The Ministry of Development Planning and Statistics is pleased to provide decision-makers, planners, researchers, and all those involved in statistics and environmental indicators with the first issue of "Environmental Statistics Bulletin", which highlights and closely monitors indicators of environmental developments in the State, clearly showing the extent of the progress made in the environmental sector.

This bulletin addresses in detail the areas relevant to the environment, since the concern for and conservation of the environment, and embedding the concept of sustainable development is considered as one of statistical indicators that constitute important tools for planning and research to various fields.

This issue comes out of belief in the importance of statistical data in wise decision-making and sound policies, on all public and private levels.

Inspite of all unremitting efforts exerted by the Ministry of Development Planning and Statistics in this publication, but it must be emphasized again that this publication would not come to light without the concerted efforts of relevant authorities, owing to the belief of everyone in the importance of teamwork for elevation of the nation.

As we present to you the first issue of "Environmental Statistics Bulletin" of the State of Qatar, we can but hope that it meets the requirements of all those concerned with environment and sustainable development issues in the State of Qatar.

Dr. Salah Bin Mohammed AlNabti
Minister of Development Planning and Statistics
Introduction

The "Environment statistics bulletin" issued by the Ministry of Development Planning and Statistics, and contains the environmental data and indicators in accordance with the framework of the United Nations Environment Programme. This meet the needs of planners, decision-makers and researchers in the field of environmental issues, as well as linking environmental indicators to demographic, and health and economic ones.

The bulletin is important at the national level to support National Development Strategy, and at the international level in the calculation of environmental indicators in accordance with international standards; such as human development indicators and sustainable development indicators 2030, and so on.

Data are based on several sources, the most important of which are the administrative records of the parties concerned with the environment, as well as the general census.

We thank all the ministries and agencies that have cooperated with us and provided us with the statistics contained in this bulletin.

This bulletin is divided into 12 chapters:

Chapter 1: Demographic indicators

This chapter includes statistics for the population, in addition to college students who specialize in environmental disciplines and graduates, as well as the statistics on scholarships and graduates of foreign missions in environmental disciplines. These data are based on population estimates from the university education statistics.

Chapter 2: Climate and Natural Statistics

It includes tables of air and sea monitoring requirements and units of measurement; statistics of annual rainfall rates depending on weather monitoring stations; averages scores of annual temperature in air monitoring stations; the average annual and monthly relative humidity; statistics of the annual and monthly atmospheric pressure; average annual and monthly wind speed; average annual and monthly evaporation; annual and monthly mean global solar radiation; statistics of tides by month, date and time; and statistics of marine buoys data. These data are based on the source of the General Authority for Civil Aviation.

المقدمة

نشرة الإحصاءات البيئية "نشرة الإحصاءات البيئية" تصدر عن وزارة التخطيط التنموي والإحصاء، وتحتوي على بيانات ومعلومات بيئة وفق إطار الأمم المتحدة للبيئة، التي تأتي حاجات المخططي والملاحين في مجالات البيئية،/sm. هذا بالإضافة إلى وجود روابط بين المؤشرات البيئية والمعلومات السكانية والمunicipal، والصحية والاقتصادية.

لنشرة الإحصاءات البيئية "نشرة الإحصاءات البيئية" انطلاقاً من أهمية النشرة على الصعيد الوطني لدعم استراتيجيات التنمية الوطنية الأهمية على الصعيد الدولي في حساب المؤشرات البيئية وفقاً للمعايير الدولية كمؤشرات التنمية البشرية ومؤشرات التنمية المستدامة 2030 وغيرها.

تستند البيانات إلى عدة مصادر أهمها السجلات الإدارية للجهات المعنية بالبيئة ومصدر التعداد العام، ومسوح متخصص.

ولشكر جميع الوزارات والجهات التي تعاونت معنا وزودتنا بالاحصاءات الواردة في هذه النشرة.

تنقسم النشرة إلى 12 فصل:

الفصل الأول: المؤشرات السكانية

يتضمن إحصاءات السكان بالإضافة إلى إحصاءات الطلاب الجامعيين والمديين المتخصصين في التخصصات البيئية وإحصاءات المد الحائزين خبرات العاملات الخارجية في التخصصات البيئية. تستند هذه البيانات من تعداد إحصائيات التعليم الجامعي.

الفصل الثاني: إحصاءات الأحوال الطبيعية والمناخية

يشمل جداول ومستندات عمليات الرصد الجوي والبحري ووحدات قياسية. والمعلومات الموثقة حول العديد من جوانب الرياح والحرارة والطقس. والبيانات المتعلقة بدرجات الحرارة السنوية والعصوريس، وإحصاءات الضغط الجوي السنوية والشهرية، ومتوسطات سرعة الرياح السنوية والشهرية، ومتوسطات السنة والمدارش الجوية، ومعدلات اشعة الشمس والسنية والشهرية، وإحصائيات الأمطار المطرية، حسب الشروط والتصريف والمدار، وإحصاءات بيانات العواصف البحرية. تستند هذه البيانات على مصادر البيئة العامة للطيران المدني.
Chapter 3: Air Quality Statistics

It includes statistics for average annual air quality in Doha according to monitoring stations and pollutants; detailed statistics about the concentration of air pollutants in Corniche station by months and years and Qatar University and the Aspire Zone stations; daily percentages of air pollutants by pollutants and monitoring stations. It also includes statistics on the amount of ozone-depleting substances according to the Montreal Protocol, measuring the Global warming potential of consumed ozone-depleting substances in metric tons CO₂ equivalents, as well as the amount of ozone-depleting substances per person. Such data are based on administrative records of the Ministry of Municipality and Environment & MDPS calculation.

Chapter 4: Agriculture and Food Security Indicators

It includes: total crop; number of farms registered and active farms; quantity and quality of imported and exported agricultural products of the State of Qatar; quantity and quality of imported and exported food commodities of the State of Qatar; the amount of fertilizers used by type of fertilizer; Qatar chemical pesticides imports; amount of pesticides used in combating agricultural pests in homes and government facilities, amount of pesticides used in combating palm pests, and Number of recorded terrestrial violations by type of violation. It also covers the importance of the agriculture sector in the Qatari economy, gross food commodities available for consumption; the proportion of self-sufficiency by food groups. These data are based on the administrative records of the Ministry of Municipality and Environment, Foreign Trade statistics and QF.

Chapter 5: Marine Environment Statistics

It includes statistics of fishing boats; fishermen; the amount of fish catch; fishing effort; average amount of fish catches per vessel (metric tons per vessel); the average amount of fish catch per fisherman (metric tons per fisherman); statistics aquaculture; Qatar’s exports and imports of fish, crustaceans and molluscs and other aquatic invertebrates; along with the rate of exploitation and overfishing by type of exploitation and fish. These data are based on the administrative records of the Ministry of Municipality and Environment and Foreign Trade statistics.

Chapter 6: Coastal Water Quality Statistics

These data are based on the administrative records of the sectors, dewatered sewage sludge, total sewage sludge. It also includes statistics on the amount of wastewater treatment, the amount of wastewater collected in sewage relation to total wastewater. In addition, it covers design wastewater, and the proportion of treated wastewater in economic sector (including injection, loss, wastewater renewable resources of fresh water, water use by Environment and Civil Aviation Authority and QP. It includes statistics on coastal water quality by location, concentration of pollutants entering and leaving the treatment plants by the station; and results of tests for desalinated, mineral, bottled water by source and type municipality, source and month; results of tests of parasites tests for detailed and specialized tests and parasites tests for desalinated, mineral, bottled water by source and type; statistics aquaculture; Qatar’s exports and imports of fish, crustaceans and molluscs and other aquatic invertebrates; along with the rate of exploitation and overfishing by type of exploitation and fish. Such data are based on administrative records of the Ministry of Municipality and Environment & MDPS calculation.

Chapter 7: Agriculture and Food Security

It includes: number of farms registered and active farms; quantity and quality of imported and exported agricultural products of the State of Qatar; quantity and quality of imported and exported food commodities of the State of Qatar; the amount of fertilizers used by type of fertilizer; Qatar chemical pesticides imports; amount of pesticides used in combating agricultural pests in homes and government facilities, amount of pesticides used in combating palm pests, and Number of recorded terrestrial violations by type of violation. It also covers the importance of the agriculture sector in the Qatari economy, gross food commodities available for consumption; the proportion of self-sufficiency by food groups. These data are based on the administrative records of the Ministry of Municipality and Environment, Foreign Trade statistics and QF.

Chapter 8: Pollution and the Environment

These data are based on the administrative records of the Ministry of Municipality and Environment, Foreign Trade statistics, Ministry of Municipality and Environment, Foreign Trade statistics. It also includes statistics on air pollution by type of violation. It also covers the importance of the agriculture sector in the Qatari economy, gross food commodities available for consumption; the proportion of self-sufficiency by food groups. These data are based on the administrative records of the Ministry of Municipality and Environment, Foreign Trade statistics and QF.

Chapter 9: Marine Environment Statistics

It includes statistics of fishing boats; fishermen; the amount of fish catch; fishing effort; average amount of fish catches per vessel (metric tons per vessel); the average amount of fish catch per fisherman (metric tons per fisherman); statistics aquaculture; Qatar’s exports and imports of fish, crustaceans and molluscs and other aquatic invertebrates; along with the rate of exploitation and overfishing by type of exploitation and fish. Such data are based on the administrative records of the Ministry of Municipality and Environment and Foreign Trade statistics.
Chapter 6: Coastal Water Quality Statistics

It includes statistics on coastal water quality by location, the concentration of natural nutrients in the Qatari coastal waters, the concentration of total petroleum hydrocarbons in the coastal sediments. These data are based on the administrative records of the Ministry of Municipality and Environment and Civil Aviation Authority and QP.

Chapter 7: Statistics on Water and Wastewater Quantity

It includes statistics on the amount of water produced in the desalination plants, wells, surface water extracted, water abstraction per capita, groundwater extraction, renewable resources of fresh water, water use by economic sector (including injection, loss, wastewater dumped in lagoons), amount of water loss and treated wastewater, and the proportion of treated wastewater in relation to total wastewater. In addition, it covers design capacity of sewage treatment plants by the type of treatment, the amount of wastewater collected in sewage plants by type of treatment, the amount of wastewater after treatment in sewage plants by type of treatment, reuse of treated wastewater by treatment type, plant and sectors, dewatered sewage sludge, total sewage sludge. These data are based on the administrative records of the Public Works Authority and Qatar General Electricity and Water Corporation (Kahramaa).

Chapter 8: Statistics on Water, Groundwater and Wastewater Quality

It contains statistics on concentration of pollutants entering and leaving the treatment plants by the station; characteristics passing specifications; the results of bacteriological tests of samples of drinking water by municipality, source and month; results of tests of desalinated, mineral, bottled water by source and type of test; the quality of treated sewage by source of testing, use and type of test; results of bacteriological detailed and specialized tests and parasites tests for treated water by station. These data are based on the administrative records of the Public Works Authority and Qatar General Electricity and Water Corporation (Kahramaa).
Chapter 9: Biodiversity Statistics

It includes size and location of protected areas on land and sea; number of the recorded species and danger of extinction (according to the International Union for Conservation of Nature); and statistics of Arabian Oryx in the various nature reserves. The data are based on administrative records of the private engineering office and the Ministry of Municipality and Environment.

Chapter 10: Economic Indicators

It includes average annual per capita GDP (thousand QRs), consumer prices, inflation rate, number of new projects that are whose impact on the environment is subject to assessment; annual per capita energy consumption (KW / hour). These statements are based on economic statistics, Qatar General Electricity and Water Corporation (Kahramaa), labor force sample survey, censuses and MDPS calculation.

Chapter 11: Statistics of completed buildings and residential units connection to public facilities

It includes the percentage of housing units connected to public utilities network. This data are based on the General Census of Population, Housing and Establishment.

Chapter 12: Solid Waste Statistics and Hazardous Waste

It includes statistics on produced waste by type and facilities for waste management; per capita household waste production; the daily generation of solid waste by type; the amount of waste recycled by type; Potential of Waste-to-Energy (MT, MW); waste and production capacity (metric tons per day); hazardous waste management and the type of management; generation of hazardous waste (metric tons) per unit of GDP. These data are based on administrative records of the Ministry of Municipality and Environment and The accounts of the Ministry of Development Planning and Statistics.

For more information and data, please visit the website of the Ministry of Development Planning and Statistics www.MDPS.GOV.QA and Qatar Information Exchange (QALAM) www.QIX.GOV.QA or send an e-mail via MDR@mdps.gov.qa

Environment Statistics bulletin 2015

نشرة الإحصائيات البيئية 2015
### Environmental Statistics Bulletin Goals

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<td>1. Preparation of informative data on the various elements of the environment and distribution base in Qatar.</td>
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For more information and data, please visit the website of Ministry of Development Planning and Statistics (MDPS).
Environment Statistics Framework based on UN classification

1. Environmental Conditions and Quality

- Soil characteristics
  - Information on soil types
  - Geographical and topographical data
  - Soil and geological characteristics
- Physical conditions
  - Climate and weather
- Land cover

2. Environmental Quality

- Noise
- Soil pollution
- Air quality
- Freshwater quality
- Marine water quality
- Soil pollution
- Land cover
- Ecosystem characteristics
- Biodiversity
- Traffic and noise levels
- Forests
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3. Environmental Resources and their Use

- Energy resources
  - Production and consumption of energy from non-renewable and renewable sources
- Land use
- Soil resources
- Biological resources
- Timber resources
- Aquatic resources
- Crops
- Livestock
- Wild, uncultivated biological resources (other than fish and timber)
- Mineral energy resources
  - Production and trade of non-energy minerals
  - Stocks and changes of non-energy mineral resources
Environment Statistics bulletin 2015

Environment Statistics Framework based on UN classification

1. Environmental Conditions and Quality

- Land cover
- Ecosystem
- Biodiversity

2. Environmental Resources and their Use

- Energy resources
- Soil resources
- Land use
- Timber resources (other than fish and wildlife, unthinned biological resources)
- Livestock resources

- Water resources
- Stock and changes of mineral energy resources
- Production and trade of non-energy minerals
- Stocks and changes of mineral energy resources

Environment Statistics bulletin 2015
3 - Residuals

Environment Statistics Framework based on UN classification

- Emissions of other substances
- Generation of wastewater
- Generation of residuals
- Collection and treatment of wastewater
- Application of biochemicals
- Emissions of greenhouse gases
- Application of other substances
- Occurrence of natural extreme events and disaster
- Impact of technological disasters
- Occurrence of technological disasters
- Impact of natural extreme events and disasters
- Technological disasters
4. Extreme Events and Disasters

- Impact of technological disasters
- Occurrence of technological disasters
- Occurrence of natural extreme events and disasters
- Impact of natural extreme events and disasters
Environment Statistics bulletin 2015

Enviroment Statistics Framework base on UN classification

1. Human Settlements

- Environmental concerns specific to urban settlements
- Location of population exposed to ambient pollution related to spatial location
- Housing conditions
- Access to water, sanitation and energy
- Urban and rural population

2. Environmental Health

- Diseases and conditions
- Health problems associated with excessive UV radiation
- Vector borne diseases
- Water-related diseases and conditions
- Airborne diseases and conditions

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- Airborne diseases and conditions

5. Environmental Information and Awareness

- Environmental information
- Environmental education
- Understanding and awareness
- Environmental engagement


- Preparedness for natural extreme events and disasters
- Preparedness for technological disasters
- Environmental governance and regulation
- Institutional strength
- Environmental protection and resource management expenditure
- Corporate, non-profit institution and household environmental protection and resource management expenditure
- Participation in MEAs and environmental conventions


Enviroment Statistics Framework base on UN classification

Environment Statistics Framework based on UN classification
Qatar’s territorial waters extend approximately 95 nautical miles offshore. The northern and middle areas that are considered to be seas (Khors), bays and basins called (al-Riyadh) over the north. This plain is mostly marked by its many inland outcroppings in Dukhan in the west and Jebel Fuyart in the east. Qatar includes several small islands, rocky surfaces and deep waters such as Halul, Shira’who, Al-Ashat, Al-Bishiria, Al-Aliyah and Al-Safilyah.

The peninsula is approximately 185 km in length and 85 km in width. Its surface area is 11,651 km². According to 2015 administrative divisions, there are 8 municipalities: DWRC, Al-Rayyan, Al-Wakra, Umm-Slal, Al Shamal, Al ochal, Al Shih, and Al Gharra. The only land border of about 60 km separates the country from the Kingdom of Saudi Arabia. The United Arab Emirates lie to the east of Qatar.

Qatar’s Surface Features


The State of Qatar has no mountains. The northern and middle areas that are considered to be seas (Khors), bays and basins called (al-Riyadh) over the north. This plain is mostly marked by its many inland outcroppings in Dukhan in the west and Jebel Fuyart in the east. Qatar includes several small islands, rocky surfaces and deep waters such as Halul, Shira’who, Al-Ashat, Al-Bishiria, Al-Aliyah and Al-Safilyah.

General Information about Qatar

Geographical Location

The State of Qatar is a peninsula located in the northern part of the Arabian Peninsula. It lies between 25° and 27° North latitude and 50° and 51° East longitude. Its coastline extends for about 600 km along the northern part of the Arabian Gulf. Qatar is bounded by 10500 km² of the Arabian Gulf to the west and the other sides are bordered by the Kingdom of Saudi Arabia. The United Arab Emirates lie to the east of Qatar.

The State of Qatar lies at the northeastern corner of the Arabian Peninsula. It is surrounded by the Arabian Gulf and oriented towards the east. It covers an area of about 11,521 km² and is bordered to the south by the Kingdom of Saudi Arabia, and to the east by the United Arab Emirates. The highest point is the Mountain Fuyart at 200 meters above sea level. Its coastline extends for 600 km along the northern part of the Arabian Gulf. Qatar's coastline is bordered by 10500 km² of the Arabian Gulf to the west, and to the other sides by the Kingdom of Saudi Arabia and the United Arab Emirates.
General Information about Qatar

Geographical Location

Qatar is a peninsula situated midway along the western coast of the Arabian gulf between latitudes 24.27° - 26.10° North and longitudes 50.45° – 51.40° East. Its surface area is 11,651 km².

Qatar includes several small islands, rocky surfaces and shallows such as Halul, Shira'who, Al-Ashat, Al-Bishiria, Al-Aliyah and Al-Safilyah.

Area

The peninsula is approximately 185 km in length and 85 km in width. The waters of the Arabian Gulf surround by far the majority of the country, while the only land border of about 60 km separates the country from the Kingdom of Saudi Arabia. The United Arab Emirates lie to the east of the country.

Qatar's territorial waters extend approximately 95 nautical miles east and around 51 nautical miles north into the Arabian Gulf for about 10500 Km².

Topography, the State of Qatar consists generally of flat rocky surfaces, covered with a range of low limestone outcroppings in Dukhan in the west and Jebel Fuyart in the north. This plain is mostly marked by its many inland seas (Khors), bays and basins called (al-Riyadh) over the northern and middle areas that are considered to be the most fertile lands housing different natural plants.

Qatar's Surface Features

Abrouq Hills, Al-jassassiya rock carvings, Dahl al-Hammam, Fuyart Coast, Sand Dunes and Flat rocky surface.

Bays: Khor Al Udaiad, Al Thakhirah.

Cape Points: Ras Al-Rukn, Ras Laffan and Ras Ichiqriq.

Marshlands: Dukhan.

Sand Dunes: Maseaied.


Administrative Divisions

According to 2015 administrative divisions, there are 8 municipalities:

Doha, Al-Rayyan, Al-Wakra, Umm-Slai, Al Shamal, Al Khor, Al Daayen, and Al-shahaniya.

Mixed Facts about Qatar

The United Arab Emirates lie to the east of the country.

Doha, Al-Rayyan, Al-Wakra, Umm-Slal, Al Shamal, Al Khor, Al Daayen, and Al-shahaniya.


Marshlands: Dukhan.

Cape Points: Ras Al-Rukn, Ras Laffan and Ras Ishiriq.

Hammam, Fuyart Coast, Sand Dunes and Flat rocky surfaces, covered with a range of low limestone outcroppings in Dukhan in the west and Jebel Fuyart in the north. This plain is mostly marked by its many inland seas (Khors), bays and basins called (al-Riyadh) over the northern and middle areas that are considered to be the most fertile lands housing different natural plants.

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 المناخ

ينتم مناخ دولة قطر بطبيعة صحراوية ذات درجات حرارة عالية خاصة في فترات الصيف. وتقع الدولة في المنطقة المدارية الجافة. وترتبط متوسطات درجات الحرارة الشديدة في الصيف بارتفاع الرطوبة النسبية خصوصا في المناطق الساحلية.

ويتصف شتاء قطر بالدفء بشكل عام وانخفاض درجات الحرارة إلى مستويات ذي من حين إلى آخر. كما تغطي من شبح الأمطار طوال السنة.

وتشكل كل من المناطق الساحلية والصحراوية الداخلية اختلاف درجات الحرارة بيئة. تساعد الرياح الموسمية الشمالية التي تهب على الدولة على تلطيف الجو ما لم تكن محملة بأتربة.

كما يلاحظ زيادة متوسطات تبخر المياه بسبب عدة عوامل منها سرعة الرياح العالية وقوتها وارتفاع الارتفاع الشديد في درجة الحرارة وقلة الأمطار.

Climate

Qatar’s climate is of desert nature with high temperatures especially in the summer periods. The state is located in the dry tropical region. Over the course of the summer months, the relative humidity gradually increases, particularly in coastal areas.

Qatar’s winter is warm in general while air temperature drops so low from time to time. Rainfall is very slight all over the year.

Temperature differs between coastal areas and desert inlands. Monsoon northern Winds help cool the temperature unless it is windy.

High evaporation averages are noted due to several factors; including high winds, extreme rise in temperature and lack of rain.
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List of Abbreviations

Arabic

- هكتوباسكال: Hectopascal
- ريال قطري: Qatari Ryail
- ملليمتر: Milimetre
- درجة مئوية: Celsius
- نسبة: Percentage
- كيلومتر: kilometres
- كيلومتر مربع: Square kilometers
- متر في الثانية: Meters per second
- متر مكعب: Cubic meters
- كيلوجرام: Kilogram
- لتر: Litre
- ثنائي أكسيد الكبريت: Sulfur dioxide
- ثنائي أكسيد النيتروجين: Nitrogen dioxide
- الأوزون عند مستوى الأرض: Ground Level Ozone
- جسيمات دقيقة: Particulate Matter
- مركبات الكربون الكلورية فلورية: Chlorofluorocarbon
- الميثان: Methane
- أول أكسيد الكربون: Carbon Monoxide
- ثاني أكسيد الكربون: Carbon Dioxide
- غازات الاحتباس الحراري: Greenhouse Gas
- إمكانيات الاحترار العالمي: Global Warming Potential
- مركبات الكربون الهيدروكلورية فلورية: Hydrochlorofluorocarbon
- الهيدروفلوروكربون: Hydrofluorocarbon
- أكسيد النيتروز: Nitrous Oxide
- غير الميثان المركبات العضوية المتطايرة: Non-Methane Volatile Organic Compounds
- أوكسيد النيتريك: NOx
- المستنفدة لطبقة الأوزون المحتملة: Ozone Depleting Potential
- المواد المستنفدة للأوزون: Ozone Depleting Substance
- لم يتم قياسه: Not measured
- غير مكتشف عنه: Not detected
- الطلب على الأوكسجين البيولوجي: Biochemical oxygen demand
- الطلب على الأوكسجين الكيميائي: Chemical Oxygen Demand
- المواد العالقة الكلية: Total Suspended Solids
- المواد الذائبة الكلية: Total Dissolved Solids
- الناتج المحلي الاجمالي: Gross domestic product
- الرقم القياس ي لأسعار المستهلك: Index of consumer prices

English

- Hectopascal
- Qatari Riyal
- Milimetre
- Celsius
- Percentage
- Kilometres
- Square kilometers
- Meters per second
- Cubic meters
- Kilogram
- Litre
- Sulfur dioxide
- Nitrogen dioxide
- Ground Level Ozone
- Particulate Matter
- Chlorofluorocarbon
- Methane
- Carbon Monoxide
- Carbon Dioxide
- Greenhouse Gas
- Global Warming Potential
- Hydrochlorofluorocarbon
- Hydrofluorocarbon
- Nitrous Oxide
- Non-Methane Volatile Organic Compounds
- NOx
- Ozone Depleting Potential
- Ozone Depleting Substance
- Not measured
- Not detected
- Biochemical oxygen demand
- Chemical Oxygen Demand
- Total Suspended Solids
- Total Dissolved Solids
- Gross domestic product
- Index of consumer prices
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<td>Q.R</td>
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<td>mm</td>
<td>Milimetre</td>
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<td>Total Dissolved Solids</td>
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<td>GDP</td>
<td>Gross domestic product</td>
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<td>CPI</td>
<td>Index of consumer product</td>
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<td>English</td>
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### Unit Measurement Convert

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<td>(Litter) to (1 m³)</td>
<td>(تر) إلى (متر مكعب) للقسمة ب 1,000</td>
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<td>(1 kg) to (1 Metric Ton)</td>
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<td>(1 Metric Ton per day) to (1 Metric Ton per year)</td>
<td>(طن متري في اليوم) إلى (طن متري في السنة) للقسمة على 365</td>
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<td>(1,000 m³ per year) to (1,000 m³ per day)</td>
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<td>(Hectare) to (Acres)</td>
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<td>نسب معالجة مياه الشرب حسب نوع الفحص</td>
<td>242</td>
<td>8.13</td>
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**الفصل التاسع: إحصاءات التنوع البيولوجي**

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<td>خريطة مساحة المناطق المحمية</td>
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<td>9.2</td>
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**الفصل العاشر: المؤشرات الاقتصادية**

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<td>عدد المناخل الجديدة تعتبر تأثيراً على البيئة جنس نمو المشارك 2002-2015</td>
<td>264</td>
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<tr>
<td>حصة الفرد من توليد الكهرباء 2010-2015</td>
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</tr>
<tr>
<td>نسبة العاملون في قطاع التعليم واستغلال المحاجر من اجمالى القوى العاملة 2006-2015</td>
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</tr>
<tr>
<td>نسبة العاملون في قطاع امدادات المياه وغازات الرياح من اجمالى القوى العاملة 2006-2015</td>
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Chapter 11: Statistics of Buildings and Residential Units Connection to Public Utilities

- Completed residential buildings by public services connection map 2015
- Percentage of Completed Buildings Connected to Public Utility Network, Census 2010 & 2015
- Housing units by public services connection map 2015
- Percentage of Residential Units Connected to Public Utility Network Census 2010 & 2015

Chapter 12: Solid Waste Statistics and Hazardous Waste

- Generation of waste by waste management facility (1000 Metric Tons) map 2010 -2015
- Waste Generated by Type of Waste 2008 -2015
- Production capacity of solid waste management center in Mesaieed by type 2012-2015
- Percentage distribution of hazardous waste disposal methods 2010-2015
المؤشرات السكانية

Population Indicators

الفصل الأول

Chapter One
Chart No. (1.1) (Unit: Number, person per km²)

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (km²)</th>
<th>Population (Number)</th>
<th>Population density (per square kilometer)</th>
</tr>
</thead>
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<tr>
<td>1986</td>
<td>369,079</td>
<td>6891</td>
<td>32</td>
</tr>
<tr>
<td>1997</td>
<td>522,023</td>
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<td>2004</td>
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<tr>
<td>2010</td>
<td>1,699,435</td>
<td>102</td>
<td>146</td>
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<tr>
<td>2015</td>
<td>2,404,776</td>
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Source: Census- MDPS
<table>
<thead>
<tr>
<th>Year</th>
<th>Population density (persons/km²)</th>
<th>Area (km²)</th>
<th>Number of population</th>
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<td>2015</td>
<td>207</td>
<td>11,627</td>
<td>2,404,776</td>
</tr>
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</table>

Source: Census-MDFS

The source is the Ministry of Development, Planning, and Statistics.
Population density per square kilometer by census year:

- 1986: 45
- 1997: 65
- 2004: 45
- 2010: 66
- 2015: 146

Graph shows the increase in population density from 1986 to 2015.
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<td>5</td>
<td>8</td>
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Table (1.2) (Unit: Number)
### Number of University Students in Environmental Disciplines by Sex

<table>
<thead>
<tr>
<th>Year</th>
<th>Males</th>
<th>Females</th>
<th>Males</th>
<th>Females</th>
<th>Males</th>
<th>Females</th>
<th>Males</th>
<th>Females</th>
<th>Males</th>
<th>Females</th>
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</thead>
<tbody>
<tr>
<td>2010/2011</td>
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<td>4</td>
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<td>5</td>
<td>6</td>
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<td></td>
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</tr>
<tr>
<td>2011/2012</td>
<td>158</td>
<td>91</td>
<td>39</td>
<td>78</td>
<td>38</td>
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<td></td>
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<tr>
<td>2012/2013</td>
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<td>38</td>
<td>66</td>
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<tr>
<td>2014/2015</td>
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<td>78</td>
<td>38</td>
<td>66</td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

#### Distribution by Discipline

- **Meteorology**
  - Males: 38
  - Females: 65

- **Environmental Health and Occupational Safety**
  - Males: 0
  - Females: 0

- **Health and Safety - Public Health**
  - Males: 0
  - Females: 0

- **Health and Safety - Food Safety and Inspection**
  - Males: 0
  - Females: 0

- **Archeology**
  - Males: 0
  - Females: 0

- **Rationalization**
  - Males: 0
  - Females: 0

- **Environmental Sciences**
  - Males: 5
  - Females: 13

- **Master of Environmental Science**
  - Males: 2
  - Females: 3

- **Master of Environmental Engineering**
  - Males: 2
  - Females: 3

- **Master of Urban Planning and Design**
  - Males: 0
  - Females: 0

- **Total**
  - Males: 23
  - Females: 37
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<tr>
<th>Environmental disciplines</th>
<th>Environmental Science</th>
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<td>14</td>
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<td>2013/2014</td>
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<td>5</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>2014/2015</td>
<td>1</td>
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<td>0</td>
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<td>9</td>
<td>16</td>
<td>16</td>
<td>18</td>
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<td>28</td>
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### Chart (1.4)

#### Total Students Studying and Graduated Students Abroad (Outside Qatar) by Gender and Field of Environmental Study

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</thead>
<tbody>
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<td>Agriculture, Agriculture Operations, and Related Sciences</td>
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<td>1000</td>
<td>500</td>
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<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Total</td>
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<td>502</td>
<td>402</td>
<td>402</td>
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#### Number of University Graduates in Environmental Disciplines by Sex

<table>
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<tr>
<th>Year</th>
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<th>Females</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>2010/2011</td>
<td>37</td>
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<td>41</td>
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<tr>
<td>2011/2012</td>
<td>16</td>
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<td>Item</td>
<td>Majors</td>
<td>Total Students Studying Abroad (outside Qatar)</td>
<td></td>
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<tr>
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<td>--------</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>By Gender and Field of Environmental Study</td>
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<tr>
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<td>Total Students and Graduated Students Abroad (outside Qatar)</td>
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<table>
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<tr>
<th>Item</th>
<th>Majors</th>
<th>Total Students Studying Abroad (outside Qatar)</th>
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<tbody>
<tr>
<td></td>
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<td>By Gender and Field of Environmental Study</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Students and Graduated Students Abroad (outside Qatar)</td>
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</table>
### NUMBER OF ENVIRONMENT MODULES IN THE SUBJECT OF SCIENCES IN PRIMARY AND PREPARATORY LEVELS 2015

<table>
<thead>
<tr>
<th>Grade</th>
<th>Abiotic components</th>
<th>Biotic components</th>
<th>Percentage of environment modules of total modules</th>
<th>Overall modules</th>
<th>Environment modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>0</td>
<td>2</td>
<td>25%</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Fifth</td>
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<td>3</td>
<td>57%</td>
<td>7</td>
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<tr>
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<td>2</td>
<td>43%</td>
<td>7</td>
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</tr>
<tr>
<td>Seventh</td>
<td>0</td>
<td>1</td>
<td>13%</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Eighth</td>
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<td>1</td>
<td>43%</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Ninth</td>
<td>2</td>
<td>2</td>
<td>50%</td>
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</table>

**First semester**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Abiotic components</th>
<th>Biotic components</th>
<th>Percentage of environment modules of total modules</th>
<th>Overall modules</th>
<th>Environment modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
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<td>Third</td>
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<td>33%</td>
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<td>75%</td>
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<td>3</td>
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<td>Fifth</td>
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<td>1</td>
<td>33%</td>
<td>6</td>
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<tr>
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<td>60%</td>
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<td>63%</td>
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<td>5</td>
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<td>43%</td>
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<td>Ninth</td>
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<td>22%</td>
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</table>

**Second semester**

*Source: data collection from different grades curricula*
### Number of Environment Modules in Secondary Level

#### In the Subjects of Biology, Physics and Chemistry

<table>
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<th>Grade</th>
<th>Abiotic Components</th>
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<th>Percentage of Environment Modules of Total Modules</th>
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<td><em>Tenth (basic)</em></td>
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<td></td>
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<td>1</td>
<td>100%</td>
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<tr>
<td><em>Eleventh (basic)</em></td>
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<tr>
<td></td>
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<td><em>Twelfth (basic)</em></td>
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<tr>
<td></td>
<td>2</td>
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<td>67%</td>
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</tr>
<tr>
<td><em>Tenth (advanced)</em></td>
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</tr>
<tr>
<td><em>Eleventh (advanced)</em></td>
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<tr>
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</tr>
<tr>
<td><em>Twelfth (advanced)</em></td>
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<tr>
<td><strong>Biology in First Semester</strong></td>
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</tr>
<tr>
<td><em>Eleventh (basic)</em></td>
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</tr>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>50%</td>
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<tr>
<td><em>Twelfth (basic)</em></td>
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</tr>
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<td>67%</td>
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<tr>
<td><em>Eleventh (advanced)</em></td>
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<td></td>
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<td>75%</td>
<td>4</td>
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<tr>
<td><em>Twelfth (advanced)</em></td>
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<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>25%</td>
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</tr>
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<td><strong>Physics in First Semester</strong></td>
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</tr>
<tr>
<td></td>
<td>4</td>
<td>0</td>
<td>75%</td>
<td>4</td>
</tr>
<tr>
<td><em>Twelfth (advanced)</em></td>
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<td><strong>Chemistry in First Semester</strong></td>
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<td></td>
</tr>
<tr>
<td><em>Eleventh (basic)</em></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>67%</td>
<td>3</td>
</tr>
<tr>
<td><em>Twelfth (basic)</em></td>
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<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>67%</td>
<td>3</td>
</tr>
<tr>
<td><em>Twelfth (advanced)</em></td>
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<td></td>
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<td></td>
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<td></td>
<td>4</td>
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<td>4</td>
</tr>
<tr>
<td><em>Twelfth (advanced)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>0</td>
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Source: data collection from different grades curricula
### Table 1.7 (Unit: Number)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Abiotic components</th>
<th>Biotic components*</th>
<th>Percentage of environment modules of total modules</th>
<th>Overall modules</th>
<th>Environment modules</th>
</tr>
</thead>
<tbody>
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<td>1</td>
<td>100%</td>
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<tr>
<td>Eleventh (advanced)</td>
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<td>4</td>
<td>3</td>
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<td>0</td>
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<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

**Notes:**

* Abiotic environment components feature all living organisms in the environment – humans, flora, fauna, fungi, bacteria, and the rest of the unculturable organisms.

** Abiotic environment components include the physical parts of the environment: soil and land, water and air, energy (temperature and light), wind – wind-propelled force, sea waves, water flow in the valley or on the earth’s surface, and water-propelled force.

Source: data collection from different grades curricula

**Abiotic environment components feature all living organisms in the environment – humans, flora, fauna, fungi, bacteria, and the rest of the unculturable organisms.**

**Abiotic environment components include the physical parts of the environment: soil and land, water and air, energy (temperature and light), wind – wind-propelled force, sea waves, water flow in the valley or on the earth’s surface, and water-propelled force.**
<table>
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<tr>
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</tr>
<tr>
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<td>Overall</td>
</tr>
<tr>
<td>Second (Basic)</td>
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<td>Overall</td>
</tr>
<tr>
<td>Second (Advanced)</td>
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</tr>
<tr>
<td>Third</td>
<td>20</td>
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<td>Overall</td>
</tr>
<tr>
<td>Sixth</td>
<td>17</td>
<td>Overall</td>
</tr>
<tr>
<td>Seventh</td>
<td>22</td>
<td>Overall</td>
</tr>
<tr>
<td>Eighth</td>
<td>17</td>
<td>Overall</td>
</tr>
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<td>11</td>
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<tr>
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<tr>
<td>Tenth (Advanced)</td>
<td>11</td>
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</tbody>
</table>

*Biotic environment components feature all living organisms in the environment – humans, flora, fauna, fungi, bacteria, and the rest of the unicellular organisms.

**Abiotic environment components include the physical parts of the environment: soil and land, water and air, energy (temperature and light), wind – wind-propelled force, sea waves, water flow in the valley or on the earth’s surface , water-propelled force.
<table>
<thead>
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<th>Standard units</th>
<th>Elements</th>
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<td>°C</td>
<td>Elements</td>
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<td>Relative humidity</td>
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<td>%</td>
<td>Elements</td>
</tr>
<tr>
<td>Wind direction</td>
<td>Degree</td>
<td>Degree</td>
<td>Elements</td>
</tr>
<tr>
<td>Wind speed</td>
<td>Knots</td>
<td>Knots</td>
<td>Elements</td>
</tr>
<tr>
<td>Wind pressure</td>
<td>hpa</td>
<td>hpa</td>
<td>Elements</td>
</tr>
<tr>
<td>Rainfall</td>
<td>mm</td>
<td>mm</td>
<td>Elements</td>
</tr>
<tr>
<td>Evaporation</td>
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<td>Elements</td>
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### Table (2.2) (Unit:Number)

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<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
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<td>20</td>
<td>30</td>
<td>30</td>
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</tr>
<tr>
<td>Number of marine buoys</td>
<td>66</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>Number of seismic stations</td>
<td>66</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

**Source:** General Authority of Civil Aviation - Meteorological Department

**Table (2.1)**

<table>
<thead>
<tr>
<th>Monitoring device name</th>
<th>Units</th>
<th>Standard units</th>
<th>Elements</th>
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</thead>
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<td>Elements</td>
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<td>%</td>
<td>%</td>
<td>Elements</td>
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<td>Anemometer</td>
<td>Knots</td>
<td>Knots</td>
<td>Elements</td>
</tr>
<tr>
<td>Barometer</td>
<td>hpa</td>
<td>hpa</td>
<td>Elements</td>
</tr>
<tr>
<td>Rain gauge</td>
<td>mm</td>
<td>mm</td>
<td>Elements</td>
</tr>
<tr>
<td>Marine wind direction</td>
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</tr>
<tr>
<td>Land wind speed</td>
<td>Knots</td>
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<td>Elements</td>
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<tr>
<td>Land wind speed</td>
<td>Knots</td>
<td>Knots</td>
<td>Elements</td>
</tr>
<tr>
<td>Marine pressure</td>
<td>hpa</td>
<td>hpa</td>
<td>Elements</td>
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<tr>
<td>Evaporating pan</td>
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<td>mm</td>
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</tr>
<tr>
<td>Sunshine</td>
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**Table (2.2)**

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<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<tbody>
<tr>
<td>Number of Meteorological Stations</td>
<td>15</td>
<td>20</td>
<td>20</td>
<td>30</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Number of marine buoys</td>
<td>66</td>
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<td>Number of seismic stations</td>
<td>66</td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** General Authority of Civil Aviation - Meteorological Department
عدد محطات الرصد (الجوية والبرية والبحرية) في قطر

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
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</thead>
<tbody>
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<td>30</td>
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</tr>
<tr>
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<td>2</td>
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<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>number of seismic stations</td>
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المصدر: الهيئة العامة للطيران المدني - إدارة الأرصاد الجوية
### Table (2.3)

<table>
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<tr>
<th>Year</th>
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<th>Number of Earthquakes</th>
<th>Year</th>
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<td>2014</td>
<td>2</td>
<td>0</td>
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<td>2015</td>
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Source: General Authority of Civil Aviation - Meteorological Department

النشاط الزلزالي في قطر

**SEISMICITY IN QATAR**

2013 - 2015

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<th>Year</th>
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<td>2014</td>
</tr>
<tr>
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<td>0</td>
<td>2015</td>
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المصدر: الهيئة العامة للطيران المدني - إدارة الأرصاد الجوية
<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Earthquakes</th>
<th>Number of those involved in Seismic activity</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<tr>
<td>2014</td>
<td>2</td>
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</tbody>
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Source: General Authority of Civil Aviation - Meteorological Department

Chart No. (2.1)
### ANNUAL RAINFALL RATES BY STATIONS

<table>
<thead>
<tr>
<th>Year</th>
<th>Al Karanaah</th>
<th>Doha Airport</th>
<th>Dukhan</th>
<th>Al Ruwais</th>
<th>Umm Said</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>...</td>
<td>42.9</td>
<td>24.2</td>
<td>30.8</td>
<td>27.4</td>
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<tr>
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<td>68.6</td>
<td>14.5</td>
<td>71.7</td>
<td>112.4</td>
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<td>27.1</td>
<td>33.1</td>
<td>10.0</td>
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<td>70.5</td>
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<td>93.8</td>
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<td>23.9</td>
<td>35.8</td>
<td>40.0</td>
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<td>2013</td>
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<td>41.6</td>
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<td>2014</td>
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<td>73.0</td>
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<tr>
<td>2015</td>
<td>37.5</td>
<td>114.5</td>
<td>72.1</td>
<td>82.5</td>
<td>95.4</td>
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Source: General Authority of Civil Aviation - Meteorological Department

المصدر: الهيئة العامة للطيران المدني - إدارة الأرصاد الجوية
Average Rainfall (mm) 2015-2013

<table>
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<th>Doha Airport</th>
<th>Al Karana</th>
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<td>71.0</td>
<td>114.5</td>
</tr>
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<td>95.4</td>
<td>72.1</td>
<td>114.5</td>
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</table>

Source: General Authority of Civil Aviation - Meteorological Department
### Average Temperature by Stations 2010 - 2015

<table>
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<th>2012</th>
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<td>26.8</td>
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<td>26.4</td>
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**Source:** General Authority of Civil Aviation - Meteorological Department
<table>
<thead>
<tr>
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<th>2012</th>
<th>2013</th>
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Average annual temperatures recorded by the stations (°C) 2014-2015

Source: General Authority of Civil Aviation - Meteorological Department
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Table (2.6) (Unit: °C) (الجدول رقم (2.6)) متوسط درجات الحرارة المئوية ومتوسط الرطوبة النسبية حسب الدرجة والمحطات 

AVERAGE TEMPERATURE AND AVERAGE RELATIVE HUMIDITY BY DEGREE AND STATIONS 

2008 - 2015

Source: General Authority of Civil Aviation - Meteorological Department

المصدر: الهيئة العامة للطيران المدني - إدارة الأرصاد الجوية
### Average Temperatures Recorded Doha International Airport by Degree

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Source: General Authority of Civil Aviation - Meteorological Department

*Environment Statistics bulletin 2015*
Average relative humidity in Doha International Airport by degree

Chart No. (25) ภาพที่ 25

Environment Statistics bulletin 2015  نشرة الإحصاءات البيئية 2015
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**Table 2.7 (Unit: hPa)**

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**Environment Statistics bulletin 2015**

*نشرة الإحصاءات البيئية 2015*
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Source: General Authority of Civil Aviation - Meteorological Department
Average wind speed (knots) 2015

Chart No. (2.7)
### MONTHLY AND ANNUAL AVERAGES OF EVAPORATION IN HAMAD INTERNATIONAL AIRPORT

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**Annual Evaporation**

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**Total Annual Evaporation (mm)**: 457.5

**Average Annual Evaporation (mm)**: 38.9

Source: General Authority of Civil Aviation - Meteorological Department
### Table (2.9) (Unit: mm, m³)

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**Annual amount of evaporation (cubic meters)**

- **2003**: 2.1 m³
- **2004**: 2.3 m³
- **2005**: 0.0 m³
- **2006**: 2.3 m³
- **2007**: 1.5 m³
- **2008**: 0.9 m³
- **2009**: 0.6 m³
- **2010**: 1.5 m³
- **2011**: 0.4 m³
- **2012**: 2.3 m³
- **2013**: 2.5 m³
- **2014**: 1.9 m³
- **2015**: 4.3 m³

**Average long-term evaporation rate 1976-2015 (mm)**: 4.58 mm

**Quantities of annual long-term evaporation 1976-2015 (m³)**: 178.1 m³
### Table (2.10)

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**Average Number Sunshine Hours by the Stations in Summer and Winter (2008-2015)**

**Table 2.9 Chart Number**

Summer from May to September.
Winter from December to February.
MDPS Calculations.
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Source: General Authority of Civil Aviation - meteorological Department
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 EXTREME TEMPERATURES BY MONTH AND STATIONS

Table (2.12) (unit: Number of Days)

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**ملاحظة:** تشمل العدد الزمني المذكور في الجدول البيانات الشاملة لمحلات ريمة والطيفي في المطار الدولي.
### Extreme Temperatures by Month and Stations

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**Source:** General Authority of Civil Aviation - Meteorological Department

**Table (2.12)** (Unit: Number of Days)
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الهواء هو:
- بارد: تغير حرارة الهواء بين 16°F (1°C) و 32°F (1°C) أو أقل.
- مريحة: تغير حرارة الهواء بين 33°F (1°C) و 80°F (27°C) أو أكثر.
- عرضية: تغير حرارة الهواء بين 81°F (27°C) و 95°F (35°C) أو أكثر.
- شديد البرودة: تغير حرارة الهواء بين 96°F (35°C) و 122°F (50°C) أو أكثر.
- برودة متحركة: تغير حرارة الهواء بين 123°F (50°C) و 176°F (80°C) أو أكثر.

الرطوبة
- الرطوبة المنخفضة: الرطوبة أقل من 30%.
- الرطوبة المتوسطة: الرطوبة بين 30% و 80%.
- الرطوبة المرتفعة: الرطوبة أكثر من 80%.

الرطوبة في باردة الطقس هو:
- الرطوبة المنخفضة: الرطوبة أقل من 30%.
- الرطوبة المتوسطة: الرطوبة بين 30% و 80%.
- الرطوبة المرتفعة: الرطوبة أكثر من 80%.

الرطوبة في مريحة الطقس هو:
- الرطوبة المنخفضة: الرطوبة أقل من 30%.
- الرطوبة المتوسطة: الرطوبة بين 30% و 80%.
- الرطوبة المرتفعة: الرطوبة أكثر من 80%.

الرطوبة في عرضية الطقس هو:
- الرطوبة المنخفضة: الرطوبة أقل من 30%.
- الرطوبة المتوسطة: الرطوبة بين 30% و 80%.
- الرطوبة المرتفعة: الرطوبة أكثر من 80%.

الرطوبة في شديد البرودة الطقس هو:
- الرطوبة المنخفضة: الرطوبة أقل من 30%.
- الرطوبة المتوسطة: الرطوبة بين 30% و 80%.
- الرطوبة المرتفعة: الرطوبة أكثر من 80%.

الرطوبة في برودة متحركة الطقس هو:
- الرطوبة المنخفضة: الرطوبة أقل من 30%.
- الرطوبة المتوسطة: الرطوبة بين 30% و 80%.
- الرطوبة المرتفعة: الرطوبة أكثر من 80%.
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**Note:**
- The table lists the highest and lowest tides by station, month, date, and time.
- The units are in days, months, and hours (00, 30).
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*Note: All times are in 24-hour format.*
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**Highest and Lowest Tides by Station, Months, Date and Time (2015)**

Table (2.13) (Unit: Day:Month:Hour, Minute)

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**Highest and Lowest Tides by Station, Months, Date and Time (2015)**

Table (2.13) (Unit: Day:Month:Hour, Minute)
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2015

Highest and Lowest Tides By Station: Month, Date, Time

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Note: The table shows the highest and lowest tides by station, months, dates, and times.
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Table (2.13) (Unit: Day:Month:Hour:Minute, Hour:Minute)
### الرسالة الإحصائية البيئية 2015

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### التراخيص الأولية للدوري البحري

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### ملاحظات

- هذه الرسالة الإحصائية البيئية تُظهر بيانات محدثة لمراقبة وتدفق الميناء حتى تاريخ 03/07/2015.
- الرسالة متوفرة للإطلاع والقراءة في جميع المحافئ والمؤسسات الجوية في الدوحة.
<table>
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<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
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<th>September</th>
<th>October</th>
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**Source:** General Authority of Civil Aviation - Meteorological Department

**Data of Marine Buoys by Month 2015**

**Chart No. (2.11)**

**Statistical Bulletin 2015**

<table>
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<th>DATA OF NORTH OF QATAR</th>
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<tr>
<td>Average Current speed</td>
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</tr>
</tbody>
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### Table (2.15) (Unit: °C, m/s, m)

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<th>Water Temperature</th>
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<tr>
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<tr>
<td>Jun</td>
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<tr>
<td>Dec</td>
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### Chart (2.11)

Water and air temperature in °C of marine buoys for the north of Qatar by month 2015.

Data of marine buoys by month 2015.

**Source:** General Authority of Civil Aviation - Meteorological Department
Water and air temperature Celsius of marine buoys of Shiawah Island by month 2015

0 5 10 15 20 25 30 35 40

January  Feb  March  April  May  June  July  August  September  October  November  December

Max Air Temperature

Min Air Temperature

Water Temperature
Chapter Three

AIR QUALITY STATISTICS
### نشرة الإحصاءات البيئية

**تلوث الهواء في مدينة الدوحة**

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<th>2015</th>
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<td>Al Corniche</td>
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**الحدود السنوية**

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<td>CO</td>
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<td>201-300</td>
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**مصدر**

وزارة البلدية والبيئة: المصدر

*الحدود السنوية* تم إعتبارها "النормال" لوصف المؤشر.

### ملاحظات

- **الطباعي**
- **النظيف**
- **النормال**
- **أقل من الطبيعي**
- **تلوث محدود**
- **تلوث شديد**

**العدد السنوي لجودة الهواء بمدينة الدوحة**

**ANNUAL AVERAGE OF AIR QUALITY - DOHA CITY**

**2014 & 2015**

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<td>PM₁₀</td>
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**ملاحظات**

- **الطباعي**
- **النظيف**
- **النормال**
- **أقل من الطبيعي**
- **تلوث محدود**
- **تلوث شديد**
الاستطلاعات البيئية 2015

**الاستطلاعات البيئية 2015**

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* المصدر: وزارة البلدية والبيئة*
مصدر: وزارة البلدية والبيئة

**خفض مؤشر تلوث الهواء**

- **نظيف (Clean)**: 0-50
- **طبيعي (Normal)**: 51-100
- **أقل من الطبيعي (Less than Normal)**: 101-150
- **تلوث محدود (Limited Polluted)**: 151-200
- **تلوث (Polluted)**: 201-300
- **تلوث شديد (Extremely Polluted)**: 301-500

**متوسط الشهري لمؤشر ملوثات الهواء (AVERAGE MONTHLY OF THE AIR POLLUTANTS INDICATOR)**

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<th>عام</th>
<th>ملوثات الهواء</th>
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</thead>
<tbody>
<tr>
<td>2014</td>
<td></td>
<td>2015</td>
<td></td>
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- **الأوزون عند مستوى الأرض (Ground Level Ozone (O3))**
- **أول أكسيد الكربون (Carbon Monoxide (CO))**
- **جسيمات دقيقة (Particulate Matter (PM10))**
- **ثنائي أكسيد الكبريت (Sulfur dioxide (SO2))**
- **ثنائي أكسيد النيتروجين (Nitrogen dioxide (NO2))**
### Description of Air Pollutants Indicator

**Source:** Ministry of Municipality and Environment

#### Ground Level Ozone (O₃)

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<th>April</th>
<th>May</th>
<th>June</th>
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#### Carbon Monoxide (CO)

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<th>March</th>
<th>April</th>
<th>May</th>
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#### Particulate Matter (PM₁₀)

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<th>April</th>
<th>May</th>
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#### Sulfur Dioxide (SO₂)

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#### Nitrogen Dioxide (NO₂)

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#### Average Monthly of the Air Pollutants Indicator

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**Chart No. (3.2)**

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**Source:** Ministry of Municipality and Environment
### نشرة الإحصائيات البيئية

#### نبذة عن مؤشر التلوث:

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<td>مصادر الديموقراطية والبيئة</td>
</tr>
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| مؤشر التلوث | | |
|------------|------------------------|
| ثنائي أكسيد النيتروجين | | |
| الأوزون عند مستوى الأرض | | |
| أول أكسيد الكربون | | |
| جسيمات دقيقة | | |
| ثنائي أكسيد الكبريت | | |

#### تحليل التحليل:

التحليلات المثلثة (من) 2014 & 2015

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**نص الرسم البياني (3.5):**

*_chart_no_3.5*:

**نص الجدول (3.3):**

*_table_3.3_*:
توضيح عامل التلوث:

- **نظيف**: 0-50
- **طبيعي**: 51-100
- **أقل من الطبيعي**: 101-150
- **تلوث محدود**: 151-200
- **تلوث شديد**: 201-300
- **إطالة**: 301-500

**البيانات المذكورة**

- **نحاسة PM10**:
  - عام 2015
  - عام 2014

- **ثنائي أكسيد الكبريت (SO2)**
  - عام 2015
  - عام 2014

- **ثنائي أكسيد النيتروجين (NO2)**
  - عام 2015
  - عام 2014

- **الأوزون عند مستوى الأرض (O3)**
  - عام 2015
  - عام 2014

- **أول أكسيد الكربون (CO)**
  - عام 2015
  - عام 2014

**البيانات المذكورة**

- **نحاسة PM10**:
  - عام 2015
  - عام 2014

- **ثنائي أكسيد الكبريت (SO2)**
  - عام 2015
  - عام 2014

- **ثنائي أكسيد النيتروجين (NO2)**
  - عام 2015
  - عام 2014

- **الأوزون عند مستوى الأرض (O3)**
  - عام 2015
  - عام 2014

- **أول أكسيد الكربون (CO)**
  - عام 2015
  - عام 2014

**البيانات المذكورة**

- **نحاسة PM10**:
  - عام 2015
  - عام 2014

- **ثنائي أكسيد الكبريت (SO2)**
  - عام 2015
  - عام 2014

- **ثنائي أكسيد النيتروجين (NO2)**
  - عام 2015
  - عام 2014

- **الأوزون عند مستوى الأرض (O3)**
  - عام 2015
  - عام 2014

- **أول أكسيد الكربون (CO)**
  - عام 2015
  - عام 2014

**البيانات المذكورة**

- **نحاسة PM10**:
  - عام 2015
  - عام 2014

- **ثنائي أكسيد الكبريت (SO2)**
  - عام 2015
  - عام 2014

- **ثنائي أكسيد النيتروجين (NO2)**
  - عام 2015
  - عام 2014

- **الأوزون عند مستوى الأرض (O3)**
  - عام 2015
  - عام 2014

- **أول أكسيد الكربون (CO)**
  - عام 2015
  - عام 2014

**البيانات المذكورة**

- **نحاسة PM10**:
  - عام 2015
  - عام 2014

- **ثنائي أكسيد الكبريت (SO2)**
  - عام 2015
  - عام 2014

- **ثنائي أكسيد النيتروجين (NO2)**
  - عام 2015
  - عام 2014

- **الأوزون عند مستوى الأرض (O3)**
  - عام 2015
  - عام 2014

- **أول أكسيد الكربون (CO)**
  - عام 2015
  - عام 2014

**البيانات المذكورة**

- **نحاسة PM10**:
  - عام 2015
  - عام 2014

- **ثنائي أكسيد الكبريت (SO2)**
  - عام 2015
  - عام 2014

- **ثنائي أكسيد النيتروجين (NO2)**
  - عام 2015
  - عام 2014

- **الأوزون عند مستوى الأرض (O3)**
  - عام 2015
  - عام 2014

- **أول أكسيد الكربون (CO)**
  - عام 2015
  - عام 2014

**البيانات المذكورة**

- **نحاسة PM10**:
  - عام 2015
  - عام 2014

- **ثنائي أكسيد الكبريت (SO2)**
  - عام 2015
  - عام 2014

- **ثنائي أكسيد النيتروجين (NO2)**
  - عام 2015
  - عام 2014

- **الأوزون عند مستوى الأرض (O3)**
  - عام 2015
  - عام 2014

- **أول أكسيد الكربون (CO)**
  - عام 2015
  - عام 2014

**المصدر:** وزارة البلدية والبيئة ووزارة الري والموارد المائية.
 Description of Air Pollutants Indicator

- **Clean**: 0-50
- **Normal**: 51-100
- **Less than Normal**: 101-150
- **Limited Polluted**: 151-200
- **Polluted**: 201-300
- **Very Polluted**: 301-500

**Item**

- **Particulate Matter (PM10)**
- **Nitrogen dioxide (NO2)**
- **Ground Level Ozone (O3)**
- **Carbon Monoxide (CO)**
- **Sulfur dioxide (SO2)**

**2014 & 2015**

**Chart No. (3.6) **
<table>
<thead>
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<th>JANUARY</th>
<th>FEBRUARY</th>
<th>MARCH</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
<th>JULY</th>
<th>AUGUST</th>
<th>SEPTEMBER</th>
<th>OCTOBER</th>
<th>NOVEMBER</th>
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<tbody>
<tr>
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**Table 3.4: Average Monthly of the Air Pollutants Indicator**

Source: Ministry of Municipality and Environment
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<th>Year &amp; Pollutant</th>
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<tr>
<td>PM10</td>
<td>%</td>
<td>%</td>
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<tr>
<td>3.3%</td>
<td>72.8%</td>
<td>3.9%</td>
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<td>23%</td>
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<td>2.4%</td>
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<td>CO</td>
<td>%</td>
<td>%</td>
</tr>
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<tr>
<td>99.5%</td>
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<tr>
<td>SO2</td>
<td>%</td>
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</tr>
<tr>
<td>100%</td>
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<td>0%</td>
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</tr>
<tr>
<td>NO2</td>
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<tr>
<td>97.4%</td>
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<tr>
<td>99.7%</td>
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<td>0%</td>
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<tr>
<td>O3</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>100%</td>
<td>0%</td>
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<tr>
<td>98.1%</td>
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<tr>
<td>PM10</td>
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<td>36.4%</td>
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Source: Ministry of Municipality and Environment

DAILY PERCENTAGES (%) OF AIR QUALITY INDICATORS
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<tr>
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<tr>
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<td>0%</td>
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<tr>
<td>Nitrogen dioxide (NO₂)</td>
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<td>0.3%</td>
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<td>Ground Level Ozone (O₃)</td>
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<td>Carbon Monoxide (CO)</td>
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<td>Normal (PM10)</td>
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<td>Carbon Monoxide (CO)</td>
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<td>Carbon Monoxide (CO)</td>
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Source: Ministry of Municipality and Environment
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<td>0.0%</td>
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<td>99.7</td>
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<td>80.0</td>
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<td>O3</td>
<td>Polluted</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>CO</td>
<td>Clean</td>
<td>99.7</td>
<td>99.7</td>
</tr>
<tr>
<td></td>
<td>CO</td>
<td>Normal</td>
<td>0.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>CO</td>
<td>Polluted</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>PM10</td>
<td>Clean</td>
<td>49.7</td>
<td>31.2</td>
</tr>
<tr>
<td></td>
<td>PM10</td>
<td>Normal</td>
<td>50.0</td>
<td>60.3</td>
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<td>PM10</td>
<td>Polluted</td>
<td>0.3%</td>
<td>8.5%</td>
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</table>

Source: Ministry of Municipality and Environment.
### Table 3.8: Consumption of Ozone Depleting Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFC-11</td>
<td>11.98</td>
<td>20.77</td>
<td>20.90</td>
<td>17.80</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>HCFC-22</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>HCFC-114</td>
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<td>3.09</td>
<td>3.09</td>
<td>3.09</td>
<td>3.09</td>
<td>3.09</td>
<td>3.09</td>
<td>3.09</td>
<td>3.09</td>
<td>3.09</td>
</tr>
<tr>
<td>HCFC-141b</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>HCFC-142b</td>
<td>6.80</td>
<td>12.45</td>
<td>17.41</td>
<td>15.71</td>
<td>10.05</td>
<td>15.71</td>
<td>14.52</td>
<td>9.67</td>
<td>21.90</td>
<td>31.26</td>
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</tbody>
</table>

**Source:** Ministry of Municipality and Environment.
وفقاً لبرتوكول مونتريال (طن متري) المواد المستنفذة لطبقة الأوزون

根据蒙特利尔议定书（公吨），2005-2014年消耗的臭氧层破坏物质总量如下表所示。

<table>
<thead>
<tr>
<th>عام</th>
<th>CFC-11(1)</th>
<th>CFC-12(1)</th>
<th>HCFC-22</th>
<th>HFC-134a</th>
<th>HCFC-123</th>
<th>HCFC-141b</th>
<th>HCFC-142b</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>2006</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.33</td>
<td>0.25</td>
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<tr>
<td>2007</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.75</td>
<td>1.37</td>
<td>1.92</td>
</tr>
<tr>
<td>2008</td>
<td>11.60</td>
<td>13.84</td>
<td>13.42</td>
<td>8.58</td>
<td>3.10</td>
<td>1.11</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>75.76</td>
<td>47.63</td>
<td>27.08</td>
<td>3.03</td>
<td>1.78</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>1,602.9</td>
<td>2,295.4</td>
<td>2,259.7</td>
<td>1,877.2</td>
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</tr>
<tr>
<td>2011</td>
<td>2,400.2</td>
<td>3,092.2</td>
<td>3,573</td>
<td>2,005</td>
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<td>0.00</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>2,200</td>
<td>3,005</td>
<td>3,573</td>
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<td>0.00</td>
<td>0.00</td>
<td></td>
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<tr>
<td>2013</td>
<td>2,200</td>
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<td>3,573</td>
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<tr>
<td>2014</td>
<td>2,200</td>
<td>3,005</td>
<td>3,573</td>
<td>2,005</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

 total 51.97 49.35 36.56 38.27 79.73 94.10 96.61 93.57 80.64 84.91

وزير البلدية والبيئة: المصدر

Source: Ministry of Municipality and Environment.
ال المختلف بين كلور وفلور

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CFC-11</td>
<td>4.09</td>
<td>4.35</td>
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<td>1.78</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>CFC-12</td>
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<td>0.00</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<td>0.00</td>
<td>0.00</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
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<td>0.00</td>
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<td>0.00</td>
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<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>HCFC-142b</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

المجموع: 51.97 49.35 36.56 38.27 79.73 94.10 96.61 93.57 80.64 84.91

المصدر: وزارة البلدية والبيئة.

وفقاً لبروتوكول مونتريال (طن متري) المواد المستنفذة لطبقة الأوزون (OZONE DEPLETING POTENTIAL)

(1) الحرقح (CFC-11,CFC-12) تم حظر إستيرادها إعتباراً من 2010، حسب بروتوكول مونتريال.
المادة (1) : الوحدة (طن متري) : وفقاً لبرتوكول مونتريال.

2005 - 2014

المجموع

11,97  4,93  3,66  3,82  6,78  8,53  8,57  8,26  7,52  8,20

مصدر: وزارة البلدية والبيئة.
<table>
<thead>
<tr>
<th>Substance</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFC-11</td>
<td>1178</td>
<td>7.86</td>
<td>6.15</td>
<td>4.34</td>
<td>3.67</td>
<td>3.05</td>
<td>2.55</td>
<td>2.04</td>
<td>1.53</td>
<td>1.02</td>
<td>0.78</td>
</tr>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>HCFC-22</td>
<td>1972</td>
<td>19.97</td>
<td>18.42</td>
<td>17.92</td>
<td>17.53</td>
<td>17.14</td>
<td>16.75</td>
<td>16.36</td>
<td>15.97</td>
<td>15.58</td>
<td>15.77</td>
</tr>
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<td>HFC-134a</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>HCFC-123</td>
<td>1972</td>
<td>19.97</td>
<td>18.42</td>
<td>17.92</td>
<td>17.53</td>
<td>17.14</td>
<td>16.75</td>
<td>16.36</td>
<td>15.97</td>
<td>15.58</td>
<td>15.77</td>
</tr>
<tr>
<td>HCFC-141b</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>HCFC-142b</td>
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<td>13.84</td>
<td>13.42</td>
<td>8.58</td>
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<td>0.78</td>
<td>0.78</td>
<td>0.78</td>
<td>0.78</td>
<td>0.78</td>
</tr>
</tbody>
</table>

*Source: Ministry of Municipality and Environment.*

Global Warming Potential (GWP, 100 years) according to Montreal Protocol.

Substance (1) Importation of (CFC-11, CFC-12) has been stopped by 2010, in accordance to Montreal Protocol.

Global Warming Potential (metric tons) according to Montreal Protocol.

Global Warming Potential (tons CO2 equivalents)
### Substance

<table>
<thead>
<tr>
<th>Year</th>
<th>CFC-11 (11)</th>
<th>CFC-12 (12)</th>
<th>HCFC-22</th>
<th>HFC-134a</th>
<th>HCFC-123</th>
<th>HCFC-141b</th>
<th>HCFC-142b</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>23,142</td>
<td>250,371</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2006</td>
<td>16,538</td>
<td>219,348</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2007</td>
<td>11,522</td>
<td>81,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2008</td>
<td>6,764</td>
<td>26,487</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<td>2011</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2013</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<tr>
<td>2014</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Total

**Total HCFCs:**

- CFC-11
- CFC-12
- HCFC-22
- HFC-134a
- HCFC-123
- HCFC-141b
- HCFC-142b

**Total HCFCs (142b):**

- HCFC-142b

**Total CFCs:**

- CFC-11
- CFC-12
- CFC-22
- CFC-11

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

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**Total CFCs (11):**

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**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12

**Total CFCs (11):**

- CFC-11

**Total CFCs (12):**

- CFC-12
Chart No.(3.11) 2005-2014

GHG potential (tons CO2 equivalents)

- CFC-11 (11)
- CFC-12 (12)
- CFC-22 (11)
- HCFC-123 (111)
- HCFC-141b (141)
- HCFC-142b (142)
- HFC-134a (134)
- HFC-124 (124)
- HFC-134b (134)
- HFC-143a (143)
- HFC-144 (144)

Total

2005-2014
### CONSUMPTION OF OZONE DEPLETING SUBSTANCES PER PERSON (Kg) 2005 - 2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Consumption of Ozone Depleting substances per person (Kg)</th>
<th>Population</th>
<th>Consumption of Ozone Depletion (metric tons) according to Montreal Protocol</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>0.057</td>
<td>906,123</td>
<td>52.0</td>
<td>2005</td>
</tr>
<tr>
<td>2006</td>
<td>0.047</td>
<td>1,042,947</td>
<td>49.4</td>
<td>2006</td>
</tr>
<tr>
<td>2007</td>
<td>0.030</td>
<td>1,218,250</td>
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<td>2007</td>
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<td>2008</td>
<td>0.026</td>
<td>1,448,479</td>
<td>38.3</td>
<td>2008</td>
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<tr>
<td>2009</td>
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<td>1,638,626</td>
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</tr>
<tr>
<td>2010</td>
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<td>1,715,098</td>
<td>79.5</td>
<td>2010</td>
</tr>
<tr>
<td>2011</td>
<td>0.047</td>
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<td>2011</td>
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<tr>
<td>2012</td>
<td>0.045</td>
<td>1,832,903</td>
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<td>2012</td>
</tr>
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<td>2013</td>
<td>0.038</td>
<td>2,003,700</td>
<td>75.2</td>
<td>2013</td>
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<td>2014</td>
<td>0.037</td>
<td>2,216,180</td>
<td>82.2</td>
<td>2014</td>
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</table>
Table (3.11) (Unit: Metric tons)

<table>
<thead>
<tr>
<th>Year</th>
<th>Consumption of Ozone Depleting substances (Kg)</th>
<th>Consumption of Ozone Depleting substances per person (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
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</tr>
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<td>2006</td>
<td>49.4104,29470.047</td>
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<td>36.61218,2500.030</td>
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<td>38.31448,4790.026</td>
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<td>81.61732,7170.047</td>
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<td>82.41832,9030.045</td>
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<td>2013</td>
<td>75.22003,7000.038</td>
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<tr>
<td>2014</td>
<td>82.22216,1800.037</td>
<td>0.04</td>
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</tbody>
</table>

Graph:

- Chart No. (3.12)
- Year: 2005 - 2014
- Consumption of Ozone Depleting substances per person (Kg)
### Table 3.12 (Unit: Metric tons)

<table>
<thead>
<tr>
<th>Year</th>
<th>Mass of Consumption of Ozone Depleting Substances</th>
<th>Ozone Depleting Potential</th>
<th>GWP</th>
<th>ODP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
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<td>295,971.2</td>
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<td>357</td>
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<td>476</td>
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<tr>
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<td>118,434.9</td>
<td>734.2</td>
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<td>2014</td>
<td>422</td>
<td>40.0</td>
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</table>

**Mass of Consumption of Ozone Depleting Substances, GWP and ODP**

2005 - 2014

**Table (3.12)**

*Unit: Metric tons*
### Mass of Consumption of Ozone Depleting Substances Ozone Depleting Potential (metric tons) according to Montreal Protocol

<table>
<thead>
<tr>
<th>Year</th>
<th>Mass (metric tons)</th>
<th>GWP</th>
<th>ODP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>2006</td>
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<td>2008</td>
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<td></td>
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<tr>
<td>2009</td>
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</tr>
<tr>
<td>2010</td>
<td>2010</td>
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</tr>
<tr>
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<td>2014</td>
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</tr>
</tbody>
</table>

**Environmental Statistics Bulletin 2015**

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*Published by:*

*Language: Arabic and English*
Chapter Four

AGRICULTURAL INDICATORS AND FOOD SECURITY

الفصل الرابع

المؤشرات الزراعية والأمن الغذائي
### AGRICULTURAL INDICATORS
1995 - 2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Un-Cultivated Land</th>
<th>Cultivated Land</th>
<th>Per capita share of uncultivated land</th>
<th>Per capita share of (cultivated) arable land</th>
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<tbody>
<tr>
<td>1995</td>
<td>86.4</td>
<td>13.6</td>
<td>11.3</td>
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</tr>
<tr>
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<td>85.3</td>
<td>14.7</td>
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<td>1.9</td>
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<td>1.0</td>
</tr>
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<td>0.7</td>
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<tr>
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<td>81.1</td>
<td>18.9</td>
<td>3.6</td>
<td>0.8</td>
</tr>
<tr>
<td>2009</td>
<td>86.1</td>
<td>13.9</td>
<td>3.4</td>
<td>0.6</td>
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<td>0.6</td>
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<td>2.4</td>
<td>0.5</td>
</tr>
<tr>
<td>2015</td>
<td>81.8</td>
<td>18.2</td>
<td>2.2</td>
<td>0.5</td>
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</table>

Source: Ministry of Municipality and Environment.
<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of active farms</th>
<th>Number of Active farms</th>
<th>Number of recorded farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>82.9</td>
<td>998</td>
<td>1,204</td>
</tr>
<tr>
<td>2008</td>
<td>81.7</td>
<td>993</td>
<td>1,216</td>
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<tr>
<td>2009</td>
<td>63.9</td>
<td>795</td>
<td>1,245</td>
</tr>
<tr>
<td>2010</td>
<td>64.5</td>
<td>822</td>
<td>1,275</td>
</tr>
<tr>
<td>2011</td>
<td>64.9</td>
<td>831</td>
<td>1,281</td>
</tr>
<tr>
<td>2012</td>
<td>63.2</td>
<td>833</td>
<td>1,318</td>
</tr>
<tr>
<td>2013</td>
<td>62.6</td>
<td>839</td>
<td>1,340</td>
</tr>
<tr>
<td>2014</td>
<td>68.0</td>
<td>872</td>
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<tr>
<td>2015</td>
<td>70.5</td>
<td>910</td>
<td>1,290</td>
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</table>

Source: Ministry of Municipality and Environment.
Percentage of active farms of recorded farms 2007-2015.
<table>
<thead>
<tr>
<th>Year</th>
<th>Exported Agricultural Products</th>
<th>Imported Agricultural Products</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value (000 QRS)</td>
<td>Quantity</td>
</tr>
<tr>
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<td>1,986,095</td>
<td>923,574</td>
</tr>
<tr>
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<td>2,260,519</td>
<td>975,058</td>
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<td>2012</td>
<td>2,443,983</td>
<td>917,938</td>
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<tr>
<td>2013</td>
<td>2,502,923</td>
<td>875,592</td>
</tr>
<tr>
<td>2014</td>
<td>3,279,045</td>
<td>1,084,238</td>
</tr>
<tr>
<td>2015</td>
<td>3,369,555</td>
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</table>

Source: Foreign Trade statistics.
Chart No. (4.2) 

<table>
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<th>Year</th>
<th>Exports</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
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<tr>
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<td>38,129</td>
<td>204,512</td>
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<td>2012</td>
<td>41,968</td>
<td>258,459</td>
</tr>
<tr>
<td>2013</td>
<td>57,024</td>
<td>312,332</td>
</tr>
<tr>
<td>2014</td>
<td>47,775</td>
<td>301,755</td>
</tr>
<tr>
<td>2015</td>
<td>60,926</td>
<td>595,645</td>
</tr>
</tbody>
</table>

Value of Exported and Exported Agricultural Products (1000 QR)
### QUANTITY AND VALUE OF IMPORTED AND EXPORTED FOOD GOODS
2010 - 2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Imported Food Goods</th>
<th>Exported Food Goods</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value (000 QRS)</td>
<td>Quantity</td>
</tr>
<tr>
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<td>7,272,233</td>
<td>1,855,370</td>
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<td>8,244,951</td>
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<td>2014</td>
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<td>2015</td>
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Source: Foreign Trade statistics.

المصدر: إحصاءات التجارة الخارجية.
### Quantity and Value of Imported and Exported Food Goods (1000 QR)

<table>
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<tr>
<th>Year</th>
<th>Imports</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
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<td>2,000,000</td>
</tr>
<tr>
<td>2011</td>
<td>301,755</td>
<td>2,000,000</td>
</tr>
<tr>
<td>2012</td>
<td>312,332</td>
<td>2,000,000</td>
</tr>
<tr>
<td>2013</td>
<td>318,459</td>
<td>2,000,000</td>
</tr>
<tr>
<td>2014</td>
<td>312,332</td>
<td>2,000,000</td>
</tr>
<tr>
<td>2015</td>
<td>312,332</td>
<td>2,000,000</td>
</tr>
</tbody>
</table>

**Note:** Yearly quantities and values in QR (1000).
### كمية الأسمدة المستخدمة حسب نوع السماد

#### QUANTITIES OF FERTILIZERS USED BY TYPE OF FERTILIZER

<table>
<thead>
<tr>
<th>Year</th>
<th>المجموع Total</th>
<th>سماد عضوي معالج حرارياً Thermally-treated organic fertilizer</th>
<th>سماد عضوي خشن Rough organic manure</th>
<th>سماد عضوي ناعم Fine organic manure</th>
<th>السنة</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>32,357</td>
<td>16,663</td>
<td>4,047</td>
<td>11,647</td>
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<td>32,376</td>
<td>16,834</td>
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<td>14,516</td>
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<tr>
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<td>8,531</td>
<td>1,938</td>
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<td>13,281</td>
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<td>18,601</td>
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<tr>
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<tr>
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Source: Ministry of Municipality and Environment

المصدر: وزارة البلدية والبيئة
<table>
<thead>
<tr>
<th>Pesticides Type</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Regulations</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>114</td>
<td>114</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fungal pesticides</td>
<td>0</td>
<td>0</td>
<td>44.062</td>
<td>37.604</td>
<td>50.900</td>
<td>15.240</td>
<td>3.3120</td>
<td>9.435</td>
<td>4.682</td>
<td>500</td>
<td>4.682</td>
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<tr>
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<td>1.152</td>
<td>1.174</td>
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<td>0</td>
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<td>920</td>
<td>920</td>
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<td>Pesticides weed</td>
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<td>60.900</td>
<td>14.1889</td>
<td>19.770</td>
<td>24.700</td>
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<td>0</td>
<td>0</td>
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</table>

Table (4.6): Weight in Kg
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<th></th>
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<th></th>
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<tbody>
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<td>3,150</td>
<td>4,920</td>
<td>11,680</td>
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<td>1,174</td>
<td>1,152</td>
<td>1,264</td>
<td>0</td>
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<td>0</td>
<td>500</td>
<td>4,682</td>
</tr>
<tr>
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<td>44,052</td>
<td>15,240</td>
<td>50,900</td>
<td>141,889</td>
<td>33,120</td>
<td>9,435</td>
<td>24,700</td>
</tr>
<tr>
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<td>0</td>
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<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Total                               | 3,979,842 | 14,100 | 82,389 | 88,172 | 73,747 | 104,600 | 174,463 | 85,001 | 52,170 | 130,000 |

Source: Ministry of Municipality and Environment
### QUANTITIES OF PESTICIDES USED FOR THE CONTROL OF PESTS IN DOMESTIC AND GOVERNMENT BUILDINGS 2010 - 2014

<table>
<thead>
<tr>
<th>Type</th>
<th>Unit</th>
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<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
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**2010 - 2014**

*Quantities of pesticides used for the control of pests in domestic and government buildings*

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<tr>
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| Total                       | Kg     | 3,115| 3,254| 4,382| 2,915| 3,659| 1,239| 6,899 |
|                            | Lit    | 7,095| 7,619| 12,377| 7,114| 9,259| 6,899|

المجموع: وزارة البلدية والبيئة.

المصدر: وزارة البلدية والبيئة.
QUANTITIES OF PESTICIDES FOR THE CONTROL OF PALM PESTS

2010 - 2015

Chart No. (46) 1, 2, 3
<table>
<thead>
<tr>
<th>Type of Violation</th>
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<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<td>4</td>
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<td>4</td>
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<tr>
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<td>0</td>
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<tr>
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<td>178</td>
<td>29</td>
<td>88</td>
<td>58</td>
<td>254</td>
<td>62</td>
<td>330</td>
<td>550</td>
<td>461</td>
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Source: Ministry of Municipality and Environment.
<table>
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<th>Year</th>
<th>Type of Violation</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
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<tr>
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<tr>
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<td>Sukkur al Sayd</td>
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<td>0</td>
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<td>34</td>
<td>245</td>
<td>401</td>
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</table>

**Total:** 175 178 29 88 58 254 62 330 550 461

*Source: Ministry of Municipality and Environment.*
Proportion of workers in agriculture of total workforce

1986 - 2015
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<th></th>
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</thead>
<tbody>
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<td>65,000</td>
<td>65,000</td>
<td>65,000</td>
<td>65,000</td>
<td>65,000</td>
<td>65,000</td>
<td>65,000</td>
<td>65,000</td>
<td>65,000</td>
</tr>
<tr>
<td>Number of the registered farms</td>
<td>1,204</td>
<td>1,216</td>
<td>1,245</td>
<td>1,275</td>
<td>1,281</td>
<td>1,318</td>
<td>1,340</td>
<td>1,282</td>
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<tr>
<td>Total area of the registered farms</td>
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<td>43,213</td>
<td>43,730</td>
<td>44,422</td>
<td>43,047</td>
<td>44,591</td>
<td>47,478</td>
<td>47,116</td>
<td>47,470</td>
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<tr>
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<td>993</td>
<td>795</td>
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<td>831</td>
<td>833</td>
<td>839</td>
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<tr>
<td>Total area of active farms</td>
<td>40,111</td>
<td>39,893</td>
<td>37,010</td>
<td>35,958</td>
<td>34,598</td>
<td>33,168</td>
<td>36,123</td>
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<td>11,597</td>
<td>8,677</td>
<td>9,962</td>
<td>9,655</td>
<td>10,259</td>
<td>12,473</td>
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<tr>
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<td>4,304</td>
<td>4,321</td>
<td>4,700</td>
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<td>4,700</td>
<td>4,700</td>
<td>4,700</td>
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<tr>
<td>Cropped area for registered farms</td>
<td>4,327</td>
<td>4,293</td>
<td>4,247</td>
<td>4,297</td>
<td>4,258</td>
<td>4,258</td>
<td>4,258</td>
<td>4,258</td>
<td>4,258</td>
</tr>
<tr>
<td>Cropped area of registered farms</td>
<td>4,327</td>
<td>4,293</td>
<td>4,247</td>
<td>4,297</td>
<td>4,258</td>
<td>4,258</td>
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</tr>
<tr>
<td>Total cropped area</td>
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<td>11,030</td>
<td>11,030</td>
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Crops intensity %

Source: Ministry of Municipality and Environment.
<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of self-sufficiency</th>
<th>Available for Consumption</th>
<th>Amount of domestic production</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>28</td>
<td>820,106</td>
<td>227,108</td>
</tr>
<tr>
<td>2002</td>
<td>16</td>
<td>647,124</td>
<td>104,548</td>
</tr>
<tr>
<td>2003</td>
<td>18</td>
<td>607,845</td>
<td>108,428</td>
</tr>
<tr>
<td>2004</td>
<td>16</td>
<td>724,953</td>
<td>113,486</td>
</tr>
<tr>
<td>2005</td>
<td>15</td>
<td>728,730</td>
<td>112,551</td>
</tr>
<tr>
<td>2006</td>
<td>15</td>
<td>883,891</td>
<td>130,597</td>
</tr>
<tr>
<td>2007</td>
<td>15</td>
<td>1,005,904</td>
<td>148,000</td>
</tr>
<tr>
<td>2008</td>
<td>15</td>
<td>1,385,056</td>
<td>208,243</td>
</tr>
<tr>
<td>2009</td>
<td>11</td>
<td>1,392,516</td>
<td>155,874</td>
</tr>
<tr>
<td>2010</td>
<td>11</td>
<td>1,592,979</td>
<td>170,507</td>
</tr>
<tr>
<td>2011</td>
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<td>1,636,459</td>
<td>168,699</td>
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<td>11</td>
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<td>176,256</td>
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<td>2013</td>
<td>15</td>
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<td>239,495</td>
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<tr>
<td>2014</td>
<td>14</td>
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<td>242,161</td>
</tr>
<tr>
<td>2015</td>
<td>12</td>
<td>2,126,244</td>
<td>260,129</td>
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</table>

Source: Ministry of Municipality and Environment.
<table>
<thead>
<tr>
<th>Year</th>
<th>Available for Consumption of Food Commodities</th>
<th>Percentage of Self-Sufficiency</th>
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</thead>
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<td>820,106</td>
</tr>
<tr>
<td>2002</td>
<td>104,548</td>
<td>647,124</td>
</tr>
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<td>2003</td>
<td>108,428</td>
<td>607,845</td>
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<tr>
<td>2004</td>
<td>113,486</td>
<td>724,953</td>
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<tr>
<td>2005</td>
<td>112,551</td>
<td>728,730</td>
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<tr>
<td>2006</td>
<td>130,597</td>
<td>883,891</td>
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<td>148,000</td>
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<td>1,791,859</td>
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<td>2015</td>
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<td>2,126,244</td>
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Source: Ministry of Municipality and Environment.
### The Percentage of Self-Sufficiency by Food Groups

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<tr>
<th>Year</th>
<th>Human Consumption</th>
<th>Animal Consumption</th>
<th>Vegetables Group</th>
<th>Fruit Group</th>
<th>Legumes &amp; Oilseeds Group</th>
<th>Meat Group</th>
<th>Fish Group</th>
<th>Eggs Group</th>
<th>Dairy Products Group</th>
<th>Sugar &amp; Sugar Products</th>
<th>Oils &amp; Fats Group</th>
<th>Total</th>
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<tr>
<td>2009</td>
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<td></td>
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</tr>
<tr>
<td>2010</td>
<td>5.5 0.4 17.6 16.4</td>
<td>6.4 52.2 18.1 25.6</td>
<td>0.0 11.2</td>
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<tr>
<td>2011</td>
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<td>6.3 34.2 19.7 26.7</td>
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<tr>
<td>2012</td>
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<td>6.3 26.9 17.2 24.3</td>
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<tr>
<td>2013</td>
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<td>8.5 30.9 15.4 26.8</td>
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<tr>
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<td>9.5 34.4 13.3 27.7</td>
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</tr>
<tr>
<td>2015</td>
<td>6.9 0.4 17.5 14.7</td>
<td>8.5 30.5 11.6 33.2</td>
<td>0.0 12.2</td>
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### Table (4.14) (Unit: Number)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cattles</th>
<th>Sheep</th>
<th>Goats</th>
<th>Camels</th>
<th>Horses</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
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<tr>
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<td>3,122</td>
<td>25,667</td>
<td>382,454</td>
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<td></td>
</tr>
</tbody>
</table>

Source: Ministry of Municipality and Environment.

#### Number of Livestock in Farms by Type

<table>
<thead>
<tr>
<th>Year</th>
<th>Cattles</th>
<th>Sheep</th>
<th>Goats</th>
<th>Camels</th>
<th>Horses</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>18,533</td>
<td>1,941</td>
<td>23,915</td>
<td>278,635</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>22,331</td>
<td>3,122</td>
<td>25,667</td>
<td>382,454</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The percentage of self-sufficiency by food groups for the years 2009 to 2015.*
<table>
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<tr>
<th>التصنيف</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<td>32</td>
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<tr>
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<td>39</td>
<td>52</td>
<td>71</td>
<td>61</td>
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<tr>
<td>5. المساحة الزراعية الأخرى</td>
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<td>560</td>
<td>545</td>
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</table>

**المساحة الكلية للدولة في قطر**

\[
\text{Total land area} = (1)+(6)+(9)+(10)+(11)+(12)
\]

\[
\text{Total area of Qatar} = 1,608 \text{ km}^2
\]
## Table (4.15) (Unit: KM²)

<table>
<thead>
<tr>
<th>Classification</th>
<th>2010</th>
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<th>2013</th>
<th>2014</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Agricultural land area &amp; Green Plantation Area</td>
<td>650</td>
<td>650</td>
<td>650</td>
<td>650</td>
<td>650</td>
<td>650</td>
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<tr>
<td>Agricultural land (Arable land)</td>
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<td>23</td>
<td>24</td>
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<td>28</td>
</tr>
<tr>
<td>Permanent Cropland Area</td>
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<td>28</td>
<td>31</td>
<td>32</td>
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<tr>
<td>Permanent Meadow and Pasture Land Area</td>
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<td>39</td>
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<td>71</td>
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<td>560</td>
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<td>524</td>
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<td>0</td>
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<td>0</td>
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<tr>
<td>Forest Land Area</td>
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<td>0</td>
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<tr>
<td>Other Wooded Land Area</td>
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<tr>
<td>Built-up and Related Land Area</td>
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<td>9</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td>7</td>
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<tr>
<td>Wet Open Land Area (Including Mangrove Area)</td>
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<td>9</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td>7</td>
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<tr>
<td>Area of Dry Open Land with Special Vegetation Cover</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Area of Open Land without or with Insignificant Vegetation</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Total Land Area = (1) + (6) + (9) + (10) + (11) + (12)

Total area of Qatar = (13) + (14)

1. Includes area cultivated with grains and vegetables.
2. Includes area cultivated with fruits and palms.
3. Includes area cultivated with green fodder.
4. Includes uncultivated arable land.

Source: MDPS, General Census of Population, Housing and Establishments.
Source: MDPS, Annual Statistical Abstract, Chapter of Agriculture Statistics.
Source: GIS Network, Qatar.
Source: Ministry of Municipality and Environment.

### Chart No. (4.9)

The chart shows the distribution of land use areas according to the UN classification for the years 2010 to 2015.
Regarding Arid/Desert, the entire Qatar is arid-semi arid region. However, if it concerns here with the sand dunes, the approximate area covered by sand dunes in Qatar is given here.

### Table (4.16) (Unit: km²)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Land Degraded</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>275</td>
</tr>
<tr>
<td>2005</td>
<td>2,797</td>
</tr>
<tr>
<td>2005</td>
<td>5,696</td>
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<tr>
<td>2005</td>
<td>802</td>
</tr>
<tr>
<td>2005</td>
<td>833</td>
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<tr>
<td>2005</td>
<td>216</td>
</tr>
</tbody>
</table>

### Table (4.17) (Unit: M²)

<table>
<thead>
<tr>
<th>Item</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al Khor &amp; Al Thakhira</td>
<td>25,920</td>
<td>25,920</td>
<td>25,920</td>
<td>25,920</td>
<td>72,876</td>
<td>72,876</td>
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<tr>
<td>Doha</td>
<td>1,164,588</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Al Rayyan</td>
<td>329,331</td>
<td>344,269</td>
<td>344,269</td>
<td>484,873</td>
<td>502,206</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Al Shamal</td>
<td>8,523</td>
<td>8,523</td>
<td>8,523</td>
<td>8,523</td>
<td>14,241</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Al Dhaayin</td>
<td>18,830</td>
<td>23,300</td>
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<td>35,000</td>
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<tr>
<td>Al Wakra</td>
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<td>48,776</td>
<td>52,858</td>
<td>52,858</td>
<td>47,000</td>
<td>47,000</td>
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</tr>
<tr>
<td>Umm Salal</td>
<td>10,400</td>
<td>14,600</td>
<td>15,200</td>
<td>16,700</td>
<td>19,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,606,368</td>
<td>461,188</td>
<td>471,170</td>
<td>481,770</td>
<td>664,972</td>
<td>1,284,102</td>
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</tr>
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</table>

**Source:** Ministry of Municipality and Environment.
### Table 4.16 (Unit: km²)

<table>
<thead>
<tr>
<th>Year</th>
<th>Area km²</th>
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</thead>
<tbody>
<tr>
<td>2005</td>
<td>10,619</td>
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</tbody>
</table>

*Total land degraded* affects moderately above average level

<table>
<thead>
<tr>
<th>Year</th>
<th>Area km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>2,797</td>
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</table>

*Total land degraded* affects moderately below average level

<table>
<thead>
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<th>Year</th>
<th>Area km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>5,696</td>
</tr>
</tbody>
</table>

*Total land degraded* slightly above average level

<table>
<thead>
<tr>
<th>Year</th>
<th>Area km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>802</td>
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</tbody>
</table>

*Total land degraded* slightly below average level

<table>
<thead>
<tr>
<th>Year</th>
<th>Area km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>833</td>
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</tbody>
</table>

*Total land degraded* strongly above average level

<table>
<thead>
<tr>
<th>Year</th>
<th>Area km²</th>
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</thead>
<tbody>
<tr>
<td>2005</td>
<td>75</td>
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</tbody>
</table>

*Total land degraded* strongly below average level

<table>
<thead>
<tr>
<th>Year</th>
<th>Area km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>216</td>
</tr>
</tbody>
</table>

Regarding Arid/Desert, the entire Qatar is an arid-semi-arid region. However, if it involves here with the sand dunes, the approximate area covered by sand dunes in Qatar is given here.

### Table 4.17 (Unit: M²)

<table>
<thead>
<tr>
<th>Item</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al Khor &amp; Al Thakhira</td>
<td>25,920</td>
<td>25,920</td>
<td>25,920</td>
<td>25,920</td>
<td>72,876</td>
<td>72,876</td>
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<tr>
<td>Doha</td>
<td>1,164,588</td>
<td>1,164,588</td>
<td>1,164,588</td>
<td>1,164,588</td>
<td>592,229</td>
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<tr>
<td>Al Rayyan</td>
<td>329,331</td>
<td>344,269</td>
<td>344,269</td>
<td>344,269</td>
<td>484,873</td>
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<tr>
<td>Al Shamal</td>
<td>8,523</td>
<td>8,523</td>
<td>8,523</td>
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<td>Al Dhaayin</td>
<td>18,830</td>
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<td>48,776</td>
<td>48,776</td>
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</tr>
<tr>
<td>Umm Salal</td>
<td>10,400</td>
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<td>14,600</td>
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<td>16,700</td>
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<td>592,229</td>
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</table>

**Note:** Data excludes public parks.

**Source:** Ministry of Municipality and Environment.
<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Public Parks</th>
<th>Cultivated Area (Green Spaces)</th>
<th>Re-cultivated Area (Maintenance)</th>
<th>Number of Palm Trees</th>
<th>Palm Tree Area</th>
<th>Number of Trees</th>
<th>Tree Area</th>
<th>Number of Shrubs</th>
<th>Shrub Area</th>
<th>Number of Others</th>
<th>Total Trees</th>
<th>Culivated area (Green Spaces)</th>
<th>Median and roadside planting</th>
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<tbody>
<tr>
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<td>700</td>
<td>4,901</td>
<td>744</td>
<td>6,526</td>
<td>4,901</td>
<td>1,485</td>
<td>744</td>
<td>700</td>
<td>139,289</td>
<td>45.96</td>
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<tr>
<td>2011</td>
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<td>741</td>
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<td>702</td>
<td>139,289</td>
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<tr>
<td>2012</td>
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<tr>
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<td>992</td>
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<td>6,829</td>
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<td>992</td>
<td>705</td>
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Source: Ministry of Municipality and Environment.
### Green Space Area in Qatar (excluding Public Parks) 2010 - 2015

<table>
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<tr>
<th>Year</th>
<th>Number of Public Parks</th>
<th>Public Park Area m²</th>
<th>Cultivated Area (Green Spaces) m²</th>
<th>Re-cultivated Area m²</th>
<th>Number of Palm Trees</th>
<th>Palm Tree Area m²</th>
<th>Number of Trees</th>
<th>Tree Area m²</th>
<th>Number of Shrubs</th>
<th>Shrub Area m²</th>
<th>Number of Others</th>
<th>Others Area m²</th>
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</thead>
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<td>7,998</td>
<td>29,336</td>
<td>29,352</td>
<td>7,807</td>
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<td>86,016</td>
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<tr>
<td>2015</td>
<td>86</td>
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**Source:** Ministry of Municipality and Environment.
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<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<tbody>
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</tr>
<tr>
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<td>0</td>
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</tr>
<tr>
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**Environment Statistics bulletin 2015**

**نشرة الإحصاءات البيئية 2015**

**Table (5.1) (Unit: Metric tons, Metric tons per boats, Metric tons per fishermen)**

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<th>NO. OF BOATS</th>
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**Source:** Ministry of Municipality and Environment.
### Fish Catch in Qatar 2002-2015

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Source: Ministry of Municipality and Environment.
Fishing Effort
2002-2015

- Average catch per boat and per fisherman
- Local catch per boats (MT per boats)
- Local catch per fishermen (MT per fishermen)
Average catch per boat and per fisherman

Local catch per boats (MT per boats)

Local catch per fishermen (MT per fishermen)

2002 - 2015
### Quantity and Value of Qatar's Exports and Imports of Fish, Crustaceans, and Molluscs and Other Aquatic Invertebrates

<table>
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<th>Year</th>
<th>Quantity of Imported Fish (kg)</th>
<th>Value of Imported Fish (QR)</th>
<th>Quantity of Exported Fish (kg)</th>
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Exports include re-exports.

Source: Foreign Trade statistics.
Quantity of Qatar’s exports and imports of fish, crustaceans and molluscs and other aquatic invertebrates
2002-2015

Chart No. (5.5)
Value of Qatar’s exports and imports of fish, crustaceans and molluscs and other aquatic invertibrates

Chart No. (5.6) ²

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</table>

**Source:** Ministry of Municipality and Environment.
نشرة الإحصاء البيئية

**exploitation**

White spotted spine foot

**Maximum exploitation:** toothless trevally, grouper and emperor fish.

Narrowbarred Spanish

**Environment Statistics bulletin 2015**

وزيرة البلدية والبيئة: المصدر

**others.**

فسكر، بدحة، سلطان ابراهيم، باسي، قين، ام الروبيان، قبقب، خثاق، وغيرها.

**Unclassified: including fish and crustaceans such as: tuna fish, dhalaa, jidd, barracuda, sakan, flat needlefish, Karari, greater yellow tail barracuda.**

**Improper exploitation: humped fish.**

**Overexploitation: kingfish, greyish grunt and painted sweetlip fish.**

**EXPLOITATION AND OVER-EXPLOITATION RATE IN FISHING BY TYPE OF EXPLOITATION**

معدل الاستغلال والافراط في صيد الأسماك حسب نوع الاستغلال

المجموع الكلي: 7,139 8,863 7,155 11,295 11,134 13,958 16,946 15,187 17,689 14,066 13,769 12,995 11,274 12,006 16,213 15,202

**Total**

Not satisfied: 1,163 1,104 795 1,189 1,687 1,845 2,944 3,187 3,158 3,072 2,937 3,010 2,526 2,267 4,613 4,551

Sustainably exploited: 1,379 1,571 1,144 1,438 1,268 2,136 2,236 1,904 2,140 1,541 1,617 1,827 1,395 1,513 3,071 2,536

Exploitation and over-exploitation rate in fishing by type of exploitation.

**Table (5.4) (Unit: Metric Ton)**

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Chart No.(5.7)

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Source: Ministry of Municipality and Environment.
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Source: Ministry of Municipality and Environment.
### NO. OF FISHERMEN IN COMMERCIAL FISHING BY COASTAL AREAS 2004 - 2015

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Source: Ministry of Municipality and Environment.
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Source: Ministry of Municipality and Environment.
Chapter Six

Coastal Water Quality Statistics

إحصاءات جودة المياه الساحلية
### QUALITY OF COASTAL WATERS IN QATAR 2008 - 2012

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**Notes:**
- **BOD:** Biochemical oxygen demand.
- **COD:** Chemical oxygen demand.
- **ND:** Not detected.
- **ND28:** Not detected.
- **ND4:** Not detected.

**Source:** Ministry of Municipality and Environment.
 نوعية المياه الساحلية القطرية حسب الموقع
QUALITY OF COASTAL WATERS IN QATAR
2008 - 2012

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BOD: Biochemical oxygen demand.
COD: Chemical oxygen demand.
ND: Not detected.

Source: Ministry of Municipality and Environment.
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<th>Silicate (mg/l)</th>
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**Table 6.2:** Concentration of Natural Nutrients in Qatari Coastal Waters 2010 - 2015

- **Limit:**
  - Chlorophyll (µg/l): 35.0
  - Nitrate (NO₃) (mg/l): 65.8
  - Silicate (mg/l): 45.0

- **Location:** Dukhan, Ras Rakn, Ras Laffan, Al-Khor, Khawr Al'Udayd, Ras Abu Funtas, Al-Wakrah, Mesaieed.
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2014

2015

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<tr>
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<td>Umm Bab</td>
<td>N.D.</td>
<td>ND</td>
<td>ND</td>
<td>أم باب</td>
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<td>ND</td>
<td>ND</td>
<td>مسلوى</td>
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</table>

In Years 2013-2015 Not measured.
ND: Not detected.
NM: Not measured.
Source: Ministry of Municipality and Environment

TOTAL PETROLEUM HYDROCARBON (TPH)
SEDIMENTS IN COASTAL SAMPLES
2008 - 2012

Years 2013 - 2015 are not measured.
### Environmental Statistics Bulletin 2015

**Table (6.4)**

**Grain Size Distribution and Description**
**For Sediments Collected from Different Qatari Coasts**
**2006 - 2012**

<table>
<thead>
<tr>
<th>Location</th>
<th>Type of Sediments</th>
<th>Gravel%</th>
<th>Silt%</th>
<th>Sand%</th>
<th>Clay%</th>
</tr>
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<tbody>
<tr>
<td><em>2006</em></td>
<td></td>
<td></td>
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<tr>
<td>Mesaied (location 1)</td>
<td>Clayey Sand</td>
<td>4.0</td>
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<td>30.5</td>
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<td>84.5</td>
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<td>22.1</td>
<td>45.5</td>
</tr>
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<td>27.1</td>
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<td>0.0</td>
<td>96.3</td>
<td>0.0</td>
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<tr>
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<td>0.0</td>
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<td>0.0</td>
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<tr>
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<td></td>
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<td>0.0</td>
<td>96.0</td>
<td>0.0</td>
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<td>49.6</td>
<td>30.5</td>
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<tr>
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<td>84.5</td>
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<tr>
<td>Doha (Location 2)</td>
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<td>22.1</td>
<td>45.5</td>
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<td>32.5</td>
<td>27.1</td>
<td>40.5</td>
</tr>
<tr>
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<td>98.4</td>
<td>0.0</td>
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<tr>
<td>Ras Laffan</td>
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<td>0.0</td>
<td>0.0</td>
<td>96.3</td>
<td>0.0</td>
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<tr>
<td>Ras Rakn</td>
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<td>3.7</td>
<td>0.0</td>
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<td>0.0</td>
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<td><em>2010</em></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
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<td>N.D</td>
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<tr>
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<td>N.D</td>
<td>N.D</td>
<td>N.D</td>
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<td>N.D</td>
<td>N.D</td>
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</tr>
</tbody>
</table>
### Grain Size Distribution and Description

**For Sediments Collected from Different Qatari Coasts**

**2006 - 2012**

<table>
<thead>
<tr>
<th>Location</th>
<th>Type of Sediments</th>
<th>Gravel%</th>
<th>Silt%</th>
<th>Sand%</th>
<th>Clay%</th>
<th>Location</th>
</tr>
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<tr>
<td>Khor Al-Odaid</td>
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<td>99.9</td>
<td>N.D</td>
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<tr>
<td>Mesaieed</td>
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<td>...</td>
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<td>0.1</td>
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<tr>
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<td>...</td>
<td>...</td>
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ND: Not detected.

Source: Ministry of Municipality and Environment
<table>
<thead>
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<th>Year</th>
<th>Marine water temperature (Ruways station)</th>
<th>Buoy Shiraouh Island (North)</th>
<th>Buoy Qatar (North)</th>
<th>د.م. (سنوات)</th>
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<tbody>
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<td>...</td>
<td>24</td>
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<tr>
<td>2015</td>
<td>27</td>
<td>28</td>
<td>...</td>
<td>...</td>
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</table>

Source: General Authority of Civil Aviation-Meteorological Department

المصدر: الهيئة العامة للطيران المدني-ادارة الأرصاد الجوية
## Table (6.6) (Unit: part per million (ppm) wet weight)

<table>
<thead>
<tr>
<th>Item</th>
<th>Zn</th>
<th>Cu</th>
<th>Hg</th>
<th>Cr</th>
<th>Cd</th>
<th>Pb</th>
<th>Average</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Samples</th>
</tr>
</thead>
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<tr>
<td><strong>Mean</strong></td>
<td>2.364968</td>
<td>0.060814</td>
<td>0.005163</td>
<td>0.238206</td>
<td>0.100198</td>
<td>0.017872</td>
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</tr>
<tr>
<td><strong>SD</strong></td>
<td>1.616841</td>
<td>0.121600</td>
<td>0.043359</td>
<td>0.066140</td>
<td>0.139547</td>
<td>0.067362</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td></td>
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</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>10.67</td>
<td>0.968</td>
<td>0.49</td>
<td>16.32</td>
<td>0.829</td>
<td>0.838</td>
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<td><strong>Samples</strong></td>
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<td>344</td>
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<td></td>
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</tr>
</tbody>
</table>

* Concentrations of metals were expressed in part per million (ppm) wet weight.

Source: Ministry of Municipality and Environment.

* المتوسط

* الانحراف المعياري

* أقل

* أعلى

* العينات

* تم التعبير عن تركيزات المعادن بنحو في المليون (ppm) الوزن الرطب

المصدر: وزارة البلدية والبيئة.
### Table 6.7 (Unit: Ton)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Oil Waste</th>
<th>Coastal waste</th>
<th>Wood waste</th>
<th>Year</th>
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<tbody>
<tr>
<td>2012</td>
<td>1,950</td>
<td>1,100</td>
<td>800</td>
<td>50</td>
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<tr>
<td>2013</td>
<td>1,795</td>
<td>1,050</td>
<td>700</td>
<td>45</td>
<td>2013</td>
</tr>
<tr>
<td>2014</td>
<td>1,815</td>
<td>1,200</td>
<td>550</td>
<td>65</td>
<td>2014</td>
</tr>
<tr>
<td>2015</td>
<td>2,140</td>
<td>1,600</td>
<td>500</td>
<td>40</td>
<td>2015</td>
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</table>

Source: Ministry of Municipality and Environment.
### Table (6.8)

<table>
<thead>
<tr>
<th>Year</th>
<th>Barrel</th>
<th>M³</th>
<th>Number of Oil Spill Incidents with no recorded amount</th>
<th>Number of Oil Spill</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>155</td>
<td>13</td>
<td>15</td>
<td>410</td>
</tr>
<tr>
<td>2011</td>
<td>35</td>
<td>100</td>
<td>14</td>
<td>1,428</td>
</tr>
<tr>
<td>2012</td>
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<tr>
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<td>..</td>
<td>1</td>
<td>43</td>
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</tr>
</tbody>
</table>

Source: QP.

**NUMBER OF OIL SPILL INCIDENTS BY AMOUNT OF SPILL 2012 - 2015**

**عدد حوادث تسرب النفط حسب الكمية**

**جدول رقم (6.8)**
Chapter Seven

Water Quality and Wastewater Statistics
## WATER PRODUCTION, ABSTRACTION, LOSSES AND USES

### Table (7.1) (Unit: Million m3/year)

<table>
<thead>
<tr>
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<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>System volume input (mainly desalinated water) [1]</td>
<td>533.00</td>
<td>482.20</td>
<td>453.21</td>
<td>425.90</td>
<td>390.93</td>
<td>362.13</td>
</tr>
<tr>
<td>Total Real Losses [2]</td>
<td>25.50</td>
<td>30.40</td>
<td>27.80</td>
<td>29.10</td>
<td>32.10</td>
<td>33.30</td>
</tr>
<tr>
<td>Authorised consumption [3]= [1]-[2]</td>
<td>507.50</td>
<td>451.80</td>
<td>425.61</td>
<td>396.80</td>
<td>358.83</td>
<td>328.83</td>
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<tr>
<td>Water demand</td>
<td>498.8</td>
<td>463.4</td>
<td>436.8</td>
<td>408.3</td>
<td>370.3</td>
<td>352.6</td>
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<tr>
<td>Total abstraction from groundwater [4]=[5]+[6]+[7]+[8]</td>
<td>0.00</td>
<td>250.28</td>
<td>250.08</td>
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<td>249.53</td>
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<td>of which from agricultural wells [5]</td>
<td>...</td>
<td>230.00</td>
<td>230.00</td>
<td>230.05</td>
<td>229.47</td>
<td>228.88</td>
</tr>
<tr>
<td>of which from municipal wells [6]</td>
<td>...</td>
<td>10.40</td>
<td>10.20</td>
<td>10.38</td>
<td>10.19</td>
<td>9.34</td>
</tr>
<tr>
<td>of which from domestic wells [7]</td>
<td>...</td>
<td>9.70</td>
<td>9.70</td>
<td>9.60</td>
<td>9.69</td>
<td>9.82</td>
</tr>
<tr>
<td>of which from industrial wells [8]</td>
<td>...</td>
<td>0.18</td>
<td>0.18</td>
<td>0.18</td>
<td>0.18</td>
<td>0.18</td>
</tr>
<tr>
<td>Total re-use of treated sewage effluent [9]=[10]+[11]+[12]</td>
<td>97.38</td>
<td>94.01</td>
<td>80.04</td>
<td>78.80</td>
<td>63.68</td>
<td>51.06</td>
</tr>
<tr>
<td>of which for irrigation in agriculture [10]</td>
<td>66.29</td>
<td>64.92</td>
<td>55.23</td>
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**Data sources**: Kahramaa, Ashghal.
| Year | Wells (wells) | System Volume Input (mainly desalinated water) | Total Abstraction from Wells | Total Re-use of Treated Groundwater | Losses of which for irrigation in Agriculture | Losses of which from Domestic Wells | Losses of which from Agricultural Wells | Total Water Losses | Authorised Consumption of which for irrigation in Agriculture | Authorised Consumption of which from Domestic Wells | Authorised Consumption of which from Agricultural Wells | Total Water Use and Uses | Authorised Consumption | Authorised Consumption of which for irrigation in Agriculture | Total Water Use net of total purposes | 
|------|--------------|-----------------------------------------------|-----------------------------|-----------------------------------|------------------------------------------|----------------------------------|--------------------------------------|------------------|----------------------------------------------------------|----------------------------------|------------------------------------------|--------------------------------------|---------------------------------|----------------------------------------------------------|-----------------------------------------------|---------------------------------------------|------------------|
| 2002 | 430.0        | 657.0                                         | 249.7                       | 12.4                              | 2.1                                      | 12.4                              | 2.1                                  | 7.3              | 12.4                                                      | 2.1                              | 7.3                                      | 101.0                  | 203.0              | 12.4                                                      | 2.1                                           | 7.3                           | 101.0 |
| 2003 | 431.0        | 658.0                                         | 249.5                       | 12.6                              | 2.1                                      | 12.4                              | 2.1                                  | 7.3              | 12.6                                                      | 2.1                              | 7.3                                      | 101.2                  | 203.2              | 12.6                                                      | 2.1                                           | 7.3                           | 101.2 |
| 2004 | 432.0        | 659.0                                         | 249.3                       | 12.8                              | 2.1                                      | 12.8                              | 2.1                                  | 7.3              | 12.8                                                      | 2.1                              | 7.3                                      | 101.4                  | 203.4              | 12.8                                                      | 2.1                                           | 7.3                           | 101.4 |
| 2005 | 433.0        | 660.0                                         | 249.1                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 101.6                  | 203.6              | 13.0                                                      | 2.1                                           | 7.3                           | 101.6 |
| 2006 | 434.0        | 661.0                                         | 248.9                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 101.8                  | 203.8              | 13.0                                                      | 2.1                                           | 7.3                           | 101.8 |
| 2007 | 435.0        | 662.0                                         | 248.7                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 102.0                  | 204.0              | 13.0                                                      | 2.1                                           | 7.3                           | 102.0 |
| 2008 | 436.0        | 663.0                                         | 248.5                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 102.2                  | 204.2              | 13.0                                                      | 2.1                                           | 7.3                           | 102.2 |
| 2009 | 437.0        | 664.0                                         | 248.3                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 102.4                  | 204.4              | 13.0                                                      | 2.1                                           | 7.3                           | 102.4 |
| 2010 | 438.0        | 665.0                                         | 248.1                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 102.6                  | 204.6              | 13.0                                                      | 2.1                                           | 7.3                           | 102.6 |
| 2011 | 439.0        | 666.0                                         | 247.9                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 102.8                  | 204.8              | 13.0                                                      | 2.1                                           | 7.3                           | 102.8 |
| 2012 | 440.0        | 667.0                                         | 247.7                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 103.0                  | 205.0              | 13.0                                                      | 2.1                                           | 7.3                           | 103.0 |
| 2013 | 441.0        | 668.0                                         | 247.5                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 103.2                  | 205.2              | 13.0                                                      | 2.1                                           | 7.3                           | 103.2 |
| 2014 | 442.0        | 669.0                                         | 247.3                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 103.4                  | 205.4              | 13.0                                                      | 2.1                                           | 7.3                           | 103.4 |
| 2015 | 443.0        | 670.0                                         | 247.1                       | 13.0                              | 2.1                                      | 13.0                              | 2.1                                  | 7.3              | 13.0                                                      | 2.1                              | 7.3                                      | 103.6                  | 205.6              | 13.0                                                      | 2.1                                           | 7.3                           | 103.6 |
Water Use Balance 2002 - 2014

- Total water available for use
- Total water use and water loss

Use of Water by Economic Sector (Including Injection, Loss, and Discharged Wastewater into Lagoons)

- Government use
- Water used in private homes
- Water used in commercial activities
- Water used in industry
- Water used in agriculture
Use of Water by Economic Sector (Including Injection, Loss, and Discharged Wastewater into Lagoons) 2002-2014

- Water used in agriculture
- Water used in industry
- Water used in commercial activities
- Water used in private homes
- Government use
- Water loss
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Source: Ministry of Municipality and Environment, Kahramaa, and Ashghal
## Water Use in Agriculture

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Water use efficiency and water use productivity in agriculture at constant prices 2004

1990-2014

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(1): 2013 data from WB report (Kahramaa data), and estimated data of 2012

(2): Excluding desalination of industrial water

(3): Mining and quarrying (including oil and gas), manufacturing, electricity, water, and construction

Source: Ministry of Municipality and Environment, Kahramaa.
### WATER USE IN INDUSTRY AND CONSTRUCTION

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<td>0.65</td>
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</tbody>
</table>

**Table 7.4 (unit: million m³/year)**

Source: Ministry of Municipality and Environment, Kahramaa.

1. Data from WB report (Kahramaa data), and estimated data of 2012.
2. Excluding desalination of industrial water.
3. Mining and quarrying (including oil and gas), manufacturing, electric, water, and construction, and public sector, including fuel.

- **Water supplied by Kahramaa**: Water supplied by Kahramaa.
- **Industrial water**: Industrial water.
- **Commercial water in glass**: Commercial water in glass.
- **Cotton**: Cotton.
- **Total used water**: Total used water.
- **Water used in GDP**: Water used in GDP.
- **Water used (gallons)**: Water used (gallons).
- **Construction projects**: Construction projects.
Water Use in Industry and Construction 2002-2014

Chart No. (7.5)

- Water supplied by Kahramaa
- Industrial water wells

Water use efficiency in the industrial sector and water use productivity in industrial activities at constant prices 2004

Water used in GDP (L/QR)

GDP generated per liter water used (QR/liter)
Water use efficiency in the industrial sector and water use productivity in industrial activities at constant prices 2004.
### Water Use in Commercial Sector

**Table (7.5) (Unit: million m³/year)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount generated per liter water used (QR/liter)</th>
<th>Total used water (water supplied by Kahramaa) million m³</th>
<th>GDP generated per liter water used (QR/liter)</th>
<th>Water used in GDP (L/QR)</th>
<th>Total GDP (million QR)</th>
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*Source: Kahramaa*
Chart No. (7.7)

Water Use in Commercial Sector
2002 - 2014
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Source: Ministry of Municipality and Environment, Kahramaa, and Ashghal.
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<th>Year</th>
<th>Total water used (million m³)</th>
<th>Treated wastewater (green spaces irrigation) (million m³)</th>
<th>Water supplied by Kahramaa (million m³)</th>
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Source: Ministry of Municipality and Environment, Kahramaa, and Ashghal
Water Used in Government Sector

Water supplied by Kahramaa
Treated wastewater (green spaces irrigation)

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<th>Water supplied by Kahramaa (million m³)</th>
<th>Treated wastewater (green spaces irrigation) (million m³)</th>
<th>Total water use (million m³)</th>
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Source: Kahramaa
### WATER USED IN HOUSEHOLDS SECTOR
2001 - 2014

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<tr>
<th>Year</th>
<th>Total water use (million m³)</th>
<th>Municipality wells (million m³)</th>
<th>Local wells (million m³)</th>
<th>Water supplied by Kahramaa (million m³)</th>
<th>Year</th>
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<td>10.4</td>
<td>9.7</td>
<td>327.5</td>
<td>2014</td>
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Source: Kahramaa
Water Used in Household Sector 2001-2015

- Water supplied by Kahramaa
- Local wells
- Municipality wells

Table (7.8) (Unit: Cubic Meters per Person per Year)

<table>
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<th>Kahramaa</th>
<th>Local wells</th>
<th>Municipality wells</th>
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<tr>
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<td>238</td>
<td>235</td>
</tr>
<tr>
<td>2013</td>
<td>700</td>
<td>227</td>
<td>222</td>
</tr>
<tr>
<td>2014</td>
<td>800</td>
<td>221</td>
<td>216</td>
</tr>
<tr>
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<td>900</td>
<td>220</td>
<td>214</td>
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Source: Kahramaa
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<tr>
<th>Year</th>
<th>Production</th>
<th>Theather</th>
<th>Net of Losses</th>
<th>Authorized Consumption</th>
<th>Excluding Real Losses</th>
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Table (7.8) (Unit: Cubic Meters per Person per Year)

AVERAGE WATER PER CAPITA CONSUMPTION 2011 - 2015

Source: Kahramaa
### Table (7.9) (Unit: million m3/year)

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<th>Year</th>
<th>Quantity</th>
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Source: Ministry of Municipality and Environment, and Kahramaan
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Source: Ministry of Municipality and Environment, and Kahramaa
Chart No. (7.12)

Table (7.10) (Unit: Million m$^3$/year)

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Source: Ministry of Municipality and Environment, and Kahramaa.
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Table (7.10) (Unit: Million m³/year)

**Abstraction from Groundwater**

Source: Ministry of Municipality and Environment, and Kahramaa
نشرة الإحصاءات البيئية

االبترول 1998 - 2014

**Groundwater Abstraction by Source**

<table>
<thead>
<tr>
<th>Year</th>
<th>Million m³</th>
<th>Other wells</th>
<th>Industrial wells</th>
<th>Domestic wells</th>
<th>Municipality wells</th>
<th>Farm wells</th>
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**Tables**


**Note:**

- **Table (7.11) (Unit: million m³/year)**
- **Chart No. (7.13)**

**Source:** Ministry of Municipality and Environment, and Kahramaa
<table>
<thead>
<tr>
<th>Year</th>
<th>Precipitation (mm)</th>
<th>Actual evapo-transpiration (%)</th>
<th>Internal flow (mm)</th>
<th>Inflow from Saudi Arabia (mm)</th>
<th>Total Renewable Water (mm)</th>
<th>Recharge into groundwater (mm)</th>
</tr>
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<tbody>
<tr>
<td>1998</td>
<td>374.2</td>
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<td>60</td>
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<td>2.2</td>
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<td>60.5</td>
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<td>-.</td>
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<td>-.</td>
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<td>158.5</td>
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<td>-.</td>
<td>39.8</td>
<td>2.2</td>
<td>42.0</td>
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</table>

Source: Ministry of Municipality and Environment, and Kahramaa.
Renewable Freshwater Resources

1998 - 2014

Chart No. (7.14) 4

Environment Statistics bulletin 2015

Total Renewable Water Resources

Recharge into groundwater

Outflow (to the sea & deep aquifer)
<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Plants</th>
<th>Design Capacity of Plants</th>
<th>Wastewater Treated</th>
<th>Wastewater Not Collected in Sewer System</th>
<th>Wastewater Treated and Distributed Untreated to Lagoons</th>
<th>Waste Water Production</th>
<th>Sewage Sludge Production</th>
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<tr>
<td>2004</td>
<td>12</td>
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<td>0</td>
<td>0</td>
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<td>2007</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>2009</td>
<td>19</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>28,100</td>
<td>0</td>
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<tr>
<td>2010</td>
<td>17</td>
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<td>0</td>
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<td>21</td>
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<td>0</td>
<td>0</td>
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<td>23</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>41,700</td>
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Source: Ashghal
Percentage of Treated Wastewater

Chart No. (7.15)

Chart No. (7.16)
Chart No. (7.15)
Collected wastewater, treated wastewater and discharged wastewater without treatment 2004 - 2015

Chart No. (7.17)

- Total Wastewater Collected in Wastewater Plants
- Total Treated Wastewater
- Wastewater not collected in sewer system and discharged untreated to lagoons

Reused in agriculture

Irrigation of green spaces

Deep injection into aquifers

Discharged to lagoons

Discharged to the sea
Re-use of Treated Wastewater by Sector

- Reused in agriculture
- Irrigation of green spaces
- Discharged to lagoons
- Discharged to the sea
- Deep injection into aquifers

Chart No. (7.18) 2004-2015

1000 m³/year
نشرة الإحصاءات البيئية

إنتاج النفايات من معامل معالجة مياه الصرف الصحي (по объему) 2004 - 2015

Chart No. (7.19)

图表7.19

<table>
<thead>
<tr>
<th>Year</th>
<th>Volume (m³)</th>
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<tbody>
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<td>162</td>
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<tr>
<td>2005</td>
<td>161</td>
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<td>2006</td>
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<td>289</td>
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<tr>
<td>2014</td>
<td>543</td>
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Sludge Generation in Wastewater Treatment Plants by Volume

2004 - 2015

نطاق المواد الجافة (по массе) 2004 - 2015

Chart No. (7.20)

图表7.20

<table>
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<th>Year</th>
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<td>7,640</td>
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<td>11,087</td>
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<td>2011</td>
<td>20,443</td>
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<tr>
<td>2012</td>
<td>21,573</td>
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<td>2013</td>
<td>27,170</td>
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<td>32,066</td>
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<tr>
<td>2015</td>
<td>39,717</td>
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Sludge Generation in Wastewater Treatment Plants by Mass

2004 - 2015

Chart No. (7.20) 2/3
Chapter Eight

Water Quality, Groundwater and Wastewater Statistics
### Table 8.1 (Unit: Ton, Percentage)

<table>
<thead>
<tr>
<th>Year</th>
<th>Removal rate</th>
<th>BOD discharged load</th>
<th>BOD inward load</th>
<th>Removal rate %</th>
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<tbody>
<tr>
<td>2004</td>
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<td>64</td>
<td>5,217</td>
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<td>2005</td>
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<td>795</td>
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<td>2006</td>
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<td>692</td>
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<td>530</td>
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Source: Ashghal

Source: MDPS calculation

**Treatment Efficiency in Urban Wastewater Treatment Plants by BOD 2004 - 2015**

*Kفاءة المعالجة في محطات معالجة مياه الصرف الحضرية حسب الطلب على الأكسجين البيولوجي*

*جدول رقم (8.1) (الوحدة: طن، النسبة)*
<table>
<thead>
<tr>
<th>Year</th>
<th>BOD Inward Load</th>
<th>BOD Discharged Load</th>
<th>Removal Rate</th>
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<tbody>
<tr>
<td>2004</td>
<td>64000</td>
<td>5217</td>
<td>64%</td>
</tr>
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<td>2005</td>
<td>100000</td>
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<td>150000</td>
<td>15680</td>
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<td>200700</td>
<td>15776</td>
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<td>2008</td>
<td>250000</td>
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<td>300000</td>
<td>17237</td>
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</tr>
<tr>
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<td>350000</td>
<td>19632</td>
<td>98%</td>
</tr>
<tr>
<td>2011</td>
<td>400000</td>
<td>22310</td>
<td>99%</td>
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<tr>
<td>2012</td>
<td>450000</td>
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<td>500000</td>
<td>29931</td>
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<tr>
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<td>550000</td>
<td>32321</td>
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<tr>
<td>2015</td>
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Source: Ashghal

Treatment Efficiency in Urban Wastewater Treatment Plants by BOD
<table>
<thead>
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<th>Year</th>
<th>Removal rate</th>
<th>COD discharged load</th>
<th>COD inward load</th>
<th>Year</th>
</tr>
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<td>37,791</td>
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</tr>
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</tr>
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<td>2,759</td>
<td>38,994</td>
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<tr>
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<td>96.1%</td>
<td>1,878</td>
<td>47,671</td>
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Source: Ashghal
Source: MDPS calculation
Treatment Efficiency in Urban Wastewater Treatment Plants by COD 2004 - 2015

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Source: Ashghal
MDPS calculation

Removal rate (%)
COD inward load
COD discharged load
Treatment Efficiency in Urban Wastewater Treatment Plants by COD 2004 - 2015
### Removal Rates of BOD 5 and COD, and Overall Nitrogen and Phosphorus in Doha-West Wastewater Treatment Plant 2004-2015

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Source: Ashghal
Chart No. (8.3) (2, 3, 5)

Removal rates of BOD 5, and COD, and Overall Nitrogen and Phosphorus in Doha-West Wastewater Treatment 2004 - 2015

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Source: Ashghal
### Table (8.4) (Unit: number, Percentage)

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### Chart No. (8.4)

**Percentage Distribution of Qatar's Wells by Salinity according to FOA Classification**

- **Slightly saline**: 3% (2007, 2009, 2012)

**Total**: 100%
### Table No. (8.4) (Unit: Number, Percentage)

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</table>

**Chart No. (8.4)**

Percentage Distribution of Qatar's Wells by Salinity according to FOA Classification

- **Non-saline**: 0-100
g-100%

- **Slightly saline**: 100-200%

- **Moderately saline**: 200-300%

- **Highly saline**: 300-400%

- **Very highly saline**: 400-500%

- **Brine**: 500-600%

---

**Ministry of Municipality and Environment**

**Ministry of Agriculture and Animal Resources**

**Organisation**

**F.O.A.**

**F.A.O.**

- According to the salinity classification of Qatar’s wells in 1998-2014.
### Qatar's Wells, Excluding Semi-Coastal Areas, by Salinity According to FOA Classification (1998-2014)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
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<th>Slightly saline</th>
<th>Moderately saline</th>
<th>Highly saline</th>
<th>Very highly saline</th>
<th>Brine</th>
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<tr>
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</table>

**Percentage Distribution (Columns %)**

- **Non-saline**: 0% to 20%
- **Slightly saline**: 21% to 40%
- **Moderately saline**: 41% to 60%
- **Highly saline**: 61% to 80%
- **Very highly saline**: 81% to 100%
- **Brine**: 0% to 100%
Qatar’s Wells, Excluding Semi-Coastal Areas, by Salinity According to FOA Classification

1998 - 2014

Chart No. (8.5)
### Qatar’s Northern Wells by Salinity According to FOA Classification

<table>
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<th>Year</th>
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</tr>
</tbody>
</table>

Note: The table represents the distribution of saline and brine water in Qatar’s Northern wells according to the FOA classification. The classification includes Very saline, Very highly saline, Moderately saline, and Slightly saline wells.
### Qatar’s Northern Wells by Salinity According to FOA Classification 1998 - 2014

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<th>Moderately saline</th>
<th>Highly saline</th>
<th>Very highly saline</th>
<th>Brine Total</th>
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</table>

**Legend:**
- Non-saline: 0% - 4%
- Slightly saline: 5% - 9%
- Moderately saline: 10% - 14%
- Highly saline: 15% - 20%
- Very highly saline: 21% - 25%
- Brine: 26% - 100%
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Al-Mashabiyah’s Wells by Salinity According to FOA Classification

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The table shows the number of non-saline, slightly saline, moderately saline, highly saline, and brine wells for each year from 1998 to 2014, according to the Food and Agriculture Organization (FAO) classification.
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**Legend:**
- Non-saline: Light Orange
- Slightly saline: Light Green
- Moderately saline: Light Blue
- Highly saline: Purple
- Very highly saline: Dark Red
- Brine: Dark Green
### Central Qatar’s Wells by Salinity According to FOA Classification

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<th>June</th>
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**Note:** The table above shows the distribution of saline wells in Abu Samra by salinity according to FOA classification. The data is presented for the years 1998 to 2014. The table includes columns for each month of the year, with the percentage of wells categorized as slightly, moderately, or highly saline.
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Table (6.3) (Unit: Number, Percentage)

Central Qatars Wells by Salinity According to FAO Classification

1998 - 2014
Central Qatar’s Wells by Salinity According to FOA Classification

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<th>Year</th>
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<th>Slightly saline</th>
<th>Moderately saline</th>
<th>Highly saline</th>
<th>Very highly saline</th>
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- High-saline
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Chart No. (8.10)

South Qatar’s Wells by Salinity According to FOA Classification

1998 - 2014

Table (8.12) (Unit: number, Percentage)

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Ministry of Municipality and Environment
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**Table 6.13** (Unit: number, Percentage)
Industrial Areas Wells by Salinity According to FOA Classification

1998 - 2004

Non-saline

Moderately saline

Slightly saline

Highly saline

Very highly saline

Brine

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Total number of samples | Incompatible samples | Percentage of non-matching samples

Doha & Al-Rayyan

Al-Wakra

Umm Salal

Al-Khour

Al-Shamal

Al-Daayen

Al-Sheehaniya

Public sources: Public agencies government

Source: Ministry of Public Health
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Table 8.14 (Unit: Number, Percentage)

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2015

RESULTS OF BACTERIOLOGICAL TESTS OF DRINKING WATER SAMPLES BY MUNICIPALITY AND SOURCE
Table 8.15 (Unit: Number, Percentage)

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<tr>
<td>May</td>
<td>60</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>June</td>
<td>59</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>July</td>
<td>47</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>August</td>
<td>39</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>September</td>
<td>47</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>October</td>
<td>46</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>November</td>
<td>34</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>December</td>
<td>25</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>453</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Public sources: Public agencies government.

Private sources: End of Kahramaa's network in the private sources.

Source: Ministry of Public Health.
### RESULTS OF BACTERIOLOGICAL TESTS OF DRINKING WATER SAMPLES BY MONTH AND SOURCE

<table>
<thead>
<tr>
<th>Source</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public sources</td>
<td>3782</td>
<td>2463</td>
<td>4290</td>
<td>4127</td>
<td>3997</td>
<td>3741</td>
</tr>
<tr>
<td>Private sources</td>
<td>3141</td>
<td>2187</td>
<td>3831</td>
<td>3226</td>
<td>3189</td>
<td>3311</td>
</tr>
<tr>
<td>Others sources</td>
<td>213</td>
<td>193</td>
<td>54</td>
<td>535</td>
<td>298</td>
<td>22</td>
</tr>
</tbody>
</table>

Source: Ministry of Public Health

Public sources: Public agencies government.

Private sources: End of Kahramaa's network in the private sources.
### Percentage of Incompatible Results of Bacteriological Tests of Drinking Water Samples by Source

<table>
<thead>
<tr>
<th>Year</th>
<th>Public Sources</th>
<th>Private Sources</th>
<th>Other Sources</th>
<th>Percentage Incompatible</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2102</td>
<td>378</td>
<td>205</td>
<td>52.8%</td>
</tr>
<tr>
<td>2011</td>
<td>246</td>
<td>348</td>
<td>261</td>
<td>1.9%</td>
</tr>
<tr>
<td>2012</td>
<td>429</td>
<td>72</td>
<td>310</td>
<td>1.7%</td>
</tr>
<tr>
<td>2013</td>
<td>412</td>
<td>78</td>
<td>304</td>
<td>2.0%</td>
</tr>
<tr>
<td>2014</td>
<td>399</td>
<td>75</td>
<td>305</td>
<td>1.5%</td>
</tr>
<tr>
<td>2015</td>
<td>374</td>
<td>191</td>
<td>310</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

**Source:** Ministry of Public Health
### NUMBER OF DRINKING WATER SAMPLES THAT ARE BACTERIOLOGICALLY ANALYSED, AND NUMBER OF INCOMPATIBLE SAMPLES

**2010 - 2015**

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of incompatible drinking water samples</th>
<th>Number of incompatible samples</th>
<th>Number of fully analysed samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2.8%</td>
<td>105</td>
<td>3782</td>
</tr>
<tr>
<td>2011</td>
<td>1.9%</td>
<td>48</td>
<td>2463</td>
</tr>
<tr>
<td>2012</td>
<td>1.7%</td>
<td>72</td>
<td>4290</td>
</tr>
<tr>
<td>2013</td>
<td>2.0%</td>
<td>81</td>
<td>4127</td>
</tr>
<tr>
<td>2014</td>
<td>1.5%</td>
<td>59</td>
<td>3997</td>
</tr>
<tr>
<td>2015</td>
<td>2.5%</td>
<td>95</td>
<td>3741</td>
</tr>
</tbody>
</table>

Source: Ministry of Public Health
### Percentage of Incompatible Drinking Water Samples that Are Bacteriologically Analysed 2010-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>% Incompatible</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2.5%</td>
</tr>
<tr>
<td>2011</td>
<td>1.9%</td>
</tr>
<tr>
<td>2012</td>
<td>2.0%</td>
</tr>
<tr>
<td>2013</td>
<td>1.7%</td>
</tr>
<tr>
<td>2014</td>
<td>2.8%</td>
</tr>
<tr>
<td>2015</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

#### Table (8.18) (Unit: number, Percentage)

<table>
<thead>
<tr>
<th>Source of Water</th>
<th>Total number of samples</th>
<th>% Incompatible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottled</td>
<td>389</td>
<td>7.5%</td>
</tr>
<tr>
<td>Desalination</td>
<td>115</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>504</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Source: Ministry of Public Health
### Table 8.18 (Unit: number, Percentage)

<table>
<thead>
<tr>
<th>Source of Water</th>
<th>Bottled</th>
<th>389</th>
<th>29</th>
<th>7.5%</th>
<th>Total</th>
<th>9</th>
<th>2.3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sdesalination Plant</td>
<td>115</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>504</td>
<td>29</td>
<td>5.8%</td>
<td>389</td>
<td>9</td>
<td>2.3%</td>
<td></td>
</tr>
</tbody>
</table>

**Test Results of Water of Desalination Plants and Bottled Water**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Number of Samples</th>
<th>Compatible</th>
<th>Incompatible</th>
<th>% Compatible</th>
<th>% Incompatible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriological</td>
<td>29</td>
<td>29</td>
<td>0</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Chemical</td>
<td>9</td>
<td>9</td>
<td>0</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Other Tests</td>
<td>389</td>
<td>29</td>
<td>7.5%</td>
<td>389</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Ministry of Public Health
### Tests Results of Water of Desalination Plants, Mineral Water, Bottled Water by Type of Test

<table>
<thead>
<tr>
<th>Test Type</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Regular Microbial</td>
<td>235</td>
<td>0%</td>
<td>165</td>
<td>0%</td>
<td>233</td>
<td>0%</td>
<td>285</td>
</tr>
<tr>
<td>Chemistry</td>
<td>411</td>
<td>0%</td>
<td>504</td>
<td>19%</td>
<td>504</td>
<td>19%</td>
<td>504</td>
</tr>
<tr>
<td>Fungus</td>
<td>504</td>
<td>17%</td>
<td>504</td>
<td>17%</td>
<td>504</td>
<td>17%</td>
<td>504</td>
</tr>
<tr>
<td>Others</td>
<td>235</td>
<td>4%</td>
<td>165</td>
<td>1%</td>
<td>233</td>
<td>2%</td>
<td>285</td>
</tr>
</tbody>
</table>

Source: Ministry of Public Health

<table>
<thead>
<tr>
<th>Year</th>
<th>incompatible tests results of water of desalination plants, mineral water, bottled water by type of test</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td></td>
<td>19</td>
<td>3%</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td>49</td>
<td>1%</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td>18</td>
<td>1%</td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td>20</td>
<td>1%</td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td>44</td>
<td>2%</td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td>50</td>
<td>2%</td>
</tr>
</tbody>
</table>

Chart No. (8.15)
### Percentage of Incompatible Tests Results of Water of Desalination Plants, Mineral Water, Bottled Water by Type of Test

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of Samples</th>
<th>Regular Microbial</th>
<th>Pseudomonas</th>
<th>Chemical</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1233</td>
<td>12</td>
<td>233</td>
<td>411</td>
<td>504</td>
</tr>
<tr>
<td>2011</td>
<td>855</td>
<td>16</td>
<td>285</td>
<td>411</td>
<td>504</td>
</tr>
<tr>
<td>2012</td>
<td>705</td>
<td>8</td>
<td>233</td>
<td>411</td>
<td>504</td>
</tr>
<tr>
<td>2013</td>
<td>495</td>
<td>2</td>
<td>165</td>
<td>411</td>
<td>504</td>
</tr>
<tr>
<td>2014</td>
<td>699</td>
<td>4</td>
<td>233</td>
<td>411</td>
<td>504</td>
</tr>
<tr>
<td>2015</td>
<td>855</td>
<td>16</td>
<td>285</td>
<td>411</td>
<td>504</td>
</tr>
</tbody>
</table>

**Source:** Ministry of Public Health
<table>
<thead>
<tr>
<th>Source</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottled</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Desalinated</td>
<td>16</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Ministry of Public Health
### Percentage of Incompatible Tests Results of Water of Desalination Plants and Bottled Water by Source

<table>
<thead>
<tr>
<th>Year</th>
<th>Bottled</th>
<th>Desalinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>2011</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>2012</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>2013</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>2014</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>2015</td>
<td>6%</td>
<td>4%</td>
</tr>
</tbody>
</table>

**Source:** Ministry of Public Health

---

**Table (8.20) (Unit: number, Percentage)**

<table>
<thead>
<tr>
<th>Source</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottled</td>
<td>179</td>
<td>2%</td>
</tr>
<tr>
<td>Desalinated</td>
<td>56</td>
<td>3.6%</td>
</tr>
<tr>
<td>Total</td>
<td>235</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

---

**Chart No. (8.16)**

![Chart showing percentage of incompatible tests results for bottled and desalinated water by year from 2010 to 2015](image-url)
<table>
<thead>
<tr>
<th>Year</th>
<th>Samples Compatible</th>
<th>Non-Conforming</th>
<th>Percentage non-conforming</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>104</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>2011</td>
<td>104</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>2012</td>
<td>147</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>2013*</td>
<td>97</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

*Sampling stopped during 2014 and 2015, and will resume in 2016.*

Table (8.21) (Unit: Number , Percentage)
**نتائج الفحوصات الجرمنية التفصيلية والتخصصية وفحوصات الطفيليات**

**للمياه المعالجة حسب المحطة**

**DETAILED AND SPECIALIZED RESULTS OF MICROBIAL AND PARASITES TESTS FOR TREATED WATER BY PLANT**

<table>
<thead>
<tr>
<th>Year</th>
<th>Existing</th>
<th>Non-Conforming</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>2011</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>2012</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>2013*</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

* Sampling stopped during 2014 and 2015, and will resume in 2016

**Source:** Ministry of Public Health
Chapter Nine

Biodiversity Statistics

الفصل التاسع

إحصاءات التنوع الحيوي
<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Terrestrial Nature Reserves</th>
<th>Number of Marine Nature Reserves</th>
<th>Total Number of Terrestrial and Marine Nature Reserves</th>
<th>Area of Land Protected Areas (km²)</th>
<th>Area of Marine Protected Areas (km²)</th>
<th>Area of Qatar with Islands (km²)</th>
<th>Percentage of land protected areas of total area (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>12</td>
<td>2</td>
<td>14</td>
<td>2,744</td>
<td>720</td>
<td>11,627</td>
<td>24</td>
</tr>
<tr>
<td>2009</td>
<td>11</td>
<td>2</td>
<td>13</td>
<td>2,771</td>
<td>722</td>
<td>11,651</td>
<td>24</td>
</tr>
<tr>
<td>2010</td>
<td>11</td>
<td>2</td>
<td>13</td>
<td>2,738</td>
<td>721</td>
<td>11,517</td>
<td>24</td>
</tr>
<tr>
<td>2011</td>
<td>11</td>
<td>2</td>
<td>13</td>
<td>2,771</td>
<td>721</td>
<td>11,517</td>
<td>24</td>
</tr>
<tr>
<td>2012</td>
<td>11</td>
<td>2</td>
<td>13</td>
<td>2,743</td>
<td>721</td>
<td>11,651</td>
<td>24</td>
</tr>
<tr>
<td>2013</td>
<td>11</td>
<td>2</td>
<td>13</td>
<td>2,771</td>
<td>722</td>
<td>11,592</td>
<td>23</td>
</tr>
<tr>
<td>2014</td>
<td>12</td>
<td>2</td>
<td>14</td>
<td>2,744</td>
<td>720</td>
<td>11,661</td>
<td>24</td>
</tr>
<tr>
<td>2015</td>
<td>12</td>
<td>2</td>
<td>14</td>
<td>2,744</td>
<td>720</td>
<td>11,627</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: Private Engineering Office.

**Number of Natural Protected Areas by Type**

2008 - 2015
<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Terrestrial Nature Reserves</th>
<th>Number of Marine Nature Reserves</th>
<th>Total Number of Terrestrial and Marine Nature Reserves</th>
<th>Area of Land Protected Areas (km²)</th>
<th>Area of Marine Protected Areas (km²)</th>
<th>Area of Qatar with Islands (km²)</th>
<th>Percentage of land protected areas of total area</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>10</td>
<td>2</td>
<td>12</td>
<td>2,662</td>
<td>722</td>
<td>11,552</td>
<td>23</td>
</tr>
<tr>
<td>2009</td>
<td>10</td>
<td>2</td>
<td>12</td>
<td>2,662</td>
<td>722</td>
<td>11,552</td>
<td>23</td>
</tr>
<tr>
<td>2010</td>
<td>10</td>
<td>2</td>
<td>12</td>
<td>2,738</td>
<td>721</td>
<td>11,651</td>
<td>24</td>
</tr>
<tr>
<td>2011</td>
<td>11</td>
<td>2</td>
<td>13</td>
<td>2,771</td>
<td>721</td>
<td>11,651</td>
<td>24</td>
</tr>
<tr>
<td>2012</td>
<td>11</td>
<td>2</td>
<td>13</td>
<td>2,743</td>
<td>721</td>
<td>11,651</td>
<td>24</td>
</tr>
<tr>
<td>2013</td>
<td>11</td>
<td>2</td>
<td>13</td>
<td>2,743</td>
<td>721</td>
<td>11,651</td>
<td>24</td>
</tr>
<tr>
<td>2014</td>
<td>12</td>
<td>2</td>
<td>14</td>
<td>2,744</td>
<td>720</td>
<td>11,627</td>
<td>24</td>
</tr>
<tr>
<td>2015</td>
<td>12</td>
<td>2</td>
<td>14</td>
<td>2,744</td>
<td>720</td>
<td>11,627</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: Private Engineering office.
<table>
<thead>
<tr>
<th>Natural Protected Areas</th>
<th>Land Total</th>
<th>Land %</th>
<th>Land km²</th>
<th>Marine Total</th>
<th>Marine %</th>
<th>Marine km²</th>
<th>Total km²</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total area of Qatar (with islands)</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>11,627.04</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Al Ureiq</td>
<td>54.76</td>
<td>0.47%</td>
<td>54.76</td>
<td>0.00</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
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<td>Al Thakhira</td>
<td>293.62</td>
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</tr>
<tr>
<td>Khor Al Oaid</td>
<td>1,832.97</td>
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<td>Um Alamad</td>
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<tr>
<td>Wadi Sultana</td>
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<td>0.01%</td>
<td>1.33</td>
<td>0.00</td>
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<td>...</td>
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</tr>
<tr>
<td>Total protected areas</td>
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<td>720.33</td>
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</table>

Source: Private Engineering office.
Chart No. (9.2)
**Environment Statistics bulletin 2015**

Source: Ministry of Municipality and Environment.

IUCN = International Union for Conservation of Nature.

<table>
<thead>
<tr>
<th>Type of Species</th>
<th>Total number</th>
<th>Extinct</th>
<th>Currently Endangered</th>
<th>Critically Endangered</th>
<th>Endangered</th>
<th>Vulnerable</th>
<th>Least Concern</th>
<th>Near Threatened</th>
<th>Extinct in Captive</th>
<th>Endangered in Captive</th>
<th>Threatened in Captive</th>
<th>Vulnerable in Captive</th>
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<tr>
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<td>22</td>
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<td>0</td>
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<td>0</td>
<td>379</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>222</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fungi</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1152</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plants</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>419</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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Table (9.3) Number of Recorded Endangered Species (According to the International Union for Conservation of Nature)
### Table (9.3)

<table>
<thead>
<tr>
<th>Type of species</th>
<th>Lineage</th>
<th>Extinct in the wild</th>
<th>Critically endangered</th>
<th>Endangered</th>
<th>Vulnerable</th>
<th>Near threatened</th>
<th>Least concern</th>
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<tbody>
<tr>
<td><strong>Plants</strong></td>
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<td>2</td>
<td>0</td>
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<td>970</td>
<td>259</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mammals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td><strong>Amphibians</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reptiles</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td><strong>Birds</strong></td>
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<td>0</td>
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<td>0</td>
<td>0</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Plants</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fish</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mammals</strong></td>
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<td></td>
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<td></td>
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<td><strong>Invertebrates</strong></td>
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<td><strong>Birds</strong></td>
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<td>0</td>
<td>1</td>
<td>9</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td><strong>Reptiles</strong></td>
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<td>20</td>
</tr>
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<td><strong>TOTAL</strong></td>
<td></td>
<td>56</td>
<td>14</td>
<td>147</td>
<td>19</td>
<td>1823</td>
<td>2040</td>
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</table>

#### IUCN (1)

1. From 2012 is closed for maintenance.
2. This reserve has been added in 2011.

#### Source

- Ministry of Municipality and Environment.
- Private Engineering office.
### Table 10.1: (Number : Million Q.R, Percentage, 1000 Q.R. Per capita)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Annual Inflation Rate</th>
<th>GDP in Constant Prices (100=2013)</th>
<th>GDP in Current Prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>...</td>
<td>...</td>
<td>...</td>
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</tr>
<tr>
<td>2002</td>
<td>1,084.79</td>
<td>3%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2003</td>
<td>714.09</td>
<td>6%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2004</td>
<td>863.49</td>
<td>12%</td>
<td>69.6</td>
<td>92.1</td>
</tr>
<tr>
<td>2005</td>
<td>622.99</td>
<td>10%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2006</td>
<td>610.72</td>
<td>7%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2007</td>
<td>600.23</td>
<td>10%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2008</td>
<td>599.29</td>
<td>1%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2009</td>
<td>599.29</td>
<td>-1%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2010</td>
<td>599.29</td>
<td>1%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2011</td>
<td>649.98</td>
<td>4%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2012</td>
<td>692.81</td>
<td>2%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2013</td>
<td>723.37</td>
<td>3%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2014</td>
<td>778.86</td>
<td>1%</td>
<td>78.7</td>
<td>106.3</td>
</tr>
<tr>
<td>2015</td>
<td>843.79</td>
<td>-1%</td>
<td>78.7</td>
<td>106.3</td>
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</table>

Source: Ministry of Municipality and Environment.
### NUMBER OF NEW PROJECTS EVALUATED FOR THEIR IMPACTS 2002 - 2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Industrial Projects</th>
<th>Small and Medium Projects</th>
<th>Large Projects</th>
<th>Total</th>
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<tbody>
<tr>
<td>2002</td>
<td>61</td>
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<td>58</td>
<td>3</td>
<td>2002</td>
</tr>
<tr>
<td>2003</td>
<td>128</td>
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<td>113</td>
<td>15</td>
<td>2003</td>
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<td>654</td>
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<td>629</td>
<td>25</td>
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<tr>
<td>2005</td>
<td>764</td>
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<td>698</td>
<td>66</td>
<td>2005</td>
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<td>2006</td>
<td>1,046</td>
<td>...</td>
<td>876</td>
<td>170</td>
<td>2006</td>
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<tr>
<td>2007</td>
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<td>...</td>
<td>733</td>
<td>272</td>
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</tr>
<tr>
<td>2008</td>
<td>558</td>
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<td>365</td>
<td>193</td>
<td>2008</td>
</tr>
<tr>
<td>2009</td>
<td>518</td>
<td>...</td>
<td>348</td>
<td>170</td>
<td>2009</td>
</tr>
<tr>
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<td>943</td>
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<td>911</td>
<td>32</td>
<td>2010</td>
</tr>
<tr>
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<td>998</td>
<td>64</td>
<td>2011</td>
</tr>
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<td>1,208</td>
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<td>675</td>
<td>91</td>
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<tr>
<td>2013</td>
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<td>447</td>
<td>804</td>
<td>170</td>
<td>2013</td>
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<td>829</td>
<td>732</td>
<td>243</td>
<td>2014</td>
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<tr>
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<td>3,340</td>
<td>685</td>
<td>2015</td>
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Source: Ministry of Municipality and Environment.
Chart No. (10.1)  

Number of Projects Evaluated for their Impacts on Environment by Type of Projects (2002 - 2015)

- Industrial Projects
- Small and Medium Projects
- Large Projects

<table>
<thead>
<tr>
<th>Year</th>
<th>Small and Medium Projects</th>
<th>Large Projects</th>
<th>Industrial Projects</th>
</tr>
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<tbody>
<tr>
<td>2002</td>
<td>100,000</td>
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<td>2,000</td>
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<tr>
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<tr>
<td>2004</td>
<td>80,000</td>
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<tr>
<td>2005</td>
<td>70,000</td>
<td>3,000</td>
<td>700</td>
</tr>
<tr>
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<td>400</td>
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<td>2007</td>
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<td>2,000</td>
<td>200</td>
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<td>40,000</td>
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<td>100</td>
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<td>50</td>
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<tr>
<td>2010</td>
<td>20,000</td>
<td>500</td>
<td>20</td>
</tr>
<tr>
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<td>250</td>
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</tr>
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<tr>
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<td>62.5</td>
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<td>31.25</td>
<td>1.25</td>
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<tr>
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<td>15.625</td>
<td>0.625</td>
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</table>

Source: Kahramaa
<table>
<thead>
<tr>
<th>Year</th>
<th>Electric Subscribers</th>
<th>Annual Electricity Generation</th>
<th>Kahramaa's Networks Transmitted Energy (excluding loss during transportation and distribution and bulk customers in the industrial sector)</th>
<th>Per Capita Transmitted Energy (excluding consumption in power plants)</th>
<th>Per Capita Transmitted Energy in Kahramaa's Networks (excluding loss during transportation and distribution)</th>
<th>Per Capita Energy Transmitted in Kahramaa's Networks (excluding loss during transportation and distribution and bulk customers in the industrial sector)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>252,893</td>
<td>28,144</td>
<td>14,805</td>
<td>12,727</td>
<td>9,160</td>
<td>10,837</td>
</tr>
<tr>
<td>2011</td>
<td>272,745</td>
<td>30,730</td>
<td>17,113</td>
<td>15,034</td>
<td>10,287</td>
<td>12,727</td>
</tr>
<tr>
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<td>288,903</td>
<td>34,788</td>
<td>17,995</td>
<td>16,840</td>
<td>11,116</td>
<td>13,640</td>
</tr>
<tr>
<td>2013</td>
<td>293,604</td>
<td>34,668</td>
<td>18,941</td>
<td>17,620</td>
<td>11,850</td>
<td>14,685</td>
</tr>
<tr>
<td>2014</td>
<td>310,107</td>
<td>38,693</td>
<td>17,309</td>
<td>16,160</td>
<td>9,938</td>
<td>10,938</td>
</tr>
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<td>2015</td>
<td>329,310</td>
<td>41,499</td>
<td>17,141</td>
<td>16,048</td>
<td>10,116</td>
<td>11,111</td>
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</table>
Total Electricity Generation Per Capita (including consumption in power plants) 2010 - 2015
### Table 10.4: Value Added in the Sector of Mining and Quarrying

<table>
<thead>
<tr>
<th>Year</th>
<th>Economic Sector</th>
<th>Value Added in the Sector of Mining and Quarrying (million Q.R.)</th>
<th>100% Value Added in the Sector of Mining and Quarrying (million Q.R.)</th>
<th>GDP in Constant Prices (million Q.R.)</th>
<th>Workers in the Sector of Mining and Quarrying (thousands)</th>
<th>Total of Labor Force (thousands)</th>
<th>Percentage of Workers in the Sector of Mining and Quarrying of Total Labor Force</th>
<th>Percentage of Value Added in the Sector of Mining and Quarrying of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
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<td>6.2%</td>
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</tr>
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<td>2007</td>
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<td></td>
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<td>6.4%</td>
<td>5.3%</td>
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<td></td>
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</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td>6.4%</td>
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<td></td>
</tr>
<tr>
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<td></td>
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</tr>
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<td>2011</td>
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</tr>
<tr>
<td>2012</td>
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<tr>
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<td></td>
<td>6.8%</td>
<td>6.2%</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
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<td>6.6%</td>
<td>5.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td>5.9%</td>
<td>5.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
_percentage of Workers in the Sector of Mining and Quarrying of Total Labor Force

<table>
<thead>
<tr>
<th>Year</th>
<th>Mining and Quarrying</th>
<th>Total Labor Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>5.3%</td>
<td>4,750</td>
</tr>
<tr>
<td>2007</td>
<td>5.5%</td>
<td>5,506</td>
</tr>
<tr>
<td>2008</td>
<td>6.2%</td>
<td>6,170</td>
</tr>
<tr>
<td>2009</td>
<td>5.9%</td>
<td>6,158</td>
</tr>
<tr>
<td>2010</td>
<td>5.2%</td>
<td>4,996</td>
</tr>
<tr>
<td>2011</td>
<td>5.3%</td>
<td>6,615</td>
</tr>
<tr>
<td>2012</td>
<td>6.4%</td>
<td>8,961</td>
</tr>
<tr>
<td>2013</td>
<td>6.2%</td>
<td>11,580</td>
</tr>
<tr>
<td>2014</td>
<td>6.2%</td>
<td>34,227</td>
</tr>
<tr>
<td>2015</td>
<td>5.2%</td>
<td>32,908</td>
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</table>
### Table (10.5) (Unit:Number, Million Q.R., Percentage)

<table>
<thead>
<tr>
<th>Year</th>
<th>Economic Sector: Value Added (million QR)</th>
<th>Supply of Electricity, Gas and Water (million QR)</th>
<th>Supply of Electricity, Gas and Water as % of GDP</th>
<th>Total Labor Force (million)</th>
<th>Total Labor Force of the Sector of Electricity, Gas and Water (million)</th>
<th>Total Labor Force of the Sector of Electricity, Gas and Water as % of Total Labor Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>3.249</td>
<td>699.825</td>
<td>0.6%</td>
<td>22.167</td>
<td>2.342</td>
<td>0.9%</td>
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<tr>
<td>2007</td>
<td>3.494</td>
<td>733.739</td>
<td>0.6%</td>
<td>4.750</td>
<td>3.663</td>
<td>0.7%</td>
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<tr>
<td>2008</td>
<td>2.906</td>
<td>660.704</td>
<td>0.6%</td>
<td>5.283</td>
<td>4.565</td>
<td>0.8%</td>
</tr>
<tr>
<td>2009</td>
<td>1.830</td>
<td>610.702</td>
<td>0.6%</td>
<td>6.507</td>
<td>5.860</td>
<td>0.9%</td>
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<tr>
<td>2010</td>
<td>2.113</td>
<td>455.445</td>
<td>0.6%</td>
<td>7.802</td>
<td>6.945</td>
<td>0.9%</td>
</tr>
<tr>
<td>2011</td>
<td>1.590</td>
<td>496</td>
<td>0.6%</td>
<td>7.802</td>
<td>7.100</td>
<td>0.9%</td>
</tr>
<tr>
<td>2012</td>
<td>2.420</td>
<td>650.202</td>
<td>0.6%</td>
<td>8.523</td>
<td>8.961</td>
<td>1.0%</td>
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<tr>
<td>2013</td>
<td>2.994</td>
<td>723.369</td>
<td>0.6%</td>
<td>9.580</td>
<td>11.580</td>
<td>1.2%</td>
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<tr>
<td>2014</td>
<td>2.113</td>
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<td>10.690</td>
<td>12.996</td>
<td>1.2%</td>
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<tr>
<td>2015</td>
<td>1.590</td>
<td>441.983</td>
<td>0.6%</td>
<td>11.360</td>
<td>14.296</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

**Source:** Labor Force Sample Survey - MDPS

**Census - MDPS**

**National Accounts - MDPS**

**Importance of Supplies of Electricity, Gas and Water in Qatar’s Economy: 2006 - 2015**
Percentage of Workers in the Sector of Electricity, Gas and Water Supply of Total Labor Force

2006 - 2015

<table>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
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<td>%</td>
<td>%</td>
<td>%</td>
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<td>%</td>
<td>%</td>
<td>%</td>
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<tr>
<td>%</td>
<td>1.7%</td>
<td>2.0%</td>
<td>1.9%</td>
<td>0.8%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.7%</td>
<td>0.7%</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

Environment Statistics bulletin 2015

نشرة الإحصاءات البيئية

Source: Kahramaa – Annual Statistical Report
### ELECTRICITY CONSUMPTION BY SECTOR

<table>
<thead>
<tr>
<th>Item</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>9,424,423</td>
<td>9,788,062</td>
<td>9,449,233</td>
<td>11,866,996</td>
<td>11,568,215</td>
</tr>
<tr>
<td>Domestic</td>
<td>22,215,842</td>
<td>22,215,842</td>
<td>22,215,842</td>
<td>22,215,842</td>
<td>22,215,842</td>
</tr>
<tr>
<td>Consumption in power generation and water desalination plants</td>
<td>2,297,768</td>
<td>2,433,014</td>
<td>2,433,014</td>
<td>2,433,014</td>
<td>2,433,014</td>
</tr>
<tr>
<td>Loss during transport and distribution</td>
<td>2,474,899</td>
<td>2,474,899</td>
<td>2,474,899</td>
<td>2,474,899</td>
<td>2,474,899</td>
</tr>
<tr>
<td>Total</td>
<td>30,730,480</td>
<td>34,787,933</td>
<td>34,668,330</td>
<td>38,692,880</td>
<td>41,499,261</td>
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</tbody>
</table>

**Percentage of Workers in the Sector of Electricity, Gas and Water Supply of Total Labor Force**

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>0.0%</td>
</tr>
<tr>
<td>2007</td>
<td>0.4%</td>
</tr>
<tr>
<td>2008</td>
<td>0.5%</td>
</tr>
<tr>
<td>2009</td>
<td>0.7%</td>
</tr>
<tr>
<td>2010</td>
<td>0.8%</td>
</tr>
<tr>
<td>2011</td>
<td>1.0%</td>
</tr>
<tr>
<td>2012</td>
<td>1.5%</td>
</tr>
<tr>
<td>2013</td>
<td>1.7%</td>
</tr>
<tr>
<td>2014</td>
<td>1.8%</td>
</tr>
<tr>
<td>2015</td>
<td>2.0%</td>
</tr>
<tr>
<td>Year</td>
<td>Cooling Stations Capacity (million tons of cooling/hour)</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>2010</td>
<td>364.783.976</td>
</tr>
<tr>
<td>2011</td>
<td>324.642.072</td>
</tr>
<tr>
<td>2012</td>
<td>267.276.750</td>
</tr>
<tr>
<td>2013</td>
<td>222</td>
</tr>
<tr>
<td>2014</td>
<td>222</td>
</tr>
<tr>
<td>2015</td>
<td>222</td>
</tr>
</tbody>
</table>

Source: The Cooling Process Indicators 2010-2015

Note: Data sourced from the cooling stations report.
<table>
<thead>
<tr>
<th>Year</th>
<th>Cooling Stations Capacity (Million tons of cooling/hour)</th>
<th>Used Water (m³)</th>
<th>Used Energy (GWh)</th>
<th>Electrical Energy Saving vis-à-vis Conventional Cooling (GWh)</th>
<th>Reduction of Generated Emissions vis-à-vis Conventional Cooling (million tons of carbon dioxide-equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>169,995,710</td>
<td>1,390,419</td>
<td>187</td>
<td>102</td>
<td>66,024</td>
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<tr>
<td>2011</td>
<td>124,837,668</td>
<td>1,514,603</td>
<td>222</td>
<td>125</td>
<td>80,497</td>
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<tr>
<td>2012</td>
<td>267,276,750</td>
<td>1,953,508</td>
<td>264</td>
<td>190</td>
<td>122,714</td>
</tr>
<tr>
<td>2013</td>
<td>291,185,327</td>
<td>2,078,022</td>
<td>286</td>
<td>209</td>
<td>134,960</td>
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<td>2014</td>
<td>324,620,702</td>
<td>2,388,304</td>
<td>327</td>
<td>225</td>
<td>145,329</td>
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<tr>
<td>2015</td>
<td>364,783,976</td>
<td>2,713,526</td>
<td>367</td>
<td>253</td>
<td>163,104</td>
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</table>
### Table 11.1 (Unit: Percentage)

<table>
<thead>
<tr>
<th>Year Census</th>
<th>Drainage</th>
<th>Electricity</th>
<th>Water</th>
<th>Census Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>44.9</td>
<td>82.9</td>
<td>66.9</td>
<td>1986</td>
</tr>
<tr>
<td>1997</td>
<td>62.9</td>
<td>96.6</td>
<td>83.0</td>
<td>1997</td>
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<td>2004</td>
<td>67.5</td>
<td>96.0</td>
<td>82.8</td>
<td>2004</td>
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<td>2010</td>
<td>76.9</td>
<td>97.3</td>
<td>93.2</td>
<td>2010</td>
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<tr>
<td>2015</td>
<td>87.7</td>
<td>99.7</td>
<td>99.7</td>
<td>2015</td>
</tr>
</tbody>
</table>

Source: Census - MDPS

**Note:** The data is provided by the Ministry of Development and Public Service and covers the years 1986, 1997, 2004, 2010, and 2015.
<table>
<thead>
<tr>
<th>Year</th>
<th>Water (97.7%)</th>
<th>Electricity (99.7%)</th>
<th>Drainage (87.7%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>66.9%</td>
<td>82.9%</td>
<td>44.9%</td>
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<tr>
<td>1997</td>
<td>83.0%</td>
<td>96.6%</td>
<td>62.9%</td>
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<tr>
<td>2004</td>
<td>82.8%</td>
<td>96.0%</td>
<td>67.5%</td>
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<td>2010</td>
<td>93.2%</td>
<td>97.3%</td>
<td>76.9%</td>
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<tr>
<td>2015</td>
<td>99.7%</td>
<td>99.7%</td>
<td>87.7%</td>
</tr>
</tbody>
</table>

الصرف الصحي، الكهرباء، المياة.

الرياح الشمالية، جزيرة الأثير، مدينة دوحة، مدينة الدوحة، مدينة الراس، مدينة الرفعان، منطقة الشامال، منطقة الشمال.

Chart No. (11.1)
Percentage of Completed Buildings Connected to Public Utility Network,

Census 2010 & 2015

<table>
<thead>
<tr>
<th>Year Census</th>
<th>Water</th>
<th>Electricity</th>
<th>Drainage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>98.0%</td>
<td>98.0%</td>
<td>76.9%</td>
</tr>
<tr>
<td>2015</td>
<td>98.0%</td>
<td>91.4%</td>
<td>83.2%</td>
</tr>
</tbody>
</table>

Source: Census- MDPS
### Percentage of Residential Units Connected to Public Utility Network

<table>
<thead>
<tr>
<th>Year Census</th>
<th>Drainage</th>
<th>Electricity</th>
<th>Water</th>
<th>Census Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>79.1</td>
<td>98.4</td>
<td>94.4</td>
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<td>2015</td>
<td>91.4</td>
<td>98.0</td>
<td>98.0</td>
<td>2015</td>
</tr>
</tbody>
</table>

Source: Census- MDPS

المصدر: تعداد العام - وزارة التخطيط التنموي والإحصاء
Percentage of Residential Units Connected to Public Utility Network

Census 2010 & 2015

Chart No. (11.3)
Census 2010 & 2015

Percentage of Residential Units Connected to Public Utility Network

- Water: 94.4% (2010) vs. 98.0% (2015)
- Electricity: 97.1% (2010) vs. 98.4% (2015)
- Drainage: 91.4% (2010) vs. 94.4% (2015)
### مؤشرات السكان الموصولين بالمرافق العامة

#### 2007-2015

<table>
<thead>
<tr>
<th>سنة</th>
<th>نسبة السكان الذين يستعملون خدمات مياه الشرب المأمونة الإدارة</th>
<th>نسبة السكان الذين يمكنهم الحصول على كمية كافية من الماء الصالحة للشرب</th>
<th>نسبة السكان الذين حاصلون على مصادر مأمونة لمياه الشرب</th>
<th>نسبة السكان المخدمون بمحطات مياه الصرف الصحي</th>
<th>نسبة السكان الموصولين بشبكة لمعالجة المياه</th>
<th>نسبة السكان الموصولين بمعالجة ثانوية على الأقل</th>
<th>نسبة السكان الذين يستخدمون مرافق صحية مناسبة (محسنة)</th>
<th>نسبة السكان الحاصلين على الكهرباء</th>
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<td>100</td>
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</tr>
</tbody>
</table>
### Table (11.3) (Unit: Percentage)

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of Population Using Safe Drinking Water</th>
<th>Percentage of Population Able to Access Enough Drinking Water</th>
<th>Percentage of Population Having Access to Safe Sources of Drinking Water</th>
<th>Percentage of Population Served by Wastewater Plants</th>
<th>Percentage of Population Served by Safe Sanitation Services</th>
<th>Percentage of Population connected to wastewater treatment</th>
<th>Percentage of Population connected to wastewater treatment at least secondary treatment</th>
<th>Percentage of Population Using Appropriate Health Facilities (Improved)</th>
<th>Percentage of Population Connected to Electricity</th>
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<tr>
<td>2007</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<td>100</td>
<td>100</td>
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<td>2008</td>
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<td>2011</td>
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<td>2012</td>
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<tr>
<td>2013</td>
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</tr>
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Chart No. (12.1)  

<table>
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<th>Year</th>
<th>Number of transfer stations</th>
<th>Number of landfills</th>
<th>Number of dumpers</th>
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Source: Ministry of Municipality and Environment
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Source: Ministry of Municipality and Environment
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<td>0</td>
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</tr>
</tbody>
</table>

(1) Umm Al Afai has been Closed from 2013.

(2) Bulky waste disposed only in Umm Al Afai and Rawdat Rashid.

(3) Rawdat Rashid was closed for tires waste during 2008-2010.
### Chart No.(12.2) (Unit: Metric tons)

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic</th>
<th>Construction</th>
<th>Bulky</th>
<th>Tires</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>742,552</td>
<td>5,366,550</td>
<td>382,366</td>
<td>14,200</td>
<td>2,699</td>
</tr>
<tr>
<td>2009</td>
<td>782,323</td>
<td>7,715,625</td>
<td>283,231</td>
<td>16,244</td>
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</tr>
<tr>
<td>2010</td>
<td>846,630</td>
<td>8,864,475</td>
<td>338,987</td>
<td>18,519</td>
<td>5,030</td>
</tr>
<tr>
<td>2011</td>
<td>628,235</td>
<td>9,099,486</td>
<td>470,298</td>
<td>21,353</td>
<td>5,931</td>
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<tr>
<td>2012</td>
<td>44,151</td>
<td>9,228,296</td>
<td>59,086</td>
<td>2,726</td>
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<td>2013</td>
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<td>8,893,750</td>
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<td>2014</td>
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<td>6,433,372</td>
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<td>2015</td>
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<td>3,806,745</td>
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<td>45,566</td>
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</tr>
</tbody>
</table>

**Notes:**
- Umm Al Afai has been closed from 2013.
- Bulky waste disposed only in Umm Al Afai and Rawdat Rashid.
- Rawdat Rashid was closed for tires waste during 2008-2010.

Source: Ministry of Municipality and Environment
<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic Waste Generation (Kg/day)</th>
<th>Construction Waste Generation (Kg/day)</th>
<th>Bulk Waste Generation (Kg/day)</th>
<th>Tree Waste Generation (Kg/day)</th>
<th>Others Waste Generation (Kg/day)</th>
<th>Total Waste Generation (Kg/day)</th>
<th>Per Capita Domestic Waste Generation (Kg/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>2.04</td>
<td>0.34</td>
<td>0.16</td>
<td>0.05</td>
<td>0.08</td>
<td>2.53</td>
<td>0.34</td>
</tr>
<tr>
<td>2009</td>
<td>2.10</td>
<td>0.36</td>
<td>0.18</td>
<td>0.05</td>
<td>0.06</td>
<td>2.66</td>
<td>0.36</td>
</tr>
<tr>
<td>2010</td>
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<td>0.38</td>
<td>0.19</td>
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<td>0.38</td>
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<tr>
<td>2011</td>
<td>2.14</td>
<td>0.39</td>
<td>0.20</td>
<td>0.06</td>
<td>0.07</td>
<td>2.76</td>
<td>0.40</td>
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<tr>
<td>2012</td>
<td>2.16</td>
<td>0.40</td>
<td>0.21</td>
<td>0.07</td>
<td>0.08</td>
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<td>0.42</td>
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<tr>
<td>2013</td>
<td>2.18</td>
<td>0.41</td>
<td>0.22</td>
<td>0.08</td>
<td>0.09</td>
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<tr>
<td>2014</td>
<td>2.20</td>
<td>0.42</td>
<td>0.23</td>
<td>0.09</td>
<td>0.10</td>
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<td>2015</td>
<td>2.22</td>
<td>0.43</td>
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<td>0.10</td>
<td>0.11</td>
<td>2.95</td>
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</tr>
</tbody>
</table>

**2008 - 2015**

**Solid Waste Daily Generation by Type (Kg/day)**

**Legend:** Kg/day (Kilogram per day)

**Source:** MDPS calculation

**Table (12.3)**
Table (12.3) (Unit: KG per day)

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic</th>
<th>Construction</th>
<th>Bulky Tires</th>
<th>Others</th>
<th>Total</th>
<th>Per Capita Domestic Waste Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>2,034,389</td>
<td>15,750,455</td>
<td>4,797,696</td>
<td>38,904</td>
<td>7,395</td>
<td>22,628,838</td>
</tr>
<tr>
<td>2009</td>
<td>2,143,351</td>
<td>21,914,674</td>
<td>5,300,118</td>
<td>44,504</td>
<td>18,216</td>
<td>29,420,863</td>
</tr>
<tr>
<td>2010</td>
<td>2,319,534</td>
<td>25,214,964</td>
<td>4,791,751</td>
<td>50,737</td>
<td>13,781</td>
<td>32,390,767</td>
</tr>
<tr>
<td>2011</td>
<td>2,233,704</td>
<td>26,218,586</td>
<td>4,797,537</td>
<td>58,501</td>
<td>16,249</td>
<td>33,324,578</td>
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<tr>
<td>2012</td>
<td>2,387,967</td>
<td>26,594,205</td>
<td>4,506,945</td>
<td>67,427</td>
<td>14,671</td>
<td>33,571,216</td>
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<tr>
<td>2013</td>
<td>2,549,761</td>
<td>25,628,732</td>
<td>4,921,633</td>
<td>69,564</td>
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<td>33,197,262</td>
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<tr>
<td>2014</td>
<td>2,871,364</td>
<td>19,332,466</td>
<td>4,788,159</td>
<td>86,589</td>
<td>34,356</td>
<td>27,112,934</td>
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<tr>
<td>2015</td>
<td>3,002,374</td>
<td>11,716,203</td>
<td>5,613,573</td>
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Source: MDPS calculation
### Total Solid Waste Generation

<table>
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<tr>
<th>Year</th>
<th>Total</th>
<th>Scrap Metal</th>
<th>Glass</th>
<th>Timber</th>
<th>PDD</th>
<th>(Cardboard)</th>
<th>Plastic</th>
<th>Overall Recycled Waste</th>
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</thead>
<tbody>
<tr>
<td>2011</td>
<td>12,163,471</td>
<td>16,918</td>
<td>0</td>
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<td>1,902</td>
<td>2,404</td>
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<tr>
<td>2012</td>
<td>12,253,494</td>
<td>6,632</td>
<td>16,450</td>
<td>2,183</td>
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<td>16,450</td>
<td>6,632</td>
<td>39,175</td>
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<td>2013</td>
<td>12,117,001</td>
<td>16,450</td>
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<td>12,464</td>
<td>0</td>
<td>16,450</td>
<td>40,773</td>
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<tr>
<td>2014</td>
<td>9,896,221</td>
<td>17,514</td>
<td>2,589</td>
<td>64</td>
<td>10,732</td>
<td>0</td>
<td>17,514</td>
<td>32,330</td>
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<tr>
<td>2015</td>
<td>7,683,635</td>
<td>69,748</td>
<td>3,588</td>
<td>980</td>
<td>14,168</td>
<td>1,672</td>
<td>49,340</td>
<td>98,880</td>
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Source: Ministry of Municipality and Environment.

### Types of Recycled Waste

<table>
<thead>
<tr>
<th>Year</th>
<th>Electricity (Power generation from WTE, MWH)</th>
<th>Compost (including pre-screened compost)</th>
<th>Biogas (1000 m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>12.117,001</td>
<td>6,632</td>
<td>16,450</td>
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<td>2012</td>
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<td>16,450</td>
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<td>69,748</td>
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</table>

Source: Ministry of Municipality and Environment - (Keppel Seghers Co.)
## Table (12.5)

<table>
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<tr>
<th>Year</th>
<th>Biogas (1000 m³)</th>
<th>Compost (including pre-screened compost)</th>
<th>Electricity (Power generation from WTE, MWH)</th>
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</thead>
<tbody>
<tr>
<td>2012</td>
<td>4,428</td>
<td>8,250</td>
<td>19082</td>
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<td>2013</td>
<td>14,045</td>
<td>38,861</td>
<td>152961</td>
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<td>2014</td>
<td>14,038</td>
<td>63,880</td>
<td>203628</td>
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<td>2015</td>
<td>20,920</td>
<td>35,135</td>
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Source: Ministry of Municipality and Environment - (Keppel Seghers Co.)
Production capacity of solid waste management center in Mesaieed by type

<table>
<thead>
<tr>
<th>Year</th>
<th>Electricity (MWH)</th>
<th>Compost (including pre-screened)</th>
<th>Biofertilizer (1000 m³)</th>
<th>Gas (1000 m³)</th>
<th>Reused</th>
<th>Burning</th>
<th>Landfilling</th>
<th>Directed for other purposes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>19,082</td>
<td>4,428</td>
<td>10,4</td>
<td>1000</td>
<td>16.8</td>
<td>2.9</td>
<td>50.3</td>
<td>16.8</td>
<td>100</td>
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<tr>
<td>2013</td>
<td>152,961</td>
<td>14,045</td>
<td>13.1</td>
<td>1000</td>
<td>17.2</td>
<td>2.0</td>
<td>51.5</td>
<td>17.2</td>
<td>100</td>
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<tr>
<td>2014</td>
<td>203,628</td>
<td>14,038</td>
<td>19.4</td>
<td>1000</td>
<td>17.2</td>
<td>1.7</td>
<td>51.6</td>
<td>17.2</td>
<td>100</td>
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<tr>
<td>2015</td>
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<td>35.2</td>
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<td>1.6</td>
<td>48.1</td>
<td>16.8</td>
<td>100</td>
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</table>

Chart No. (12.4)  
(Chart No. (12.4)  
(Electricity (MWH)  
(Compost (including pre-screened compost  
(Biofertilizer (1000 m³)  
(Gas (1000 m³)  
(Reused  
(Burning  
(Landfilling  
(Directed for other purposes  
(Total  

Source: MDPS calculation

Percentage distribution of hazardous waste disposal methods

Per capita gross waste (per capita kg per year)

Hazardous Waste Generation (Metric Ton) Per Unit of GDP
<table>
<thead>
<tr>
<th>Year</th>
<th>Recycling (Metric Ton)</th>
<th>Burning</th>
<th>Landfilling</th>
<th>Directed for other purposes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>30.0</td>
<td>2.9</td>
<td>50.3</td>
<td>16.8</td>
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<tr>
<td>2011</td>
<td>30.4</td>
<td>2.2</td>
<td>49.6</td>
<td>17.7</td>
<td>100</td>
</tr>
<tr>
<td>2012</td>
<td>28.8</td>
<td>3.9</td>
<td>50.5</td>
<td>17.2</td>
<td>100</td>
</tr>
<tr>
<td>2013</td>
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<td>2.0</td>
<td>51.5</td>
<td>17.2</td>
<td>100</td>
</tr>
<tr>
<td>2014</td>
<td>29.5</td>
<td>1.7</td>
<td>51.6</td>
<td>16.0</td>
<td>100</td>
</tr>
<tr>
<td>2015</td>
<td>34.2</td>
<td>1.7</td>
<td>48.1</td>
<td>17.0</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: MDPS calculation

**Percentage distribution of hazardous Waste disposal methods**

<table>
<thead>
<tr>
<th>Item</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita Gross waste (per capita kg per year)</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
</tr>
<tr>
<td>Per Unit of GPP Hazardous Waste Generation (Metric Ton)</td>
<td>0.37</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
</tr>
</tbody>
</table>

**HAZARDOUS WASTE INDICATORS**

<table>
<thead>
<tr>
<th>Item</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita Hazardous Waste Generation (Metric Ton)</td>
<td>0.23</td>
<td>0.26</td>
<td>0.26</td>
<td>0.39</td>
<td>0.74</td>
<td>0.37</td>
</tr>
<tr>
<td>Per capita Per Capita Hazardous Waste Generation (Metric Ton)</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
</tr>
</tbody>
</table>

**Environment Statistics bulletin 2015**

Published by the Ministry of Development, Planning and Statistics (MDPS)
Percentage distribution of hazardous waste disposal methods 2010-2015

- **Landfilling (الطمر)**
- **Burning (الحرق)**
- **Recycling (إعادة تدوير)**
- **Directed for other purposes (لم يتم تحديد مغرضه)**

- **2010**: 30% Landfilling, 50.3% Burning, 29% Recycling, 16.8% Other
- **2011**: 30.4% Landfilling, 49.6% Burning, 22% Recycling, 17.7% Other
- **2012**: 28.8% Landfilling, 50.5% Burning, 39% Recycling, 16.8% Other
- **2013**: 29.4% Landfilling, 51.5% Burning, 20% Recycling, 17.2% Other
- **2014**: 29.5% Landfilling, 51.6% Burning, 17% Recycling, 17.2% Other
- **2015**: 34.2% Landfilling, 48.1% Burning, 16% Recycling, 16.0% Other