.6	19.1	38.3	1 409	82	1.7	0.7
Cape Verde	2000	90.9	1.8	7.3	22	49	6.8	6.7
Gambia	2000	28.1	24.4	47.5	71	52	0.9	0.3
Ghana	2000	66.4	9.7	23.9	982	49	1.8	1.2
Guinea	2000	83.9	3.2	12.9	1 620	188	0.7	0.6
Guinea-Bissau	2000	82.3	4.6	13.1	175	136	0.6	0.5
Liberia	2000	33.6	26.6	39.8	179	60	0.1	0.0
Mali	2000	90.1	0.9	9.0	6 546	545	6.5	5.9
Mauritania	2000	93.7	1.6	4.7	1 601	572	14.0	13.2
Niger	2000	88.0	1.2	10.8	2 364	202	7.0	6.2
Nigeria	2000	53.5	15.1	31.5	10 306	79	3.6	1.9
Saint Helena, Ascension and Tristan da Cunha								
Senegal	2002	93.0	2.6	4.4	2 221	222	5.7	5.3
Sierra Leone	2000	71.0	9.7	19.4	493	110	0.3	0.2
Togo	2002	45.0	2.4	52.7	169	33	1.2	0.5

TABLE 44: Water withdrawal and pressure on renewable water resources (continued)

	Years	Water withdrawal by sector			Water withdrawal		% of renewable freshwater resources	
		% of total			total	per capita	withdrawn	
		agricultural %	industrial %	municipal %	million m ³ /yr	m ³ /yr/cap	total %	by agriculture %
1975-2010								
Americas								
Latin America and the Caribbean								
Anguilla								
Antigua and Barbuda	1990	20.0	20.0	60.0	5	78	3.3	1.9
Argentina	2000	66.1	12.2	21.7	32 566	865	4.0	2.6
Aruba								
Bahamas								
Barbados	2000	32.8	38.4	28.7	61	226	76.1	25.0
Belize	2000	20.0	73.3	6.7	150	570	0.8	0.2
Bolivia (Plurinational State of)	2000	57.2	15.2	27.6	2 027	234	0.3	0.2
Bonaire, Sint Eustatius and Saba								
Brazil	2006	54.6	17.5	27.9	58 070	306	0.7	0.4
British Virgin Islands								
Cayman Islands								
Chile	2000	70.3	20.5	9.2	11 337	718	1.2	0.9
Colombia	2000	38.9	4.2	56.9	12 651	308	0.6	0.2
Costa Rica	2000	53.4	17.2	29.5	2 680	656	2.4	1.3
Cuba	2000	74.7	9.9	15.4	7 555	676	19.8	14.8
Curaçao								
Dominica								
Dominican Republic	2000	64.3	1.9	33.9	3 485	393	16.5	10.7
Ecuador	2000	91.5	2.5	5.9	15 253	1 194	3.6	3.3
El Salvador	2000	55.2	17.2	27.5	1 376	230	5.5	3.0
Falkland Islands (Malvinas)								
French Guiana								
Grenada								
Guadeloupe								
Guatemala	2000	54.9	30.4	14.7	2 933	249	2.6	1.4
Guyana	2000	97.6	0.6	1.8	1 640	2 222	0.7	0.7
Haiti	2000	77.5	3.7	18.8	1 200	134	8.6	6.6
Honduras	2000	57.8	24.8	17.4	1 194	184	1.2	0.7
Jamaica	2000	34.2	21.9	43.9	585	223	6.2	2.1
Martinique								
Mexico	2008	76.7	9.3	14.0	79 800	704	17.5	13.4
Montserrat								
Nicaragua	2000	83.9	2.1	14.1	1 288	247	0.7	0.5
Panama	2000	50.9	3.3	45.8	452	147	0.3	0.2
Paraguay	2000	71.4	8.2	20.4	490	88	0.1	0.1
Peru	2000	84.9	8.3	6.8	19 341	728	1.0	0.9
Puerto Rico	2005	7.4	1.7	90.9	995	264	14.0	1.0
Saint Barthélemy								
Saint Kitts and Nevis								
Saint Lucia								
Saint-Martin (French Part)								
Saint Vincent and the Grenadines								
Sint Maarten (Dutch Part)								
Suriname	2000	92.5	3.0	4.5	670	1 396	0.5	0.5
Trinidad and Tobago	2000	8.6	25.2	66.1	232	178	6.0	0.5
Turks and Caicos Islands								
United States Virgin Islands								
Uruguay	2000	86.6	2.2	11.2	3 660	1 101	2.6	2.3
Venezuela (Bolivarian Republic of)	2000	43.8	7.5	48.7	9 064	359	0.7	0.3
Northern America								
Bermuda								
Canada	2000	11.8	68.7	19.6	45 970	1 470	1.6	0.2
Greenland								
Saint Pierre and Miquelon								
United States of America	2005	40.2	46.1	13.7	478 440	1 583	15.6	6.3
Asia								
Central Asia								
Kazakhstan	2010	66.2	29.6	4.2	21 143	1 319	18.6	13
Kyrgyzstan	2006	93.0	4.2	2.8	8 007	1 575	32.6	31.5
Tajikistan	2006	90.9	3.5	5.6	11 496	1 762	51.1	47.7
Turkmenistan	2004	94.3	3.0	2.7	24 958	5 952	111.1	106.4
Uzbekistan	2005	90.0	2.7	7.3	56 000	2 158	100.6	103.1

TABLE 44: Water withdrawal and pressure on renewable water resources (continued)

	Years	Water withdrawal by sector			Water withdrawal		% of renewable freshwater resources	
		% of total			total	per capita	withdrawn	
		agricultural %	industrial %	municipal %	million m ³ /yr	m ³ /yr/cap	total %	by agriculture %
	1975-2010							
Eastern Asia								
China, Hong Kong SAR								
China, Macao SAR								
China	2005	64.6	23.2	12.2	554 130	410	19.5	12.6
Democratic People's Republic of Korea	2005	76.3	13.2	10.4	8 658	361	11.2	8.6
Japan	2001	63.1	17.5	19.3	90 040	714	20.9	13.2
Mongolia	2005	44.4	31.8	23.8	511	195	1.5	0.7
Republic of Korea	2002	62.0	12.0	26.0	25 470	549	36.5	22.7
South-Eastern Asia								
Brunei Darussalam								
Cambodia	2006	94.0	1.5	4.5	2 184	160	0.5	0.4
Indonesia	2000	81.9	6.5	11.6	113 288	517	5.6	4.6
Lao People's Democratic Republic	2005	93.0	4.0	3.1	4 260	718	1.3	1.2
Malaysia	2005	34.2	36.2	29.5	13 210	488	2.3	0.8
Myanmar	2000	89.0	1.0	10.0	33 225	729	2.8	2.5
Philippines	2009	82.2	10.1	7.6	81 559	875	17.0	14.0
Singapore	1975	4.0	51.0	45.0	190	82	31.7	1.3
Thailand	2007	90.4	4.8	4.8	57 306	845	13.1	11.8
Timor-Leste	2004	91.4	0.2	8.4	1 172	1 105	14.3	13.0
Viet Nam	2005	94.8	3.7	1.5	82 030	965	9.3	8.8
Southern Asia								
Afghanistan	2000	98.8	0.6	0.7	23 123	938	35.6	35.1
Bangladesh	2008	87.8	2.1	10.0	35 870	241	2.9	2.6
Bhutan	2008	94.1	0.9	5.0	338	466	0.4	0.4
India	2010	90.4	2.2	7.4	761 000	621	33.9	36.0
Iran (Islamic Republic of)	2004	92.2	1.2	6.6	93 300	1 306	67.7	62.6
Maldives	2008	0.0	5.1	94.9	6	19	15.7	0.0
Nepal	2005	98.2	0.3	1.5	9 787	345	4.7	4.6
Pakistan	2008	94.0	0.8	5.3	183 450	1 057	74.4	69.9
Sri Lanka	2005	87.4	6.4	6.2	12 946	639	24.5	21.4
Western Asia								
Armenia	2006	65.8	4.4	29.8	2 827	920	36.4	23.9
Azerbaijan	2005	76.4	19.3	4.3	12 211	1 384	34.8	26.9
Bahrain	2003	44.5	5.7	49.8	357	386	205.8	137.2
Cyprus	2009	86.4	3.3	10.3	184	167	18.4	20.4
Georgia	2005	58.2	22.1	19.7	1 813	411	2.9	1.7
Iraq	2000	78.8	14.7	6.5	66 000	2 616	87.3	68.8
Israel	2004	57.8	5.8	36.4	1 954	282	101.9	63.4
Jordan	2005	65.0	4.1	31.0	941	166	90.5	65.2
Kuwait	2002	53.9	2.3	43.9	913	441	2 075.0	2 460.0
Lebanon	2005	59.5	11.5	29.0	1 310	317	18.6	17.3
Occupied Palestinian Territory	2005	45.2	6.9	47.8	418	112	49.9	22.6
Oman	2003	88.4	1.4	10.1	1 321	516	83.9	83.4
Qatar	2005	59.0	1.8	39.2	444	377	381.0	451.7
Saudi Arabia	2006	88.0	3.0	9.0	23 670	928	936.2	867.9
Syrian Arab Republic	2003	87.5	3.7	8.8	16 760	867	86.4	87.3
Turkey	2003	73.8	10.7	15.5	40 100	573	18.3	13.9
United Arab Emirates	2005	82.8	1.7	15.4	3 998	740	1 867.0	2 208.0
Yemen	2005	90.7	1.8	7.4	3 565	162	168.6	154.0
Europe								
Eastern Europe								
Belarus								
Belarus	2000	19.4	53.8	26.9	4 338	435	7.5	1.4
Bulgaria								
Bulgaria	2009	16.3	67.7	16.0	6 119	817	28.7	4.7
Czech Republic								
Czech Republic	2007	1.8	56.5	41.7	1 699	165	12.9	0.2
Hungary								
Hungary	2005	5.6	82.5	11.9	5 590	557	5.4	0.3
Poland								
Poland	2009	9.7	59.6	30.7	11 959	313	19.4	1.9
Republic of Moldova								
Republic of Moldova	2000	39.7	51.8	8.6	1 915	483	16.4	6.5
Romania								
Romania	2009	17.0	61.1	21.9	6 876	320	3.2	0.6
Russian Federation								
Russian Federation	2001	19.9	59.8	20.2	66 200	455	1.5	0.3
Slovakia								
Slovakia	2007	3.2	50.3	46.5	688	127	1.4	0.0
Ukraine								
Ukraine	2000	51.2	36.4	12.5	38 483	801	27.6	14.1
Northern Europe								
Åland Islands								
Channel Islands								
Denmark								
Denmark	2009	36.1	5.5	58.5	660	119	10.8	4.0
Estonia								
Estonia	2007	0.4	96.5	3.0	1 796	1 337	14.0	0.1
Faroe Islands								
Finland								
Finland	2005	3.1	72.2	24.7	1 634	309	1.5	0.0
Guernsey								
Iceland								
Iceland	2005	42.4	8.5	49.1	165	539	0.1	0.0

TABLE 44: Water withdrawal and pressure on renewable water resources (continued)

	Years	Water withdrawal by sector			Water withdrawal		% of renewable freshwater resources	
		% of total			total	per capita	withdrawn	
		agricultural %	industrial %	municipal %	million m ³ /yr	m ³ /yr/cap	total %	by agriculture %
	1975-2010							
Ireland	2000	0.0	0.0	100.0	580			0.0
Isle of Man								
Jersey								
Latvia	2000	11.6	49.6	38.7	413	176	1.2	0.1
Lithuania	2007	3.4	90.0	6.6	2 378	704	9.6	0.3
Norway	2006	28.8	42.9	28.3	2 939	622	0.8	0.2
Sark								
Svalbard and Jan Mayen Islands								
Sweden	2007	4.1	58.7	37.2	2 616	286	1.5	0.1
United Kingdom	2003	9.9	33.0	57.1	12 990	213	8.8	0.9
Southern Europe								
Albania	2000	57.7	12.4	29.9	1 838	595	4.4	2.5
Andorra								
Bosnia and Herzegovina	2008	0.0	12.7	87.3	384	90	0.9	
Croatia	2009	1.7	13.6	84.6	631	143	0.6	0.0
Gibraltar								
Greece	2007	89.3	1.8	8.9	9 471	841	12.7	11.4
Holy See								
Italy	2000	44.1	35.9	20.1	45 411	790	23.7	10.5
Malta	2000	35.3	0.9	63.8	54	134	71.3	37.6
Montenegro	2008	1.1	39.0	59.9	161	255		
Portugal	2002	73.0	19.4	7.6	8 463	812	12.3	9.0
San Marino								
Serbia	2009	1.9	81.6	16.6	4 121	418	2.5	0.0
Slovenia	2009	0.2	82.3	17.5	942	464	3.0	0.0
Spain	2008	60.5	21.7	17.8	32 461	705	29.0	17.6
The former Yugoslav Republic of Macedonia	2007	12.3	66.6	21.1	1 028	502	16.1	2.0
Western Europe								
Austria	2000	2.7	79.0	18.3	3 657	452	4.7	0.1
Belgium	2007	0.6	87.7	11.7	6 216	590	34.0	0.2
France	2007	12.4	69.3	18.3	31 618	512	15.0	1.9
Germany	2007	0.3	83.9	15.9	32 299	391	21.0	0.1
Liechtenstein								
Luxembourg	1999	0.3	36.5	63.1	60	136	1.9	0.0
Monaco	2009	0.0	0.0	100.0	5	143		
Netherlands	2008	0.7	87.5	11.8	10 606	639	11.7	0.1
Switzerland	2000	1.9	57.5	40.6	2 614	360	4.9	0.1
Oceania								
Australia and New Zealand								
Australia	2000	73.8	10.6	15.6	22 580	1 152	4.6	3.4
New Zealand	2002	74.3	4.2	21.5	4 753	1 200	1.5	1.1
Norfolk Island								
Melanesia								
Fiji	2000	61.2	10.8	28.0	82	100	0.3	0.2
New Caledonia								
Papua New Guinea	2005	0.3	42.7	57.0	392	61	0.0	0.0
Solomon Islands								
Vanuatu								
Micronesia								
Guam								
Kiribati								
Marshall Islands								
Micronesia (Federated States of)								
Nauru								
Northern Mariana Islands								
Palau								
Polynesia								
American Samoa								
Cook Islands								
French Polynesia								
Niue								
Pitcairn Islands								
Samoa								
Tokelau								
Tonga								
Tuvalu								
Wallis and Futuna Islands								

TABLE 45: Species threatened and nationally protected areas

	Threatened species				Nationally protected areas			
	mammals	birds	fish	higher plants	terrestrial		territorial waters	
	species	species	species	species	%	%	%	%
	2011	2011	2011	2011	1990	2009	1990	2010
World	3 088	3 372	6 137	10 924	8.9	12.3		
Africa	825	717	1 942	2 502	9.4	10.1		
Eastern Africa	300	305	704	1 004	16.3	17.5		
Burundi	11	11	17	2	3.8	4.8		
Comoros	5	9	6	4	0.0	0.0	0.0	
Djibouti	8	8	16	2	0.0	0.0	0.2	0.2
Eritrea	10	12	18	4		5.0	0.0	0.0
Ethiopia	33	24	14	24		18.4		
Kenya	28	31	68	126	11.6	11.8	5.2	10.5
Madagascar	65	35	85	273	2.2	3.1	0.0	0.1
Malawi	7	15	101	12	15.0	15.0		
Mauritius	6	11	13	88	1.7	4.5	0.3	0.3
Mayotte								
Mozambique	12	24	55	40	14.8	15.8	1.8	3.3
Réunion								
Rwanda	20	12	9	4	9.9	10.0		
Seychelles	5	10	17	55	42.0	42.0	0.5	0.5
Somalia	15	12	27	21	0.6	0.6	0.0	0.0
Uganda	22	21	61	36	7.9	10.3		
United Republic of Tanzania	35	42	174	290	26.6	27.5	3.7	10.0
Zambia	9	14	20	9	36.0	36.0		
Zimbabwe	9	14	3	14	18.0	28.0		
Middle Africa	153	119	386	770	10.4	11.2		
Angola	15	23	39	34	12.4	12.4	0.1	0.1
Cameroon	38	20	112	378	7.0	9.2	0.4	0.4
Central African Republic	8	9	3	17	17.5	17.7		
Chad	13	9	1	2	9.4	9.4		
Congo	11	2	46	37	5.4	9.4	0.0	32.8
Democratic Republic of the Congo	30	35	83	80	10.0	10.0	3.8	4.4
Equatorial Guinea	19	5	29	68	7.3	19.2	0.0	2.6
Gabon	14	4	61	120	4.6	15.1	0.2	7.3
Sao Tome and Principe	5	12	12	34				
Northern Africa	89	52	200	66	3.4	3.9		
Algeria	14	9	36	12	6.3	6.3	0.2	0.3
Egypt	17	9	39	2	1.9	5.9	4.4	9.3
Libya	12	3	24	2	0.1	0.1	0.0	0.1
Morocco	18	10	47	28	1.2	1.5	0.8	1.3
South Sudan								
Sudan	15	15	19	16	4.2	4.2	0.0	0.0
Sudan (former)								
Tunisia	13	6	35	6	1.3	1.3	1.1	1.2
Western Sahara								
Southern Africa	50	93	121	97	14.0	14.4		
Botswana	7	10	2	0	30.3	30.9		
Lesotho	2	7	1	4	0.5	0.5		
Namibia	12	25	27	25	14.4	14.9	0.5	8.2
South Africa	24	40	87	65	6.5	6.9	0.7	6.5
Swaziland	5	11	4	3	3.0	3.0		
Western Africa	233	148	531	565	7.8	8.1		
Benin	11	6	27	13	23.8	23.8	0.0	0.0
Burkina Faso	9	7	4	3	13.7	14.2		
Cape Verde	3	4	24	3	2.5	2.5	0.0	0.0
Côte d'Ivoire	23	15	45	106	22.6	22.6	0.1	0.1
Gambia	10	8	23	4	1.5	1.5	0.1	0.1
Ghana	16	13	44	117	14.6	14.7	0.0	0.0
Guinea	22	13	65	22	6.8	6.8	0.0	0.0
Guinea-Bissau	12	5	32	4	7.6	16.1	2.7	45.8
Liberia	18	11	53	47	1.6	1.8	0.0	0.0
Mali	12	9	3	7	2.3	2.4		
Mauritania	15	11	32	0	0.5	0.5	32.1	32.1
Niger	12	7	4	2	7.1	7.1		
Nigeria	26	14	59	171	11.6	12.8	0.2	0.2
Saint Helena, Ascension and Tristan da Cunha								
Senegal	16	10	45	9	24.1	24.1	5.8	12.4
Sierra Leone	17	10	47	48	4.9	4.9	0.0	0.0
Togo	11	5	24	9	11.3	11.3	0.0	0.0

TABLE 45: Species threatened and nationally protected areas (continued)

	Threatened species				Nationally protected areas			
	mammals	birds	fish	higher plants	terrestrial		territorial waters	
	species 2011	species 2011	species 2011	species 2011	% 1990	% 2009	% 1990	% 2010
Americas	669	899	1 364	4 357	9.4	15.6		
Latin America and the Caribbean	610	807	1 124	4 134	9.7	20.1		
Anguilla								
Antigua and Barbuda	2	1	17	4	6.4	7.0	0.5	0.7
Argentina	38	49	37	35	4.6	5.5	0.8	1.1
Aruba	2	1	15	1	0.1	0.1	0.0	0.0
Bahamas	7	6	28	4	6.1	13.7	0.2	0.4
Barbados	3	2	19	2	0.1	0.1	0.1	0.1
Belize	8	4	30	27	15.4	27.9	0.3	11.9
Bolivia (Plurinational State of)	20	34	0	72	8.8	18.5		
Bonaire, Sint Eustatius and Saba								
Brazil	81	122	84	389	9.0	26.3	8.2	16.5
British Virgin Islands								
Cayman Islands	1	1	18	2	7.1	8.7	1.1	1.2
Chile	20	34	20	34	16.0	16.6	3.5	3.7
Colombia	52	94	54	215	19.3	20.9	0.9	15.5
Costa Rica	9	19	50	112	18.7	20.9	11.9	12.2
Cuba	14	17	34	155	4.3	6.2	1.3	4.4
Curaçao								
Dominica	3	3	18	9	21.4	21.7	0.1	0.1
Dominican Republic	6	14	21	27	22.2	22.2	30.4	30.4
Ecuador	43	73	50	1 714	21.6	25.1	0.2	75.4
El Salvador	5	5	14	24	0.4	0.8	3.1	3.1
Falkland Islands (Malvinas)								
French Guiana								
Grenada	3	1	18	3	1.7	1.7	0.0	0.0
Guadeloupe								
Guatemala	16	10	25	72	25.9	30.6	0.3	12.5
Guyana	10	3	28	21	2.9	5.0	0.0	0.0
Haiti	5	13	20	26	0.3	0.3	0.0	0.0
Honduras	7	9	27	107	13.6	18.2	0.0	1.9
Jamaica	5	10	21	206	10.2	18.9	0.2	4.2
Martinique								
Mexico	100	56	152	191	2.2	11.1	1.1	16.7
Montserrat								
Nicaragua	6	12	30	40	15.4	36.7	0.6	37.2
Panama	15	17	41	192	17.2	18.7	3.1	4.0
Paraguay	8	27	0	9	2.9	5.4		
Peru	54	98	20	268	4.7	13.6	2.8	2.8
Puerto Rico	3	8	19	51	10.0	10.1	1.5	1.6
Saint Barthélemy								
Saint Kitts and Nevis	2	1	18	2	3.6	3.6	0.5	0.5
Saint Lucia	2	5	19	5	14.3	14.3	0.1	0.1
Saint-Martin (French Part)	1	0	4	2				
Saint Vincent and the Grenadines	2	2	19	4	10.9	10.9	0.6	0.6
Sint Maarten (Dutch Part)								
Suriname	8	0	26	26	3.5	11.6	22.9	22.9
Trinidad and Tobago	2	2	24	1	30.5	31.2	0.2	2.8
Turks and Caicos Islands	2	2	17	2	4.9	42.9	0.3	1.0
United States Virgin Islands	2	1	14	12	15.2	15.2	0.4	0.6
Uruguay	11	24	36	0	0.3	0.3	0.2	0.3
Venezuela (Bolivarian Republic of)	32	27	37	68	40.1	53.8	7.0	15.3
Northern America	59	92	240	223	9.1	10.6		
Bermuda	4	1	15	3	5.2	5.6	4.8	5.0
Canada	12	15	35	1	4.7	7.5	0.6	1.2
Greenland	6	0	7	0	40.4	40.5	36.1	36.3
Saint Pierre and Miquelon								
United States of America	37	76	183	219	12.4	12.4	21.0	28.6
Asia	1 193	1 182	1 584	2 957	8.6	11.9		
Central Asia	49	75	40	61		2.8		
Kazakhstan	16	20	14	16		2.5		
Kyrgyzstan	6	12	3	14		6.9		
Tajikistan	8	12	5	13		4.1		
Turkmenistan	9	16	11	3		3.0		
Uzbekistan	10	15	7	15		2.3		

TABLE 45: Species threatened and nationally protected areas (continued)

	Threatened species				Nationally protected areas			
	mammals	birds	fish	higher plants	terrestrial		territorial waters	
	species 2011	species 2011	species 2011	species 2011	% 1990	% 2009	% 1990	% 2010
Eastern Asia	134	222	228	394	12.1	16.0		
China, Hong Kong SAR	2	20	13	6	41.1	41.8		
China, Macao SAR	0	4	5	0				
China	75	86	113	374	13.5	16.6	0.4	1.3
Democratic People's Republic of Korea	9	24	13	5	4.3	5.9	0.1	0.1
Japan	28	39	64	6	13.4	16.5	2.0	5.5
Mongolia	11	20	1	0	4.1	13.4		
Republic of Korea	9	29	19	3	2.2	2.4	3.5	3.9
South-Eastern Asia	579	463	604	1712	8.7	13.8		
Brunei Darussalam	34	24	7	98	36.7	44.0	1.4	1.4
Cambodia	37	24	42	29	0.0	25.8	0.0	0.4
Indonesia	184	119	140	385	10.0	14.1	0.5	2.0
Lao People's Democratic Republic	45	23	46	17	1.5	16.6		
Malaysia	70	45	64	674	17.1	18.1	1.5	2.0
Myanmar	45	43	39	37	3.1	6.3	0.3	0.3
Philippines	38	74	71	210	8.7	10.9	0.5	2.5
Singapore	11	15	25	57	5.0	5.4	0.0	1.4
Thailand	57	46	97	86	14.7	20.1	4.0	4.4
Timor-Leste	4	7	5	0		6.1	0.0	6.7
Viet Nam	54	43	68	119	4.5	6.2	0.3	1.7
Southern Asia	267	233	370	597	5.3	6.2		
Afghanistan	11	14	5	2	0.4	0.4		
Bangladesh	34	30	18	15	1.7	1.8	0.4	0.8
Bhutan	27	18	3	2	14.2	28.3		
India	94	78	212	291	4.7	5.0	1.6	1.7
Iran (Islamic Republic of)	16	20	29	1	5.2	7.1	1.0	1.7
Maldives	2	0	18	0				
Nepal	31	31	7	2	7.7	17.0		
Pakistan	23	27	34	2	10.1	10.1	1.8	1.8
Sri Lanka	29	15	44	282	20.3	21.5	0.1	1.1
Western Asia	164	189	342	193	4.4	15.5		
Armenia	9	12	3	1		8.0		
Azerbaijan	7	14	10	0		7.1		
Bahrain	3	3	8	0	1.3	1.3	0.0	0.7
Cyprus	5	4	19	16	7.1	10.5	0.3	0.6
Georgia	10	10	9	0		3.7	0.2	0.4
Iraq	13	16	11	0	0.1	0.1	0.0	0.0
Israel	15	13	36	0	16.3	17.8	0.4	0.4
Jordan	13	10	13	1	0.7	1.9	0.0	30.0
Kuwait	6	8	11	0	1.6	1.6	0.0	0.0
Lebanon	10	8	22	1	0.5	0.5	0.0	0.1
Occupied Palestinian Territory	3	9	0	0	0.6	0.6		
Oman	9	11	26	6	0.0	10.7	0.0	1.3
Qatar	3	4	11	0	1.7	2.5	0.0	0.3
Saudi Arabia	9	15	23	3	7.6	31.3	0.6	3.4
Syrian Arab Republic	16	14	34	2	0.3	0.6	0.0	0.6
Turkey	17	14	70	5	1.7	1.9	2.4	2.4
United Arab Emirates	7	9	13	0	0.3	5.6	0.3	2.6
Yemen	9	15	23	158		0.5	0.0	1.8
Europe	226	254	875	540	8.5	10.4		
Eastern Europe	77	119	127	64	8.1	9.1		
Belarus	4	4	2	0		7.2		
Bulgaria	7	11	19	5	2.0	9.2	0.2	3.2
Czech Republic	2	5	2	8		15.1		
Hungary	2	8	9	8	4.6	5.1		
Poland	5	6	7	8	15.3	22.4	3.4	4.1
Republic of Moldova	4	8	8	2		1.4		
Romania	7	11	19	4	2.9	7.1	1.6	33.3
Russian Federation	32	49	35	8		9.1	2.2	10.8
Slovakia	3	6	5	5		23.2		
Ukraine	11	11	21	16.0		3.5	4.1	4.9
Northern Europe	36	24	154	20	8.4	14.2		
Åland Islands								
Channel Islands					9.3	9.3	0.0	0.0
Denmark	2	2	15	1	4.2	4.9	3.0	3.2
Estonia	1	3	5	0		20.4	25.3	26.5
Faroe Islands	5	0	8	0				
Finland	1	4	6	1	4.2	9.0	3.5	5.0
Guernsey								
Iceland	5	0	12	0	9.6	19.7	0.1	3.9

TABLE 45: Species threatened and nationally protected areas (continued)

	Threatened species				Nationally protected areas			
	mammals	birds	fish	higher plants	terrestrial		territorial waters	
	species 2011	species 2011	species 2011	species 2011	% 1990	% 2009	% 1990	% 2010
Ireland	5	1	20	1	0.6	1.8	0.1	0.2
Isle of Man	0	0	2	0				
Jersey								
Latvia	1	4	6	0		18.0	4.6	6.7
Lithuania	3	4	6	0		14.5	0.8	10.7
Norway	7	2	19	2	7.0	14.6	1.2	2.4
Sark								
Svalbard and Jan Mayen Islands								
Sweden	1	2	12	4	6.0	10.9	3.9	5.3
United Kingdom	5	2	43	11	22.0	26.4	4.9	5.7
Southern Europe	84	87	471	405	6.4	10.6		
Albania	3	5	39	0	3.4	9.8	0.2	1.6
Andorra	2	1	0	0	5.6	6.1		
Bosnia and Herzegovina	4	5	31	0		0.6	0.7	0.7
Croatia	7	10	60	5		13.0	1.3	3.4
Gibraltar								
Greece	10	10	75	52	5.7	16.2	0.5	2.6
Holy See								
Italy	7	7	47	61	5.0	15.1	0.5	17.4
Malta	3	2	17	4	0.1	17.3	0.3	0.4
Montenegro	6	10	25	1		13.3	0.8	0.8
Portugal	11	8	53	68	5.8	8.3	2.1	3.1
San Marino	0	0	0	0				
Serbia	6	9	11	2		6.0		
Slovenia	4	2	29	7		13.2	0.0	0.7
Spain	16	9	71	205	7.7	8.6	0.6	3.5
The former Yugoslav Republic of Macedonia	5	9	13	0		4.9		
Western Europe	29	24	123	51	18.4	25.5		
Austria	3	7	11	9	20.1	22.9		
Belgium	3	2	11	0		13.8	0.0	0.0
France	9	6	44	27	10.2	16.5	0.3	21.3
Germany	6	5	23	13	31.9	42.4	35.7	40.3
Liechtenstein	0	0	0	0	38.9	42.4		
Luxembourg	0	1	1	0		20.0		
Monaco	2	0	11	0			0.1	100.0
Netherlands	4	2	13	0	11.2	12.4	12.8	22.1
Switzerland	2	1	9	2	14.5	24.9		
Oceania	175	320	372	568	7.7	10.7		
Australia and New Zealand	64	122	126	46	8.1	11.1		
Australia	55	52	103	27	7.5	10.6	10.9	28.3
New Zealand	9	70	23	19	25.4	26.2	0.4	10.8
Norfolk Island								
Melanesia	82	94	112	457	2.0	4.9		
Fiji	6	14	13	61	1.1	1.3	0.1	0.1
New Caledonia	9	15	26	230	5.5	60.2	0.3	17.7
Papua New Guinea	39	37	42	142	1.9	3.1	0.3	0.3
Solomon Islands	20	20	16	16	0.1	0.1	0.0	0.1
Vanuatu	8	8	15	8	3.7	4.3	0.0	0.1
Micronesia	21	53	70	13	13.2	13.7		
Guam	2	14	8	3	25.5	26.4	0.6	0.8
Kiribati	1	6	10	0	5.0	23.2	0.3	22.6
Marshall Islands	2	4	11	0		3.1	0.0	0.6
Micronesia (Federated States of)	7	10	16	3		4.0	0.0	0.1
Nauru								
Northern Mariana Islands	5	15	11	4		12.8	0.0	28.7
Palau	4	4	14	3		2.0	0.5	5.3
Polynesia	8	51	64	52	1.2	2.9		
American Samoa	1	8	9	1	0.3	0.3	2.1	17
Cook Islands								
French Polynesia	1	32	22	47	0.2	0.4	0.0	0.1
Niue								
Pitcairn Islands								
Samoa	2	6	12	2	2.4	3.4	0.5	0.5
Tokelau								
Tonga	2	4	11	2	1.4	14.5	0.0	9.4
Tuvalu	2	1	10	0		0.4	0.0	0.2
Wallis and Futuna Islands								

TABLE 46: Agri-environmental indicators

	Stock of						Organic water pollutant (BOD) emissions	
	cattle and buffaloes		sheep and goats		poultry birds		kg/day	kg/day/worker
	per ha of agricultural area head/ha	head/ha	per ha of agricultural area head/ha	head/ha	per ha of agricultural area head/ha	head/ha		
2000	2009	2000	2009	2000	2009	2005-06*	2005-06*	
World	0.3	0.3	0.4	0.4	3.2	4.3		
Africa	0.2	0.2	0.4	0.5	1.1	1.4		
Eastern Africa	0.3	0.4	0.4	0.5	0.9	1.1		
Burundi	0.2	0.3	0.5	1.4	1.8	2.3		
Comoros	0.4	0.3	0.9	0.9	3.4	3.4		
Djibouti	0.2	0.2	0.6	0.6	0.0	0.0		
Eritrea	0.3	0.3	0.5	0.5	0.2	0.2	2 774.9	0.2
Ethiopia	1.1	1.4	0.6	1.3	0.9	1.1	26 759.0	0.2
Kenya	0.4	0.6	0.7	0.9	1.0	1.2		
Madagascar	0.3	0.2	0.0	0.0	0.8	0.9	92 769.7	0.1
Malawi	0.2	0.2	0.4	0.7	3.1	2.8		
Mauritius	0.2	0.1	0.7	0.5	69.8	139.8	15 436.0	0.2
Mayotte	0.0	0.0	0.0	0.0	0.0	0.0		
Mozambique	0.0	0.0	0.1	0.1	0.7	0.6		
Réunion	0.6	0.7	0.8	0.9	255.4	334.6		
Rwanda	0.4	0.6	0.6	1.7	0.8	1.7		
Seychelles	0.4	0.2	1.3	1.8	138.8	130.0		
Somalia	0.1	0.1	0.6	0.5	0.1	0.1		
Uganda	0.5	0.5	0.6	0.8	2.2	2.3		
United Republic of Tanzania	0.5	0.5	0.5	0.5	0.9	1.0	30 022.3	0.3
Zambia	0.1	0.1	0.1	0.1	1.3	1.4		
Zimbabwe	0.4	0.3	0.2	0.2	1.2	2.0		
Middle Africa	0.1	0.1	0.2	0.2	0.4	0.6		
Angola	0.1	0.1	0.0	0.1	0.1	0.2		
Cameroon	0.6	0.5	0.9	0.9	2.4	4.8		
Central African Republic	0.6	0.7	0.6	0.9	0.8	1.2		
Chad	0.1	0.1	0.2	0.2	0.1	0.1		
Congo	0.0	0.0	0.0	0.0	0.2	0.2		
Democratic Republic of the Congo	0.0	0.0	0.2	0.2	1.0	0.9		
Equatorial Guinea	0.0	0.0	0.1	0.2	1.0	1.2		
Gabon	0.0	0.0	0.1	0.1	0.6	0.6		
Sao Tome and Principe	0.1	0.1	0.1	0.2	7.3	8.3		
Northern Africa	0.2	0.2	0.6	0.7	2.1	2.4		
Algeria	0.0	0.0	0.5	0.6	2.8	3.0		
Egypt	2.1	2.3	2.4	2.6	36.1	38.4		
Libya	0.0	0.0	0.3	0.6	1.6	1.7		
Morocco	0.1	0.1	0.7	0.7	4.5	5.8	79 829.1	0.2
South Sudan								
Sudan								
Sudan (former)	0.3	0.3	0.6	0.7	0.3	0.3		
Tunisia	0.1	0.1	0.9	0.9	6.7	7.7		
Western Sahara								
Southern Africa	0.1	0.1	0.3	0.2	0.8	1.1		
Botswana	0.1	0.1	0.1	0.1	0.1	0.2	5 016.0	0.3
Lesotho	0.3	0.3	0.8	0.9	0.4	0.3	4 021.7	0.1
Namibia	0.1	0.1	0.1	0.1	0.1	0.1		
South Africa	0.1	0.1	0.4	0.3	1.3	1.7	191 580.5	0.2
Swaziland	0.5	0.5	0.4	0.2	2.5	2.6		
Western Africa	0.2	0.2	0.6	0.7	1.1	1.7		
Benin	0.5	0.6	0.6	0.7	3.7	4.8		
Burkina Faso	0.5	0.7	1.5	1.7	2.2	3.1		
Côte d'Ivoire	0.1	0.1	0.1	0.1	1.5	2.0		
Cape Verde	0.3	0.5	1.7	2.7	6.8	6.8		
Gambia	0.5	0.6	0.4	0.9	0.9	1.2		
Ghana	0.1	0.1	0.4	0.5	1.4	2.8		
Guinea	0.2	0.3	0.1	0.2	0.9	1.4		
Guinea-Bissau	0.3	0.4	0.4	0.7	0.8	0.9		
Liberia	0.0	0.0	0.2	0.2	1.6	2.6		
Mali	0.2	0.2	0.4	0.7	0.6	0.9		
Mauritania	0.0	0.0	0.3	0.3	0.1	0.1		
Niger	0.1	0.2	0.5	0.5	0.3	0.4		
Nigeria	0.2	0.2	1.0	1.2	1.6	2.5		
Saint Helena, Ascension and Tristan da Cunha	0.1	0.1	0.2	0.2	0.6	0.7		
Senegal	0.3	0.3	1.0	1.1	2.8	3.7		
Sierra Leone	0.1	0.1	0.1	0.4	2.5	2.7		
Togo	0.1	0.1	0.8	1.2	2.5	5.9		

TABLE 46: Agri-environmental indicators (continued)

	Stock of						Organic water pollutant (BOD) emissions	
	cattle and buffaloes		sheep and goats		poultry birds		kg/day	kg/day/worker
	per ha of agricultural area head/ha	head/ha	per ha of agricultural area head/ha	head/ha	per ha of agricultural area head/ha	head/ha		
	2000	2009	2000	2009	2000	2009	2005-06*	2005-06*
Americas	0.4	0.4	0.1	0.1	3.8	4.7		
Latin America and the Caribbean	0.5	0.6	0.2	0.2	3.1	4.2		
Anguilla								
Antigua and Barbuda	1.0	1.1	4.0	4.5	8.5	11.5		
Argentina	0.4	0.4	0.1	0.1	0.9	0.7		
Aruba	0.0	0.0	0.0	0.0	0.0	0.0		
Bahamas	0.1	0.1	1.5	1.5	180.8	214.3		
Barbados	1.2	0.6	0.5	0.9	184.4	191.9		
Belize	0.4	0.6	0.0	0.1	6.6	10.2		
Bolivia (Plurinational State of)	0.2	0.2	0.3	0.3	1.6	4.4		
Bonaire, Sint Eustatius and Saba								
Brazil	0.7	0.8	0.1	0.1	3.3	4.8		
British Virgin Islands	0.3	0.3	2.3	2.3	0.0	0.0		
Cayman Islands	0.7	0.8	0.4	0.8	2.2	2.2		
Chile	0.3	0.2	0.3	0.3	3.8	4.6	92 501.0	0.3
Colombia	0.5	0.6	0.1	0.1	2.3	3.7	86 991.8	0.2
Costa Rica	0.7	0.7	0.0	0.0	9.3	12.3		
Cuba	0.6	0.6	0.5	0.6	4.3	4.6		
Curaçao								
Dominica	0.6	0.6	0.8	0.7	9.0	7.8		
Dominican Republic	0.8	1.1	0.1	0.2	18.3	36.9		
Ecuador	0.6	0.7	0.3	0.3	16.9	13.3	44 748.0	0.3
El Salvador	0.7	0.9	0.0	0.0	6.6	8.8		
Falkland Islands (Malvinas)	0.0	0.0	0.6	0.6	0.0	0.0		
French Guiana	0.4	0.6	0.1	0.1	9.4	10.2		
Grenada	0.4	0.4	1.7	1.8	12.5	22.4		
Guadeloupe	1.3	1.7	0.8	0.5	9.3	7.4		
Guatemala	0.6	0.7	0.1	0.2	6.9	7.3		
Guyana	0.1	0.1	0.1	0.1	6.1	13.9		
Haiti	0.8	0.8	1.2	1.1	3.5	3.3		
Honduras	0.6	0.8	0.0	0.0	5.9	13.2		
Jamaica	0.8	0.4	0.9	1.1	24.4	30.6		
Martinique	0.9	0.8	0.9	0.9	14.4	13.3		
Mexico	0.3	0.3	0.1	0.2	3.4	5.0		
Montserrat	3.2	3.3	3.9	4.0	12.0	11.7		
Nicaragua	0.6	0.7	0.0	0.0	2.6	3.6		
Panama	0.6	0.7	0.0	0.0	6.6	7.5	13 734.3	0.3
Paraguay	0.5	0.6	0.0	0.0	0.8	0.9		
Peru	0.2	0.3	0.8	0.7	4.4	6.4		
Puerto Rico	1.6	2.0	0.1	0.1	44.2	69.5		
Saint Barthélemy								
Saint Kitts and Nevis	0.5	1.3	3.0	2.9	6.3	14.5		
Saint Lucia	0.6	1.0	1.4	1.8	13.8	40.9		
Saint-Martin (French Part)								
Saint Vincent and the Grenadines	0.6	0.5	1.9	2.1	20.0	25.0		
Sint Maarten (Dutch Part)								
Suriname	1.3	0.7	0.2	0.2	40.5	72.6		
Trinidad and Tobago	0.5	0.7	0.9	1.2	287.2	592.6		
Turks and Caicos Islands	0.0	0.0	0.0	0.0	0.0	0.0		
United States Virgin Islands	1.1	2.0	1.0	1.8	5.0	10.0		
Uruguay	0.7	0.8	0.9	0.6	0.9	1.2		
Venezuela (Bolivarian Republic of)	0.7	0.8	0.1	0.1	5.6	5.4		
Northern America	0.2	0.2	0.0	0.0	4.8	5.4		
Bermuda	0.6	0.9	0.3	0.5	45.0	67.6		
Canada	0.2	0.2	0.0	0.0	2.4	2.5		
Greenland	0.0	0.0	0.1	0.1	0.0	0.0		
Saint Pierre and Miquelon	0.0	0.0	0.2	0.1	4.0	13.7		
United States of America	0.2	0.2	0.0	0.0	5.2	5.8	1 850 753.0	0.1
Asia	0.4	0.4	0.5	0.6	5.0	7.2		
Central Asia	0.0	0.1	0.1	0.2	0.2	0.3		
Kazakhstan	0.0	0.0	0.0	0.1	0.1	0.1	96 769.6	0.2
Kyrgyzstan	0.1	0.1	0.4	0.5	0.3	0.4	11 898.3	0.2
Tajikistan	0.2	0.4	0.5	0.9	0.2	0.8	11 936.3	0.2
Turkmenistan	0.0	0.1	0.2	0.5	0.2	0.5		
Uzbekistan	0.2	0.3	0.3	0.5	0.5	1.1		

TABLE 46: Agri-environmental indicators (continued)

	Stock of						Organic water pollutant (BOD) emissions	
	cattle and buffaloes		sheep and goats		poultry birds		kg/day	kg/day/worker 2005-06*
	per ha of agricultural area		per ha of agricultural area		per ha of agricultural area			
	head/ha	head/ha	head/ha	head/ha	head/ha	head/ha		
	2000	2009	2000	2009	2000	2009	2005-06*	2005-06*
Eastern Asia	0.2	0.2	0.5	0.5	7.2	9.3		
China, Hong Kong SAR	0.2	0.3	0.0	0.1	1 250.0	1 491.7		
China, Macao SAR								
China	0.2	0.2	0.5	0.5	8.3	10.7	8 823 750.0	0.1
Democratic People's Republic of Korea	0.2	0.2	0.9	1.3	6.2	6.8		
Japan	0.9	1.0	0.0	0.0	56.3	61.9	1 126 863.0	0.1
Mongolia	0.0	0.0	0.2	0.3	0.0	0.0	8 018.7	0.2
Republic of Korea	1.1	1.7	0.2	0.1	54.6	81.7	319 603.5	0.1
South-Eastern Asia	0.5	0.5	0.3	0.3	15.5	20.8		
Brunei Darussalam	0.7	0.4	0.5	0.9	966.8	1 253.6		
Cambodia	0.8	0.8	0.0	0.0	4.3	4.9		
Indonesia	0.3	0.3	0.4	0.5	19.5	26.7	882 985.4	0.2
Lao People's Democratic Republic	1.2	1.1	0.1	0.1	8.1	11.1		
Malaysia	0.1	0.1	0.1	0.1	19.6	32.5	208 312.4	0.1
Myanmar	1.2	1.3	0.2	0.3	4.8	11.3		
Philippines	0.5	0.5	0.6	0.4	11.3	14.2	144 629.1	0.1
Singapore	0.2	0.3	0.4	0.9	2 250.0	5 642.9	36 009.7	0.1
Thailand	0.3	0.4	0.0	0.0	12.7	12.4	581 425.0	0.2
Timor-Leste	0.7	0.7	0.3	0.5	3.0	2.1		
Viet Nam	0.8	0.9	0.1	0.1	22.3	26.5	500 481.5	0.1
Southern Asia	1.2	1.4	1.2	1.5	3.1	7.3		
Afghanistan	0.1	0.1	0.6	0.5	0.2	0.3		
Bangladesh	2.5	2.7	3.7	5.6	17.6	28.7		
Bhutan	0.6	0.6	0.1	0.1	0.4	0.5		
India	1.6	1.8	1.0	1.2	2.2	4.3		
Iran (Islamic Republic of)	0.1	0.2	1.3	1.5	4.0	18.1	160 776.1	0.2
Maldives	0.0	0.0	0.0	0.0	0.0	0.0		
Nepal	2.5	2.8	1.7	2.2	4.5	5.9		
Pakistan	1.7	2.4	2.7	3.3	5.7	11.4	153 680.3	0.2
Sri Lanka	0.6	0.6	0.2	0.1	4.5	5.2	266 108.7	0.2
Western Asia	0.1	0.1	0.4	0.4	2.3	2.7		
Armenia	0.4	0.3	0.4	0.3	3.2	2.4		
Azerbaijan	0.4	0.5	1.2	1.8	3.1	4.8	18 835.5	0.2
Bahrain	1.2	0.9	4.6	7.8	53.3	67.3		
Cyprus	0.4	0.4	4.1	4.6	31.9	32.2	7 858.6	0.2
Georgia	0.4	0.4	0.2	0.3	2.8	2.7		
Iraq	0.2	0.2	0.9	1.1	2.5	3.1		
Israel	0.7	0.8	0.8	1.0	59.6	87.4		
Jordan	0.1	0.1	2.2	2.9	22.0	26.5	27 207.6	0.2
Kuwait	0.1	0.2	5.2	4.0	177.8	270.9		
Lebanon	0.1	0.1	1.3	1.2	52.1	54.5		
Occupied Palestinian Territory	0.1	0.1	2.4	2.6	31.0	20.4		
Oman	0.3	0.2	1.2	1.1	3.2	2.3	6 631.2	0.2
Qatar	0.2	0.2	6.0	5.6	63.8	104.6	6 387.9	0.1
Saudi Arabia	0.0	0.0	0.1	0.1	0.7	0.9	106 621.2	0.2
Syrian Arab Republic	0.1	0.1	1.1	1.4	1.7	1.9	77 853.6	0.2
Turkey	0.3	0.3	0.9	0.8	6.1	6.4	346 373.9	0.1
United Arab Emirates	0.2	0.1	3.2	6.0	22.1	31.6		
Yemen	0.1	0.1	0.6	0.8	1.3	2.5	46 526.3	0.2
Europe	0.3	0.3	0.3	0.3	4.0	4.4		
Eastern Europe	0.2	0.1	0.1	0.1	2.3	3.0		
Belarus	0.5	0.5	0.0	0.0	3.0	3.5		
Bulgaria	0.1	0.1	0.6	0.4	2.7	3.5	101 206.1	0.2
Czech Republic	0.4	0.3	0.0	0.1	3.5	5.9	146 529.2	0.1
Hungary	0.1	0.1	0.2	0.2	5.3	6.9	110 605.2	0.1
Poland	0.3	0.4	0.0	0.0	3.0	8.7	359 696.7	0.2
Republic of Moldova	0.2	0.1	0.4	0.4	4.9	7.4	21 124.8	0.4
Romania	0.2	0.2	0.6	0.7	5.2	6.9	228 075.4	0.1
Russian Federation	0.1	0.1	0.1	0.1	1.6	1.9	1 388 069.0	0.2
Slovakia	0.3	0.3	0.2	0.2	2.7	5.8	47 903.4	0.1
Ukraine	0.3	0.1	0.0	0.0	3.4	4.3	537 407.9	0.2
Northern Europe	0.7	0.6	1.3	1.0	6.1	6.1		
Åland Islands								
Channel Islands	0.0	0.0	0.0	0.0	0.0	0.0		
Denmark	0.7	0.6	0.1	0.0	8.2	7.4	60 952.0	0.2
Estonia	0.3	0.3	0.0	0.1	2.5	1.9	16 443.1	0.1
Faroe Islands	0.7	0.7	22.7	22.7	0.0	0.0		
Finland	0.5	0.4	0.0	0.1	3.8	2.3	55 320.7	0.1
Guernsey								
Iceland	0.0	0.0	0.2	0.2	0.1	0.1		

TABLE 46: Agri-environmental indicators (continued)

	Stock of						Organic water pollutant (BOD) emissions	
	cattle and buffaloes		sheep and goats		poultry birds		kg/day	kg/day/worker 2005-06*
	per ha of agricultural area head/ha	head/ha	per ha of agricultural area head/ha	head/ha	per ha of agricultural area head/ha	head/ha		
	2000	2009	2000	2009	2000	2009	2005-06*	2005-06*
Ireland	1.6	1.6	1.2	1.1	3.3	4.0	28 384.2	0.2
Isle of Man	0.0	0.0	0.0	0.0	0.0	0.0		
Jersey								
Latvia	0.2	0.2	0.0	0.0	2.2	2.5	29 260.2	0.2
Lithuania	0.3	0.3	0.0	0.0	1.9	3.4	42 625.5	0.2
Norway	0.9	0.9	2.3	2.3	3.4	4.6	46 923.9	0.2
Sark								
Svalbard and Jan Mayen Islands								
Sweden	0.5	0.5	0.1	0.2	2.4	2.4	96 883.4	0.1
United Kingdom	0.7	0.6	2.5	1.8	10.0	9.6	521 716.1	0.2
Southern Europe	0.3	0.3	0.9	0.8	5.5	6.5		
Albania	0.6	0.4	2.7	2.1	4.6	6.9	3 588.3	0.3
Andorra	0.0	0.0	0.0	0.0	0.0	0.0		
Bosnia and Herzegovina	0.2	0.2	0.3	0.5	4.6	8.8		
Croatia	0.4	0.3	0.5	0.5	9.6	5.8	41 825.8	0.2
Gibraltar								
Greece	0.1	0.1	1.7	1.7	3.6	4.0	60 775.4	0.2
Holy See								
Italy	0.5	0.5	0.8	0.7	7.9	10.4	479 215.5	0.1
Malta	2.1	1.7	1.9	2.0	92.2	117.2	4 074.0	0.2
Montenegro		0.2		0.4		0.8		
Portugal	0.4	0.4	1.1	0.8	11.1	12.4	87 724.1	0.2
San Marino	0.0	0.0	0.0	0.0	0.0	0.0		
Serbia		0.2		0.3		4.5		
Slovenia	0.9	1.0	0.2	0.3	8.8	5.5	28 770.5	0.1
Spain	0.2	0.2	0.9	0.8	4.3	5.0	378 843.8	0.2
The former Yugoslav Republic of Macedonia	0.2	0.2	1.1	0.8	2.7	2.1	19 953.3	0.2
Western Europe	0.8	0.8	0.3	0.3	10.7	8.9		
Austria	0.6	0.6	0.1	0.1	4.3	4.8	84 397.8	0.1
Belgium	2.2	1.9	0.1	0.1	28.2	24.7	95 874.2	0.2
France	0.7	0.7	0.4	0.3	10.2	6.6	569 353.3	0.2
Germany	0.9	0.8	0.2	0.2	7.0	7.7	936 197.3	0.1
Liechtenstein	0.7	0.9	0.5	0.7	0.0	0.0		
Luxembourg	1.6	1.5	0.1	0.1	0.6	0.7	4 257.4	0.2
Monaco								
Netherlands	2.1	2.1	0.8	0.8	54.5	51.7	128 220.0	0.2
Switzerland	1.0	1.0	0.3	0.3	4.5	5.8		
Oceania	0.1	0.1	0.3	0.3	0.2	0.3		
Australia and New Zealand	0.1	0.1	0.3	0.3	0.2	0.3		
Australia	0.1	0.1	0.3	0.2	0.2	0.2		
New Zealand	0.6	0.9	2.8	2.8	0.9	1.2	62 458.6	0.2
Norfolk Island	0.0	0.0	0.0	0.0	0.0	0.0		
Melanesia	0.4	0.3	0.1	0.1	4.6	4.5		
Fiji	0.8	0.7	0.6	0.6	9.7	8.7		
New Caledonia	0.5	0.4	0.1	0.0	1.9	2.0		
Papua New Guinea	0.1	0.1	0.0	0.0	3.7	3.7		
Solomon Islands	0.2	0.2	0.0	0.0	2.5	2.9		
Vanuatu	0.8	0.9	0.1	0.1	1.9	4.3		
Micronesia	0.1	0.1	0.0	0.0	7.7	10.0		
Guam	0.0	0.0	0.0	0.0	10.0	10.5		
Kiribati	0.0	0.0	0.0	0.0	10.7	16.8		
Marshall Islands	0.0	0.0	0.0	0.0	0.0	0.0		
Micronesia (Federated States of)	0.6	0.6	0.2	0.2	8.3	8.7		
Nauru	0.0	0.0	0.0	0.0	12.5	12.5		
Northern Mariana Islands	0.0	0.0	0.0	0.0	0.0	0.0		
Palau	0.0	0.0	0.0	0.0	0.0	0.0		
Polynesia	0.3	0.3	0.2	0.2	8.0	8.8		
American Samoa	0.0	0.0	0.0	0.0	7.6	8.0		
Cook Islands	0.0	0.0	0.4	0.3	8.3	6.7		
French Polynesia	0.3	0.2	0.4	0.4	7.7	6.8		
Niue	0.0	0.0	0.0	0.0	2.5	3.0		
Pitcairn Islands								
Samoa	0.4	0.4	0.0	0.0	7.0	9.3		
Tokelau	0.0	0.0	0.0	0.0	8.3	8.3		
Tonga	0.4	0.4	0.4	0.4	10.0	10.6		
Tuvalu	0.0	0.0	0.0	0.0	20.0	25.0		
Wallis and Futuna Islands	0.0	0.0	1.2	1.2	10.5	10.8		

TABLE 47: Water pollution

	Water pollution							
	% of total BOD emissions							
	chemical industry	clay and glass industry	food industry	metal industry	other industry	paper and pulp industry	textile industry	wood industry
%	%	%	%	%	%	%	%	
	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*
World								
Africa								
Eastern Africa								
Burundi								
Comoros								
Djibouti								
Eritrea	9.5	13.2	30.0	0.2	17.8	4.1	25.1	
Ethiopia	10.6	8.5	30.7	1.8	11.3	6.8	28.8	1.5
Kenya								
Madagascar	12.4	2.8	7.6	0.3	10.0	1.6	58.9	6.3
Malawi								
Mauritius	6.1		15.1	0.4	11.0	3.8	63.1	0.6
Mayotte								
Mozambique								
Réunion								
Rwanda								
Seychelles								
Somalia								
Uganda								
United Republic of Tanzania	8.6	1.9	61.2	2.6	5.3	4.8	12.7	2.9
Zambia								
Zimbabwe								
Middle Africa								
Angola								
Cameroon								
Central African Republic								
Chad								
Congo								
Democratic Republic of the Congo								
Equatorial Guinea								
Gabon								
Sao Tome and Principe								
Northern Africa								
Algeria								
Egypt								
Libya								
Morocco	8.7	9.5	17.4	1.0	16.7	2.8	42.1	1.9
South Sudan								
Sudan								
Sudan (former)								
Tunisia								
Western Sahara								
Southern Africa								
Botswana		0.6	56.7		36.9	2.4	3.4	
Lesotho	1.1	1.2	3.4	0.9	1.9	0.5	91.0	
Namibia								
South Africa	11.4	5.2	14.7	5.8	39.6	7.0	11.9	4.3
Swaziland								
Western Africa								
Benin								
Burkina Faso								
Côte d'Ivoire								
Cape Verde								
Gambia								
Ghana								
Guinea								
Guinea-Bissau								
Liberia								
Mali								
Mauritania								
Niger								
Nigeria								
Saint Helena, Ascension and Tristan da Cunha								
Senegal								
Sierra Leone								
Togo								

TABLE 47: Water pollution (continued)

	Water pollution							
	% of total BOD emissions							
	chemical industry	clay and glass industry	food industry	metal industry	other industry	paper and pulp industry	textile industry	wood industry
%	%	%	%	%	%	%	%	
	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*
Americas								
Latin America and the Caribbean								
Anguilla								
Antigua and Barbuda								
Argentina								
Aruba								
Bahamas								
Barbados								
Belize								
Bolivia (Plurinational State of)								
Bonaire, Sint Eustatius and Saba								
Brazil								
British Virgin Islands								
Cayman Islands								
Chile	13.7	3.6	35.1	7.6	17.7	6.3	9.1	6.9
Colombia	17.3	5.3	21.3	2.3	19.9	8.9	24.1	0.9
Costa Rica								
Cuba								
Curaçao								
Dominica								
Dominican Republic								
Ecuador	12.8	4.4	46.4	1.8	12.3	7.8	12.3	2.2
El Salvador								
Falkland Islands (Malvinas)								
French Guiana								
Grenada								
Guadeloupe								
Guatemala								
Guyana								
Haiti								
Honduras								
Jamaica								
Martinique								
Mexico								
Montserrat								
Nicaragua								
Panama	6.9	4.0	55.2	0.9	15.0	11.6	4.7	1.6
Paraguay								
Peru								
Puerto Rico								
Saint Barthélemy								
Saint Kitts and Nevis								
Saint Lucia								
Saint Martin (French Part)								
Saint Vincent and the Grenadines								
Sint Maarten (Dutch Part)								
Suriname								
Trinidad and Tobago								
Turks and Caicos Islands								
United States Virgin Islands								
Uruguay								
Venezuela (Bolivarian Republic of)								
Northern America								
Bermuda								
Canada								
Greenland								
Saint Pierre and Miquelon								
United States of America	13.1	3.9	12.0	3.5	51.1	8.1	4.3	4.1
Asia								
Central Asia								
Kazakhstan	8.9	7.9	18.5	33.7	24.0	2.3	4.3	0.5
Kyrgyzstan	8.3	14.8	24.7	8.6	24.5	6.4	11.0	1.8
Tajikistan	3.8	10.3	15.2	18.9	6.5	2.6	42.4	0.3
Turkmenistan								
Uzbekistan								

TABLE 47: Water pollution (continued)

	Water pollution							
	% of total BOD emissions							
	chemical industry	clay and glass industry	food industry	metal industry	other industry	paper and pulp industry	textile industry	wood industry
%	%	%	%	%	%	%	%	
	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*
Eastern Asia								
China, Hong Kong SAR								
China, Macao SAR								
China	13.0	6.5	7.4	7.2	38.7	4.1	21.4	1.7
Democratic People's Republic of Korea								
Japan	11.2	3.6	15.0	3.3	52.5	7.0	5.3	2.0
Mongolia	2.9	10.2	26.2	3.8	4.1	4.4	43.6	4.8
Republic of Korea	12.1	3.0	6.3	4.2	58.9	5.4	9.3	0.9
South-Eastern Asia								
Brunei Darussalam								
Cambodia								
Indonesia	12.0	4.0	23.1	1.4	19.9	4.1	29.2	6.3
Lao People's Democratic Republic								
Malaysia	16.5	3.8	9.1	2.8	48.5	4.9	6.6	7.8
Myanmar								
Philippines	9.5	2.7	14.4	2.6	42.9	4.2	21.6	2.1
Singapore	11.4	1.3	5.3	0.5	72.9	5.8	2.4	0.4
Thailand	12.4	4.7	16.4	1.9	37.2	4.2	20.5	2.8
Timor-Leste								
Viet Nam	6.8	6.7	13.3	1.4	24.7	3.5	40.3	3.3
Southern Asia								
Afghanistan								
Bangladesh								
Bhutan								
India								
Iran (Islamic Republic of)	12.8	13.8	16.1	7.1	35.5	2.8	11.2	0.7
Maldives								
Nepal								
Pakistan	9.1	4.3	15.1	2.2	11.2	1.9	55.6	0.4
Sri Lanka	9.0	6.3	22.4	2.6	9.3	4.3	43.6	2.5
Western Asia								
Armenia								
Azerbaijan	18.7	6.5	19.0	9.7	28.5	2.5	13.6	1.4
Bahrain								
Cyprus	9.4	9.8	36.2	0.3	21.9	9.1	5.5	7.8
Georgia								
Iraq								
Israel								
Jordan	14.7	11.6	21.6	2.5	24.2	6.1	16.8	2.6
Kuwait								
Lebanon								
Occupied Palestinian Territory								
Oman	16.3	23.7	21.6	4.3	21.6	5.1	5.2	2.1
Qatar	10.5	18.1	6.5	3.7	21.3	6.7	20.7	12.5
Saudi Arabia	11.6	10.7	20.0	3.2	30.0	6.9	14.4	3.3
Syrian Arab Republic	7.1	11.4	20.2	1.5	20.9	1.9	32.0	5.1
Turkey	8.6	6.6	12.4	3.8	30.9	3.8	32.2	1.7
United Arab Emirates								
Yemen	7.4	14.6	35.9		19.4	2.1	15.5	5.1
Europe								
Eastern Europe								
Belarus								
Bulgaria	7.6	4.6	18.0	3.8	30.6	4.3	28.0	3.0
Czech Republic	10.9	6.4	10.9	5.4	49.8	4.8	7.4	4.4
Hungary	10.6	3.7	15.2	2.7	49.0	6.4	9.1	3.3
Poland	11.3	5.5	18.1	3.3	41.5	5.1	10.3	4.9
Republic of Moldova			95.7		1.0	3.3		
Romania	6.7	3.9	13.4	4.6	35.4	3.4	27.4	5.1
Russian Federation	11.9	8.0	17.8	9.0	37.7	5.0	6.6	4.2
Slovakia	9.1	6.0	10.7	7.9	51.7	5.4	5.0	4.2
Ukraine	10.3	6.5	20.7	14.5	35.8	4.1	6.1	2.1
Northern Europe								
Åland Islands								
Channel Islands								
Denmark	13.1	4.8	16.4	1.4	47.3	11.5	1.5	4.0
Estonia	8.4	5.1	15.1	0.4	37.9	7.3	8.8	17.0
Faroe Islands								
Finland	8.7	4.4	9.0	1.0	51.4	15.4	2.8	7.3
Guernsey								
Iceland								

TABLE 47: Water pollution (continued)

	Water pollution							
	% of total BOD emissions							
	chemical industry	clay and glass industry	food industry	metal industry	other industry	paper and pulp industry	textile industry	wood industry
%	%	%	%	%	%	%	%	
	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*	2005-06*
Ireland	17.6	5.9	14.8	1.3	45.5	10.2	0.8	3.8
Isle of Man								
Jersey								
Latvia	5.6	3.9	21.8	2.6	27.1	6.8	12.6	19.6
Lithuania	7.6	4.4	20.0	0.8	31.2	5.2	19.3	11.5
Norway	7.5	4.3	19.1	4.9	44.2	12.1	2.0	6.0
Sark								
Svalbard and Jan Mayen Islands								
Sweden	9.9	2.6	8.6	5.3	54.9	11.9	1.2	5.6
United Kingdom	13.5	3.6	14.9	2.7	46.1	12.5	4.3	2.5
Southern Europe								
Albania			39.8				60.2	
Andorra								
Bosnia and Herzegovina								
Croatia	9.5	5.9	18.0	3.2	36.0	7.2	15.3	4.8
Gibraltar								
Greece	10.1	7.0	23.9	3.9	28.9	9.0	14.4	2.8
Holy See								
Italy	10.3	5.4	9.3	3.5	49.6	5.2	13.6	2.9
Malta	10.4	4.5	17.1	0.3	46.7	9.0	11.3	0.5
Montenegro								
Portugal	3.4	5.2	19.8	0.2	38.5	8.1	16.3	8.5
San Marino								
Serbia								
Slovenia	11.8	3.6	8.6	4.5	49.3	6.4	10.9	4.9
Spain	10.8	7.9	15.3	3.1	42.7	8.0	8.4	3.8
The former Yugoslav Republic of Macedonia	6.8	3.3	15.9	5.8	18.2	4.7	42.4	2.8
Western Europe								
Austria	9.3	5.8	12.2	5.7	49.5	7.1	4.3	6.0
Belgium	18.6	3.1	16.4	6.4	40.0	7.9	5.5	2.2
France	15.0	3.8	16.6	3.2	46.9	7.4	4.8	2.4
Germany	12.4	3.4	11.4	3.8	57.6	7.1	2.4	1.9
Liechtenstein								
Luxembourg	27.2	13.7	15.5	0.7	31.4	9.0	0.4	2.2
Monaco								
Netherlands	14.1	4.0	18.2	3.1	42.5	13.4	2.1	2.6
Switzerland								
Oceania								
Australia and New Zealand								
Australia								
New Zealand	8.6	3.1	30.4	2.0	29.3	12.7	6.1	7.8
Norfolk Island								
Melanesia								
Fiji								
New Caledonia								
Papua New Guinea								
Solomon Islands								
Vanuatu								
Micronesia								
Guam								
Kiribati								
Marshall Islands								
Micronesia (Federated States of)								
Nauru								
Northern Mariana Islands								
Palau								
Polynesia								
American Samoa								
Cook Islands								
French Polynesia								
Niue								
Pitcairn Islands								
Samoa								
Tokelau								
Tonga								
Tuvalu								
Wallis and Futuna Islands								

TABLE 48: Renewable feedstocks

	Production		Organic agriculture % of total area	Production			
	biofuel			natural fibre		recovered paper	
	thousand kilotonne of oil equivalent 2000	thousand kilotonne of oil equivalent 2009	%	total thousand tonnes 2010	p.a. growth % 1992-2010	thousand tonnes 2000	thousand tonnes 2011
World	954	1 132	0.8	28 143		142 951	210 681
Africa	202	258	0.1	1 397		1 305	1 724
Eastern Africa	59	83		401		129	121
Burundi	0	0	0.0	1	-5.9	0	0
Comoros	0	0	0.8	0		0	0
Djibouti	0	0		0		0	0
Eritrea	1	1		0		0	0
Ethiopia	17	30	0.4	41		2	2
Kenya	11	14	0.0	28	-2.0	38	38
Madagascar	0	0	0.0	25	0.5	2	2
Malawi	0	0	0.0	8	4.6	0	0
Mauritius	0	0	0.0	0	0.6	3	3
Mayotte	0	0		0		0	0
Mozambique	6	8	0.0	61	6.3	5	5
Réunion	0	0	0.4	0	-0.5	0	0
Rwanda	0	0	0.2	0		0	0
Seychelles	0	0		0		0	0
Somalia	0	0		2	3.2	0	0
Uganda	0	0	1.6	26	7.6	0	0
United Republic of Tanzania	12	17	0.2	134	0.7	0	0
Zambia	5	6	0.0	35	7.6	0	0
Zimbabwe	6	6	0.0	40	3.1	78	70
Middle Africa	28	35		107		0	0
Angola	6	7	0.0	2	-4.9	0	0
Cameroon	5	4	0.0	62	0.9	0	0
Central African Republic	0	0		4	-4.8	0	0
Chad	0	0		26	-3.3	0	0
Congo	1	1		0		0	0
Democratic Republic of the Congo	16	21	0.0	12	-0.6	0	0
Equatorial Guinea	0	0		0	-4.9	0	0
Gabon	1	1		0		0	0
Sao Tome and Principe	0	0	7.3	0		0	0
Northern Africa	14	14		169		466	493
Algeria	0	0	0.0	0	-0.3	37	32
Egypt	1	2	1.5	148	-5.2	350	380
Libya	0	0		0		0	0
Morocco	0	0	0.0	2	-6.2	35	35
South Sudan							
Sudan							6
Sudan (former)	11	11	0.3	19	-6.1	6	
Tunisia	1	1	1.7	1	1.0	38	40
Western Sahara							
Southern Africa	14	15		14		696	1 096
Botswana	1	0		0	-3.5	0	0
Lesotho	0	0	0.0	0		0	0
Namibia	0	0	0.0	0		0	0
South Africa	13	14	0.1	13	-3.5	690	1 090
Swaziland	0	0	0.0	1	-8.4	6	6
Western Africa	88	112		707		14	14
Benin	1	2	0.0	76	0.6	0	0
Burkina Faso	0	0	0.1	190	5.8	0	0
Cape Verde	0	0		0		0	0
Côte d'Ivoire	4	8	0.1	85	-0.1	6	6
Gambia	0	0	0.0	0	-9.9	0	0
Ghana	5	6	0.2	9	-0.9	0	0
Guinea	0	0		13	2.6	0	0
Guinea-Bissau	0	0		2	6.3	0	0
Liberia	0	0		0		0	0
Mali	0	0	0.1	79	-3.0	0	0
Mauritania	0	0		0		0	0
Niger	0	0	0.0	1	-2.9	0	0
Nigeria	74	92	0.0	221	3.5	8	8
Saint Helena, Ascension and Tristan da Cunha	0	0		0		0	0
Senegal	1	1	0.3	8	-4.9	0	0
Sierra Leone	0	0	2.1	8	2.4	0	0
Togo	2	2	0.0	14	-5.9	0	0

TABLE 48: Renewable feedstocks (continued)

	Production		Organic agriculture % of total area	Production			
	biofuel			natural fibre		recovered paper	
	thousand kilotonne of oil equivalent 2000	thousand kilotonne of oil equivalent 2009	%	total	p.a. growth %	thousand tonnes 2000	thousand tonnes 2011
				thousand tonnes 2010			
Americas	163	209	0.1	5 874		51 531	60 406
Latin America and the Caribbean	91	124		1 904		5 537	10 249
Anguilla	0	0		0		0	0
Antigua and Barbuda	0	0		0	-0.7	0	0
Argentina	3	3	3.0	233	-0.5	927	987
Aruba	0	0		0		0	0
Bahamas	0	0		0		0	0
Barbados	0	0		0		0	0
Belize	0	0	0.8	0		0	0
Bolivia (Plurinational State of)	1	1	0.1	29	6.2	0	0
Bonaire, Sint Eustatius and Saba	0	0		0		0	0
Brazil	46	77	0.6	1 316	1.9	2 612	4 348
British Virgin Islands	0	0		0		0	0
Cayman Islands	0	0		0		0	0
Chile	4	5	0.5	16	-0.4	136	489
Colombia	4	4	0.1	26	-8.8	355	633
Costa Rica	0	1	0.4	1	2.4	11	29
Cuba	5	2	0.2	13	-4.3	23	28
Curaçao	0	0		0		0	0
Dominica	0	0		0		0	0
Dominican Republic	1	2	6.6	0	-16.6	23	65
Ecuador	1	1	0.9	35	0.0	68	150
El Salvador	1	2	0.4	3	-8.4	5	5
Falkland Islands (Malvinas)	0	0	35.7	0		0	0
French Guiana	0	0	11.7	0		0	0
Grenada	0	0	0.4	0	0.0	0	0
Guadeloupe	0	0	0.2	0		2	2
Guatemala	4	5	0.3	1	-18.2	18	18
Guyana	0	0	0.3	0		0	0
Haiti	2	2	0.0	8	-0.8	0	0
Honduras	1	2	0.4	1	-3.1	51	51
Jamaica	1	1	0.1	1	2.0	10	10
Martinique	0	0	0.5	0		2	2
Mexico	9	8	0.3	179	4.0	920	3 039
Montserrat	0	0		0	-1.2	0	0
Nicaragua	1	1	0.7	5	-9.0	0	0
Panama	0	0	0.2	0		13	13
Paraguay	2	3	0.2	5	-17.0	30	30
Peru	2	2	2.1	21	-2.7	72	72
Puerto Rico	0	0		0		0	0
Saint Barthélemy	0	0		0		0	0
Saint Kitts and Nevis	0	0		0		0	0
Saint Lucia	0	0		0		1	1
Saint-Martin (French Part)	0	0		0		0	0
Saint Vincent and the Grenadines	0	0		0		0	0
Sint Maarten (Dutch Part)	0	0		0		0	0
Suriname	0	0	0.0	0		0	0
Trinidad and Tobago	0	0		0		3	7
Turks and Caicos Islands	0	0		0		0	0
United States Virgin Islands	0	0		0		0	0
Uruguay	0	1	6.4	0		13	25
Venezuela (Bolivarian Republic of)	1	1	0.0	8	-8.3	242	245
Northern America	72	86		3 970		45 994	50 157
Bermuda	0	0		0		0	0
Canada	12	11	1.1	28	-1.4	2 624	3 284
Greenland	0	0		0		0	0
Saint Pierre and Miquelon	0	0		0		0	0
United States of America	61	74	0.5	3 942	0.6	43 370	46 873
Asia	519	556	0.2	20 019		44 117	89 950
Central Asia	0	0		1 698		0	15
Kazakhstan	0	0	0.1	92	1.1	0	15
Kyrgyzstan	0	0	0.1	24	3.1	0	0
Tajikistan	0	0	0.0	95	-3.3	0	0
Turkmenistan	0	0		330	-0.9	0	0
Uzbekistan	0	0	0.0	1 156	-0.9	0	0

TABLE 48: Renewable feedstocks (continued)

	Production		Organic agriculture % of total area	Production			
	biofuel			natural fibre		recovered paper	
	thousand kilotonne of oil equivalent 2000	thousand kilotonne of oil equivalent 2009	%	total	p.a. growth	thousand tonnes 2000	thousand tonnes 2011
				thousand tonnes 2010	% 1992-2010		
Eastern Asia	210	210		6 353		37 358	77 890
China, Hong Kong SAR	0	0		0		826	1 259
China, Macao SAR	0	0		0		27	27
China	204	204	0.4	6 329	0.8	13 490	46 196
Democratic People's Republic of Korea	1	1		24	0.8	0	0
Japan	5	5	0.2	0		18 012	21 581
Mongolia	0	0		0		0	0
Republic of Korea	0	1	0.7	0	-21.7	5 003	8 827
South-Eastern Asia	109	123		437		4 422	7 774
Brunei Darussalam	0	0		0		0	0
Cambodia	3	4	0.2	4	0.2	0	20
Indonesia	49	53	0.1	61	-2.0	1 978	3 934
Lao People's Democratic Republic	0	0	0.2	4	-2.9	0	0
Malaysia	3	3	0.0	0		890	1 200
Myanmar	9	11	0.0	147	7.0	28	38
Philippines	8	7	0.4	74	0.1	333	326
Singapore	0	0		0		275	275
Thailand	15	21	0.1	48	-7.8	778	1 856
Timor-Leste	0	0	6.7	0		0	0
Viet Nam	22	25	0.1	99	-0.4	140	125
Southern Asia	192	217		10 505		1 060	1 223
Afghanistan	0	0	0.0	11	-3.8	0	0
Bangladesh	8	9	0.0	943	-0.2	0	0
Bhutan	0	0		0	1.3	0	0
India	149	165	0.7	7 588	4.4	850	850
Iran (Islamic Republic of)	0	0	0.0	72	-1.9	80	80
Maldives	0	0		0		0	0
Nepal	7	9	0.2	21	0.4	0	4
Pakistan	24	30	0.1	1 870	1.1	95	163
Sri Lanka	4	5	0.8	0		35	126
Western Asia	7	5		1 026		1 277	3 048
Armenia	0	0	0.0	0		0	0
Azerbaijan	0	0	0.4	13	-11.4	0	0
Bahrain	0	0		0		0	40
Cyprus	0	0	2.8	0		10	43
Georgia	1	0	0.0	0		0	10
Iraq	0	0		16	10.2	11	6
Israel	0	0	1.1	7	-7.5	188	305
Jordan	0	0	0.1	0		12	3
Kuwait	0	0		0		15	170
Lebanon	0	0	0.5	0		0	0
Occupied Palestinian Territory	0	0	0.3	0		0	0
Oman	0	0	0.0	0		0	80
Qatar	0	0		0		0	0
Saudi Arabia	0	0	0.0	0		75	1 000
Syrian Arab Republic	0	0	0.3	165	-2.4	0	0
Turkey	6	5	1.3	817	1.9	866	1 016
United Arab Emirates	0	0	0.1	0		100	375
Yemen	0	0		8	3.9	0	0
Europe	64	102	1.8	464		43 915	55 239
Eastern Europe	14	20		129		3 572	5 991
Belarus	1	1		46	-1.6	0	0
Bulgaria	1	1	0.2	0	-11.0	80	31
Czech Republic	1	2	9.4	0		365	422
Hungary	1	2	2.4	0	1.2	274	670
Poland	4	6	2.3	0	-10.7	778	1 840
Republic of Moldova	0	0	1.3	0		0	3
Romania	3	4	1.2	3	-7.9	96	350
Russian Federation	4	3	0.0	78	-3.0	1 540	2 100
Slovakia	0	1	7.5	0		147	236
Ukraine	0	1	0.7	1	-21.5	292	339
Northern Europe	20	26		15		8 267	11 674
Åland Islands	0	0		0		0	0
Channel Islands	0	0	4.2	0		0	0
Denmark	1	2	5.8	0		294	619
Estonia	1	1	10.4	0	-9.9	11	64
Faroe Islands	0	0	0.3	0		0	0
Finland	6	7	7.2	0		685	583
Guernsey	0	0		0		0	0
Iceland	0	0	0.4	0		8	20

TABLE 48: Renewable feedstocks (continued)

	Production		Organic agriculture % of total area	Production			
	biofuel			natural fibre		recovered paper	
	thousand kilotonne of oil equivalent 2000	thousand kilotonne of oil equivalent 2009	%	total	p.a. growth	thousand tonnes 2000	thousand tonnes 2011
				thousand tonnes 2010	% 1992-2010		
Ireland	0	0	1.1	0		75	338
Isle of Man	0	0		0		0	0
Jersey	0	0		0		0	0
Latvia	1	2	8.7	0	-17.8	40	75
Lithuania	1	1	4.8	0	-28.6	34	129
Norway	1	1	5.6	0		351	427
Sark	0	0		0		0	0
Svalbard and Jan Mayen Islands	0	0		0		0	0
Sweden	8	9	12.5	0		1 468	1 382
United Kingdom	1	3	4.2	14	27.0	5 301	8 036
Southern Europe	11	15		221		8 953	11 148
Albania	0	0	0.0	0	-1.9	0	0
Andorra	0	0		0		0	0
Bosnia and Herzegovina	0	0	0.0	0		0	37
Croatia	0	0	1.1	0		64	0
Gibraltar	0	0		0		0	0
Greece	1	1	4.0	180	-2.0	52	191
Holy See	0	0		0		0	0
Italy	1	4	7.9	2	10.7	5 057	5 042
Malta	0	0	0.3	0		0	19
Montenegro	0	0	0.9	0		0	0
Portugal	3	3	4.1	0		393	760
San Marino	0	0		0		0	0
Serbia	1	0	0.2	0		0	177
Slovenia	0	0	6.3	0		65	174
Spain	4	5	4.8	39	-3.4	3 319	4 722
The former Yugoslav Republic of Macedonia	0	0	0.1	0		2	25
Western Europe	19	40		99		23 123	26 427
Austria	3	4		3	38.9	1 269	1 443
Belgium	0	1	3.0	12		1 500	1 092
France	9	13	2.3	68	3.9	5 775	5 066
Germany	5	19	5.6	0		10 992	15 262
Liechtenstein	0	0	15.4	0		0	0
Luxembourg	0	0	2.6	0		0	89
Monaco	0	0		0		0	0
Netherlands	1	2	2.6	17	-1.1	2 450	2 159
Switzerland	1	1	7.4	0		1 137	1 315
Oceania	6	7	3.1	390		2 083	3 362
Australia and New Zealand	6	7		390		2 083	3 362
Australia	5	6	3.2	387	-2.0	1 893	3 107
New Zealand	1	1	1.1	3	3.5	190	255
Norfolk Island	0	0		0		0	0
Melanesia	0	0		0		0	0
Fiji	0	0	0.0	0		0	0
New Caledonia	0	0		0		0	0
Papua New Guinea	0	0	0.3	0		0	0
Solomon Islands	0	0	4.0	0		0	0
Vanuatu	0	0	4.8	0		0	0
Micronesia	0	0		0		0	0
Guam	0	0		0		0	0
Kiribati	0	0		0		0	0
Marshall Islands	0	0		0		0	0
Micronesia (Federated States of)	0	0		0		0	0
Nauru	0	0		0		0	0
Northern Mariana Islands	0	0		0		0	0
Palau	0	0		0		0	0
Polynesia	0	0		0		0	0
American Samoa	0	0		0		0	0
Cook Islands	0	0		0		0	0
French Polynesia	0	0		0		0	0
Niue	0	0	4.0	0		0	0
Pitcairn Islands	0	0		0		0	0
Samoa	0	0	27.8	0	-2.0	0	0
Tokelau	0	0		0		0	0
Tonga	0	0		0		0	0
Tuvalu	0	0		0		0	0
Wallis and Futuna Islands	0	0		0		0	0

TABLE 49: Agricultural emissions

	Enteric fermentation	Manure management	Rice cultivation	Synthetic fertilizers	Manure applied to soils	Manure left on pasture	Crop residues	Cultivated organic soils	Burning crop residues
	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010
World	2 018 898.7	340 285.7	499 428.1	683 484.0	111 110.9	764 486.9	153 612.9	97 122.5	21 511.2
Africa	299 413.7	14 553.7	21 910.5	19 433.2	3 502.6	203 934.3	10 259.3	5 222.1	2 583.5
Eastern Africa	119 312.9	4 834.2	8 217.3	3 752.3	1 207.5	78 285.7	3 029.4	4 566.3	1 072.6
Burundi	674.6	58.8	32.2	7.8	25.8	555.4	31.1	325.2	9.1
Comoros	51.7	1.7	117.6	0.0	0.1	41.1	2.8	0.0	0.8
Djibouti	373.7	11.3	0.0	0.0	0.1	229.9	0.2	0.0	0.0
Eritrea	2 315.4	71.4	0.0	1.7	3.2	1 417.3	25.0	0.0	2.1
Ethiopia	43 051.5	919.3	39.1	1 007.8	39.0	28 716.4	763.1	1 286.1	159.9
Kenya	17 983.0	586.5	29.7	456.9	77.9	11 921.9	286.4	41.8	134.0
Madagascar	7 267.6	369.0	5 016.8	28.9	152.2	5 182.5	317.8	137.1	73.9
Malawi	1 248.6	379.0	86.0	555.7	219.8	1 038.4	262.3	58.2	106.8
Mauritius	11.4	16.8	0.0	34.5	4.1	79.0	0.2	0.0	2.4
Mayotte	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mozambique	1 501.0	272.1	271.9	280.0	141.1	1 251.6	180.9	0.0	113.9
Réunion	35.8	29.1	0.3	0.0	10.4	108.7	0.7	0.0	1.1
Rwanda	1 260.1	126.5	19.1	0.6	62.5	955.3	91.1	289.9	13.6
Seychelles	1.0	1.4	0.0	0.1	0.6	3.6	0.0	0.0	0.0
Somalia	13 351.4	574.7	10.6	0.0	6.5	5 024.6	36.5	0.0	13.1
Uganda	7 221.5	575.0	205.8	41.1	250.8	5 221.6	248.1	688.8	62.6
United Republic of Tanzania	16 712.1	493.0	2 349.6	376.6	84.0	11 793.9	516.5	718.7	220.9
Zambia	2 310.9	147.0	38.2	501.0	56.7	1 832.5	152.6	1 020.4	71.0
Zimbabwe	3 941.7	201.7	0.4	459.6	72.8	2 912.0	113.8	0.0	87.5
Middle Africa	20 777.0	1 273.4	755.2	134.0	511.5	14 419.1	615.4	290.0	294.0
Angola	3 778.9	181.8	148.0	30.3	82.7	2 716.8	132.6	11.8	99.7
Cameroon	4 730.1	381.2	205.8	75.1	177.7	3 641.2	187.9	114.3	57.8
Central African Republic	3 198.2	228.6	24.5	0.0	112.3	2 376.7	14.9	0.0	6.9
Chad	7 687.4	227.5	162.7	0.0	7.4	4 452.6	125.1	0.0	16.8
Congo	263.4	17.2	3.4	0.7	7.5	206.3	1.9	120.2	1.6
Democratic Republic of the Congo	1 045.5	196.4	210.0	24.0	100.7	951.7	150.4	3.0	109.4
Equatorial Guinea	8.4	1.6	0.0	0.0	0.7	8.4	0.0	0.7	0.0
Gabon	60.8	38.3	0.7	3.8	22.2	59.8	2.4	40.1	1.6
Sao Tome and Principe	4.5	1.0	0.0	0.0	0.3	5.6	0.2	0.0	0.1
Northern Africa	69 108.1	3 030.8	2 765.2	11 124.3	166.5	45 125.9	2 481.1	79.6	294.8
Algeria	4 183.7	258.8	0.8	293.8	21.2	3 566.9	366.0	0.0	53.6
Egypt	10 004.9	720.7	2 702.0	9 197.7	26.6	3 841.8	997.4	0.0	118.4
Libya	1 265.2	77.2	0.0	305.4	5.1	1 133.5	23.7	0.0	3.9
Morocco	5 253.1	364.8	43.5	880.6	30.1	4 650.2	576.3	0.0	95.6
South Sudan									
Sudan									
Sudan (former)	46 557.2	1 449.0	18.8	0.0	69.4	30 267.8	436.5	79.6	11.0
Tunisia	1 844.0	160.2	0.0	446.8	14.0	1 644.8	81.1	0.0	12.3
Western Sahara									
Southern Africa	18 163.1	759.1	6.5	2 570.2	210.9	13 618.0	765.5	25.9	218.9
Botswana	2 083.9	47.5	0.0	0.0	3.5	1 463.4	5.6	0.0	3.6
Lesotho	728.4	27.8	0.0	0.0	9.2	499.2	13.9	0.0	9.3
Namibia	2 196.6	58.2	0.0	0.0	8.4	1 596.7	8.4	0.0	1.8
South Africa	12 666.8	605.1	6.5	2 570.2	183.6	9 704.7	732.9	25.9	198.7
Swaziland	487.4	20.5	0.1	0.0	6.2	354.0	4.6	0.0	5.6
Western Africa	72 052.6	4 656.2	10 166.4	1 852.5	1 406.2	52 485.7	3 368.0	260.3	703.3
Benin	1 643.1	109.1	23.5	0.1	39.2	1 265.1	102.4	0.0	57.7
Burkina Faso	9 456.0	621.6	693.4	265.4	208.1	6 912.5	309.9	0.0	54.3
Cape Verde	70.8	40.3	0.0	0.0	24.3	52.6	1.2	0.0	2.2
Côte d'Ivoire	1 404.3	117.1	246.8	174.5	41.0	1 189.8	101.2	175.2	34.6
Gambia	380.6	15.6	455.9	11.5	3.2	262.5	26.6	0.0	6.3
Ghana	1 960.0	185.9	255.7	80.3	61.5	1 742.8	162.0	13.3	68.7
Guinea	3 760.6	95.6	2 007.4	15.9	15.6	2 766.7	184.4	59.7	60.5
Guinea-Bissau	554.3	78.9	130.8	0.0	43.1	400.1	18.0	0.0	3.9
Liberia	96.5	51.2	62.0	0.0	27.8	112.9	34.0	12.2	9.7
Mali	10 605.0	372.0	1 009.1	576.1	18.6	7 222.9	383.5	0.0	57.0
Mauritania	4 061.5	171.9	151.1	0.0	2.3	2 135.1	24.4	0.0	2.4
Niger	11 480.2	379.9	41.3	31.2	12.4	7 046.8	443.9	0.0	1.8
Nigeria	21 568.0	2 005.5	4 111.2	517.3	791.6	17 576.0	1 309.9	0.0	274.9
Saint Helena, Ascension and Tristan da Cunha	0.8	0.1	0.0	0.0	0.1	0.5	0.0	0.0	0.0
Senegal	3 691.4	222.4	216.4	173.3	43.1	2 762.4	103.2	0.0	13.0
Sierra Leone	654.5	45.9	750.5	0.0	6.0	410.5	87.3	0.0	21.2
Togo	665.1	143.1	11.1	6.9	68.2	626.5	76.2	0.0	35.2

TABLE 49: Agricultural emissions (continued)

	Enteric fermentation	Manure management	Rice cultivation	Synthetic fertilizers	Manure applied to soils	Manure left on pasture	Crop residues	Cultivated organic soils	Burning crop residues
	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010
Americas	668 620.3	84 974.0	28 176.7	134 681.2	29 853.7	245 454.3	46 235.8	13 054.7	5 742.6
Latin America and the Caribbean	526 127.6	20 461.8	17 424.1	47 721.3	15 315.4	202 574.9	19 177.9	1 590.3	2 757.5
Anguilla	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Antigua and Barbuda	25.9	1.4	0.0	0.0	1.3	11.7	0.0	0.0	0.0
Argentina	61 953.0	909.2	1 264.5	5 890.8	624.3	24 587.4	5 960.8	118.1	327.4
Aruba	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bahamas	3.5	6.4	0.0	0.0	4.2	10.3	0.0	0.0	0.1
Barbados	18.0	9.1	0.0	2.8	6.4	16.0	0.0	0.0	0.3
Belize	117.8	5.3	2.6	15.1	3.5	49.4	4.5	55.6	2.1
Bolivia (Plurinational State of)	13 906.3	598.1	252.7	126.3	299.0	4 980.9	292.4	0.0	36.8
Bonaire, Sint Eustatius and Saba	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brazil	261 675.0	9 114.7	3 696.4	18 426.8	7 452.0	100 930.4	8 440.1	3.7	1 328.9
British Virgin Islands	4.7	0.3	0.0	0.0	0.1	2.7	0.0	0.0	0.0
Cayman Islands	2.7	0.2	0.0	0.0	0.1	1.2	0.0	0.0	0.0
Chile	5 571.5	631.8	113.9	2 662.6	379.0	2 421.1	188.8	22.2	16.0
Colombia	35 846.3	909.0	2 022.4	3 397.1	1 129.3	12 929.4	236.5	324.2	52.4
Costa Rica	1 807.6	131.6	39.1	368.6	162.7	543.0	17.3	7.4	5.2
Cuba	5 449.4	314.5	1 037.4	303.8	196.8	2 177.9	56.4	0.0	37.8
Curaçao	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dominica	20.5	1.4	0.0	0.5	1.8	7.1	0.0	0.0	0.0
Dominican Republic	3 520.5	307.9	1 146.7	355.5	236.1	1 459.1	53.2	0.0	12.0
Ecuador	6 965.8	554.6	1 733.7	1 026.9	442.5	2 866.7	158.1	15.9	45.8
El Salvador	1 717.7	95.4	2.9	399.3	81.9	623.7	53.4	0.0	18.6
Falkland Islands (Malvinas)	79.6	2.3	0.0	0.0	0.3	59.8	0.0	0.0	0.0
French Guiana	17.7	3.5	21.8	0.0	1.6	7.3	0.7	17.5	0.2
Grenada	7.8	1.1	0.0	0.0	0.6	4.5	0.0	0.0	0.0
Guadeloupe	90.9	2.8	0.0	0.0	1.3	38.3	0.0	0.0	0.6
Guatemala	3 940.1	431.6	4.7	917.5	272.8	1 506.2	120.9	0.0	64.3
Guyana	165.4	43.6	1 145.1	91.2	31.7	117.2	36.2	330.4	9.2
Haiti	2 269.8	178.8	110.5	0.0	100.2	873.0	36.9	0.0	21.7
Honduras	3 458.8	171.5	6.1	209.7	165.0	1 278.4	44.0	0.0	33.0
Jamaica	281.3	57.4	0.0	31.2	32.9	167.6	0.3	59.3	1.4
Martinique	28.3	2.7	0.0	0.0	1.6	12.3	0.0	0.0	0.2
Mexico	45 070.3	3 494.2	115.1	7 782.1	1 941.7	17 921.4	1 749.7	0.0	497.8
Montserrat	13.7	0.4	0.0	0.0	0.5	5.4	0.0	0.0	0.0
Nicaragua	4 707.8	154.5	51.9	257.8	212.4	1 559.2	63.4	5.9	26.7
Panama	2 063.5	85.3	30.0	140.3	63.9	789.5	22.8	119.3	8.2
Paraguay	14 734.4	279.2	174.9	526.8	143.4	5 845.7	774.9	0.0	71.8
Peru	13 818.4	791.0	1 919.7	1 442.1	481.5	4 180.7	283.2	144.1	52.1
Puerto Rico	485.4	36.6	0.0	0.0	34.8	197.5	0.0	27.3	0.0
Saint Barthélemy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saint Kitts and Nevis	10.0	1.1	0.0	0.2	0.5	5.0	0.0	0.0	0.0
Saint Lucia	16.4	4.0	0.0	0.0	1.9	8.0	0.0	0.0	0.0
Saint-Martin (French Part)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saint Vincent and the Grenadines	9.1	1.8	0.0	0.0	1.0	4.8	0.0	0.0	0.1
Sint Maarten (Dutch Part)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Suriname	72.0	18.9	314.9	63.5	11.5	48.0	12.4	203.3	2.0
Trinidad and Tobago	58.4	63.2	2.4	463.8	41.5	97.7	0.3	0.0	0.1
Turks and Caicos Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
United States Virgin Islands	10.9	0.5	0.0	0.0	0.3	4.5	0.0	0.0	0.0
Uruguay	15 101.2	157.9	952.0	977.7	151.7	6 086.8	323.5	9.8	23.3
Venezuela (Bolivarian Republic of)	21 006.3	886.4	1 262.7	1 841.1	599.6	8 135.3	247.1	126.2	61.7
Northern America	142 492.7	64 512.2	10 752.7	86 960.0	14 538.3	42 879.4	27 057.9	11 464.4	2 985.1
Bermuda	1.8	1.7	0.0	0.0	0.3	0.2	0.0	0.0	0.0
Canada	16 723.6	8 040.5	0.0	12 806.5	1 383.5	5 262.6	2 951.9	2 694.0	308.8
Greenland	3.3	0.2	0.0	0.0	0.0	0.9	0.0	0.0	0.0
Saint Pierre and Miquelon	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
United States of America	125 763.9	56 469.7	10 752.7	74 153.5	13 154.3	37 615.7	24 105.9	8 770.3	2 676.3
Asia	758 267.9	146 780.0	442 829.1	432 663.1	34 856.5	241 522.5	70 788.2	43 787.3	10 291.1
Central Asia	31 067.1	6 258.2	1 113.6	5 373.5	2 026.6	8 625.6	1 974.7	0.0	478.0
Kazakhstan	9 625.2	1 874.9	433.9	145.2	594.7	2 659.4	1 078.6	0.0	380.0
Kyrgyzstan	2 211.9	401.7	31.8	163.0	137.2	631.8	109.3	0.0	15.5
Tajikistan	2 818.5	543.7	68.6	293.6	187.9	737.4	84.2	0.0	11.0
Turkmenistan	4 787.8	933.4	297.7	0.0	325.6	1 653.6	221.0	0.0	27.2
Uzbekistan	11 623.7	2 504.5	281.6	4 771.7	781.1	2 943.3	481.6	0.0	44.3

TABLE 49: Agricultural emissions (continued)

	Enteric fermentation	Manure management	Rice cultivation	Synthetic fertilizers	Manure applied to soils	Manure left on pasture	Crop residues	Cultivated organic soils	Burning crop residues
	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010
Eastern Asia	176 241.3	62 383.3	124 283.4	230 765.3	14 241.5	73 812.8	27 813.4	2 640.2	2 948.6
China, Hong Kong SAR									
China, Macao SAR									
China	160 125.7	57 212.2	111 110.5	226 358.4	12 566.8	67 323.1	26 595.3	217.5	2 793.2
Democratic People's Republic of Korea	1 041.4	347.9	2 131.1	0.0	106.5	566.9	304.8	42.7	53.3
Japan	5 092.0	2 320.7	7 107.7	2 945.8	827.1	1 791.2	585.1	748.8	63.0
Mongolia	6 337.0	786.1	0.0	71.1	178.0	2 854.8	29.2	1 631.2	7.1
Republic of Korea	3 645.2	1 716.3	3 934.0	1 389.9	563.1	1 276.8	298.9	0.0	32.1
South-Eastern Asia	71 766.5	31 976.4	194 190.0	45 938.4	7 859.4	27 421.3	13 181.5	36 200.7	2 386.0
Brunei Darussalam	7.1	32.7	4.0	0.7	18.5	48.9	0.1	36.7	0.0
Cambodia	4 373.4	1 428.4	9 099.2	135.7	257.9	1 105.5	608.9	0.0	117.2
Indonesia	19 220.8	8 276.8	58 804.1	17 973.6	2 744.1	11 062.3	4 308.8	29 583.6	733.9
Lao People's Democratic Republic	2 896.7	1 142.1	1 795.0	0.0	215.9	790.7	228.4	0.0	44.4
Malaysia	1 202.8	1 107.1	2 531.4	6 442.5	425.2	1 165.8	148.0	3 662.5	23.7
Myanmar	17 971.6	5 894.6	26 461.5	322.1	1 238.5	4 518.9	2 101.9	1 850.4	309.3
Philippines	7 130.6	3 874.2	30 591.7	3 788.0	738.2	2 490.3	1 227.2	0.0	321.7
Singapore	5.9	56.0	0.0	0.0	11.3	12.8	0.0	0.0	0.0
Thailand	8 620.0	3 654.7	36 912.0	10 229.9	830.9	2 835.8	2 287.9	121.3	489.4
Timor-Leste	320.6	129.9	141.5	0.0	20.8	87.2	15.1	0.0	5.7
Viet Nam	10 017.1	6 379.9	27 849.4	7 045.9	1 358.2	3 303.0	2 255.1	946.2	340.7
Southern Asia	437 576.5	39 117.0	122 368.5	137 762.9	6 396.8	116 159.7	24 685.8	4 946.4	4 064.6
Afghanistan	6 562.6	471.2	588.0	214.0	75.2	2 284.5	417.4	0.0	86.5
Bangladesh	24 278.7	1 793.7	24 631.3	5 905.9	429.9	10 242.4	2 904.8	3 250.8	432.1
Bhutan	321.1	25.7	52.7	4.4	3.5	71.9	8.6	0.0	2.5
India	300 980.7	24 651.3	81 909.3	106 822.0	3 369.2	71 037.8	16 789.7	840.8	2 701.1
Iran (Islamic Republic of)	19 821.6	4 651.7	2 601.1	2 519.7	1 485.2	9 675.3	1 511.0	0.0	235.8
Maldives	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Nepal	11 325.3	837.1	3 257.5	114.6	131.9	2 744.4	524.5	550.9	129.1
Pakistan	72 930.9	6 552.1	6 953.1	21 110.1	874.9	19 796.7	2 280.1	0.0	436.6
Sri Lanka	1 355.7	134.2	2 375.5	1 072.1	27.1	306.6	249.7	303.8	40.8
Western Asia	41 616.5	7 045.1	873.7	12 822.9	4 332.2	15 503.1	3 132.8	0.1	413.8
Armenia	1 003.2	216.0	0.0	67.2	141.0	103.5	26.4	0.0	2.6
Azerbaijan	5 055.8	977.3	9.6	82.7	631.0	776.8	141.8	0.0	20.5
Bahrain	15.2	1.4	0.0	16.4	0.2	13.9	0.0	0.0	0.0
Cyprus	144.9	123.4	0.0	54.7	56.9	36.8	4.9	0.0	0.2
Georgia	1 840.8	399.7	0.0	83.3	247.1	175.6	17.4	0.0	7.6
Iraq	2 584.6	159.1	282.1	697.0	28.0	1 969.4	308.3	0.0	47.8
Israel	389.2	114.8	0.0	194.9	34.6	548.8	17.5	0.0	2.0
Jordan	377.9	42.8	0.0	102.0	8.0	413.9	6.1	0.0	0.7
Kuwait	138.8	45.1	0.0	41.6	10.7	260.5	0.4	0.0	0.0
Lebanon	156.0	44.1	0.0	97.6	12.8	295.8	16.3	0.0	1.4
Occupied Palestinian Territory	123.5	13.2	0.0	0.0	2.4	137.3	3.5	0.0	0.6
Oman	608.9	33.8	0.0	0.0	1.7	429.5	2.0	0.0	0.0
Qatar	71.8	9.6	0.0	528.5	1.6	54.4	0.5	0.0	0.0
Saudi Arabia	1 519.5	227.0	0.0	1 070.8	46.3	1 734.6	107.3	0.0	7.5
Syrian Arab Republic	3 412.0	147.5	0.0	769.2	9.9	2 318.5	315.9	0.0	47.5
Turkey	19 888.3	4 238.9	581.9	8 673.1	3 074.7	2 907.9	2 084.3	0.1	267.9
United Arab Emirates	676.5	54.3	0.0	189.4	5.0	415.7	0.1	0.0	0.0
Yemen	3 609.6	197.3	0.0	154.4	20.5	2 910.2	80.3	0.0	7.5
Europe	223 870.1	84 785.3	6 370.4	86 960.3	42 233.5	34 255.8	23 947.2	30 067.3	2 486.7
Eastern Europe	75 358.2	23 133.2	1 508.2	32 287.9	15 873.7	7 515.3	11 369.2	18 445.9	1 574.1
Belarus	6 484.9	1 731.7	0.0	3 420.3	1 199.8	546.7	383.5	5 228.3	24.0
Bulgaria	1 319.0	358.8	70.6	1 858.6	240.0	175.9	409.8	157.7	63.1
Czech Republic	2 053.0	656.6	0.0	1 648.7	482.2	182.0	402.9	39.8	30.1
Hungary	1 403.5	743.2	11.2	1 813.8	514.9	155.7	610.2	890.9	95.1
Poland	9 791.7	3 997.2	0.0	8 353.7	2 668.3	787.6	1 182.8	3 122.0	86.6
Republic of Moldova	587.2	206.1	0.0	105.9	157.8	80.1	143.9	29.3	35.3
Romania	6 410.7	2 003.0	72.9	1 973.6	1 310.7	855.9	942.1	122.7	192.5
Russian Federation	37 589.7	9 995.7	1 181.3	7 698.3	6 874.5	3 868.6	4 490.3	6 252.7	682.0
Slovakia	806.2	258.7	0.0	584.6	189.6	82.4	149.6	8.9	20.8
Ukraine	8 912.4	3 182.3	172.3	4 830.4	2 235.8	780.5	2 653.9	2 593.6	344.4
Northern Europe	41 308.3	12 933.6	0.0	14 356.3	6 163.4	8 183.9	2 706.4	7 107.0	125.2
Åland Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Channel Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denmark	3 060.9	3 568.9	0.0	1 153.4	1 134.6	349.4	511.5	349.9	21.6
Estonia	395.9	121.0	0.0	184.8	79.7	34.8	43.7	1 211.7	3.4
Faroe Islands	13.8	1.1	0.0	0.0	0.4	6.6	0.0	0.0	0.0
Finland	1 565.5	644.8	0.0	1 361.7	267.3	206.3	178.3	1 178.3	6.0
Guernsey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iceland	231.8	44.9	0.0	49.5	18.0	59.3	0.1	0.0	0.0

TABLE 49: Agricultural emissions (continued)

	Enteric fermentation	Manure management	Rice cultivation	Synthetic fertilizers	Manure applied to soils	Manure left on pasture	Crop residues	Cultivated organic soils	Burning crop residues
	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010	gigagrams CO ₂ eq 2010
Ireland	10 151.9	2 111.4	0.0	2 404.7	1 182.6	1 751.4	116.0	99.0	2.2
Isle of Man	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
Jersey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Latvia	633.0	181.3	0.0	378.5	117.7	54.7	94.0	1 089.3	8.7
Lithuania	1 305.6	388.5	0.0	688.8	253.9	105.8	165.8	1 334.7	15.3
Norway	1 791.5	520.9	0.0	408.7	222.9	399.2	67.9	432.2	2.0
Sark	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Svalbard and Jan Mayen Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sweden	2 456.7	818.9	0.0	1 084.4	376.2	366.1	247.8	854.0	11.4
United Kingdom	19 701.5	4 531.9	0.0	6 641.8	2 510.3	4 850.4	1 281.2	556.9	54.7
Southern Europe	37 154.0	18 680.7	4 610.3	13 125.2	7 335.0	8 307.1	3 227.5	388.4	373.7
Albania	1 325.4	292.6	0.0	198.9	150.3	223.5	39.0	16.2	5.5
Andorra	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bosnia and Herzegovina	1 007.2	311.4	0.0	116.1	218.7	119.0	57.7	24.6	13.4
Croatia	892.6	356.3	0.0	431.4	201.5	96.0	154.3	0.0	23.4
Gibraltar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Greece	3 020.9	766.1	359.9	941.0	306.1	1 454.2	238.2	152.4	27.3
Holy See	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Italy	11 925.2	5 396.9	2 621.7	3 218.3	2 210.9	2 144.9	1 013.2	96.1	119.3
Malta	32.9	35.8	0.0	2.1	8.9	5.4	1.1	0.0	0.1
Montenegro	254.9	51.9	0.0	8.8	29.4	26.9	2.5	6.6	0.2
Portugal	2 713.2	1 430.4	308.0	817.4	520.0	614.3	58.7	41.9	8.7
San Marino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serbia	1 969.4	824.9	0.0	1 016.3	525.7	208.7	475.5	0.3	90.4
Slovenia	720.3	179.5	0.0	174.9	130.0	68.7	28.0	7.3	3.2
Spain	12 710.8	8 910.2	1 296.5	6 074.5	2 956.3	3 265.9	1 125.6	43.0	78.1
The former Yugoslav Republic of Macedonia	581.2	124.6	24.3	125.5	77.1	79.5	33.8	0.0	4.2
Western Europe	70 049.5	30 037.8	251.9	27 190.9	12 861.3	10 249.5	6 644.1	4 126.1	413.8
Austria	3 281.3	1 393.0	0.0	556.1	593.9	459.0	253.4	26.4	19.8
Belgium	3 972.8	2 235.2	0.0	0.0	925.3	542.5	184.5	31.2	9.8
France	30 306.5	9 752.5	251.9	13 232.1	4 603.7	4 882.7	3 591.3	766.6	252.5
Germany	21 979.9	10 938.6	0.0	11 531.1	4 379.9	2 916.6	2 412.1	2 508.6	122.2
Liechtenstein	11.9	3.3	0.0	0.0	1.4	1.8	0.0	0.0	0.0
Luxembourg	296.1	74.3	0.0	136.4	37.9	41.8	8.3	0.8	0.4
Monaco	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Netherlands	7 379.2	4 639.1	0.0	1 406.8	1 882.3	1 014.4	142.6	741.3	5.4
Switzerland	2 821.9	1 002.0	0.0	328.3	437.0	390.8	51.9	51.2	3.6
Oceania	68 726.6	9 192.7	141.3	9 746.2	664.6	39 320.0	2 382.4	4 991.2	407.2
Australia and New Zealand	67 634.7	7 665.6	125.7	9 600.6	562.1	38 784.8	2 380.8	653.4	404.7
Australia	46 742.3	4 591.3	125.7	8 011.3	426.7	27 517.1	2 323.7	326.9	402.1
New Zealand	20 892.4	3 074.3	0.0	1 589.4	135.4	11 267.8	57.1	326.5	2.6
Norfolk Island	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Melanesia	989.1	1 266.6	15.6	122.4	83.7	487.7	1.6	4 337.7	2.5
Fiji	460.4	132.1	8.4	15.7	17.1	241.2	0.6	12.5	1.8
New Caledonia	120.1	28.8	0.0	3.6	3.2	59.9	0.2	0.0	0.1
Papua New Guinea	159.1	1 001.7	1.8	103.1	55.9	63.1	0.6	4 325.2	0.5
Solomon Islands	20.9	32.6	5.4	0.0	2.1	9.6	0.2	0.0	0.0
Vanuatu	228.5	71.5	0.0	0.0	5.4	113.9	0.1	0.0	0.1
Micronesia	19.7	33.0	0.0	0.0	4.4	10.0	0.0	0.0	0.0
Guam	0.5	3.5	0.0	0.0	0.8	0.2	0.0	0.0	0.0
Kiribati	0.3	8.4	0.0	0.0	2.0	0.1	0.0	0.0	0.0
Marshall Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Micronesia (Federated States of)	18.9	19.5	0.0	0.0	1.5	9.7	0.0	0.0	0.0
Nauru	0.1	1.7	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Northern Mariana Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palau	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polynesia	83.2	227.5	0.0	23.1	14.5	37.4	0.0	0.0	0.0
American Samoa	0.4	5.9	0.0	0.0	0.4	0.1	0.0	0.0	0.0
Cook Islands	1.1	17.6	0.0	0.0	0.8	0.2	0.0	0.0	0.0
French Polynesia	12.8	18.8	0.0	2.3	1.9	7.2	0.0	0.0	0.0
Niue	0.2	1.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Pitcairn Islands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Samoa	45.2	115.2	0.0	0.0	6.9	19.7	0.0	0.0	0.0
Tokelau	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tonga	21.8	46.6	0.0	20.7	3.1	9.1	0.0	0.0	0.0
Tuvalu	0.3	7.6	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Wallis and Futuna Islands	1.4	13.9	0.0	0.0	0.8	1.0	0.0	0.0	0.0