



وزارة التخطيط التنوير والإحصاء
Ministry of Development Planning and Statistics

**RESULTS OF
RESEARCH AND DEVELOPMENT SURVEY
IN THE STATE OF QATAR 2012**







Forward

The Ministry of Development Planning and Statistics (MDPS) is pleased to present to researchers, stakeholders and decision makers the results of Research and Development Survey 2012. Research and development (R&D) is a fundamental component of Qatar National Development Strategy (QNDS) 2011-2016, which aims to transform Qatar into a knowledge-based economy, as it is more sustainable and less vulnerable to global market fluctuations. This is being reflected in the State's commitment to the development of R&D by allocating 2.8% of its revenues to support R&D projects. In this regard, Qatar has developed a sectoral strategy aiming to **"become a major force in scientific and technological discoveries, and to translate knowledge into innovative applications that have tremendous socio-economic impact contributing to transform Qatar into a knowledge-based economy and in turn to support QNV 2030"**. This significant contribution to research and experimental development also reflects the vital innovation system which adopts the process of adapting and understanding technology.

In conducting R&D Survey, MDPS has adopted the internationally approved methodologies and standards of the Organisation for Economic Co-operation and Development (OECD). This survey aims to identify the size and characteristics of the human resources working in this field and the size and areas of expenditure by type of expenditure and fields of R&D. The results of this survey show that the number of R&D personnel amounted to around 3,038 workers, including around 1,725 (56.8%) researchers working in diverse R&D fields. The domestic expenditure amounted to around QR 3,254,836,183, which is equivalent to around US \$ 894,185,714, accounting for 0.47% of Qatar's GDP.

On this occasion, I would like to thank all institutions, research centers, universities, government agencies and the private sector for their cooperation and for providing us with necessary data to achieve this survey. In this respect, MDPS welcomes your comments and feedback regarding the results of this survey. I hope that we have achieved the desired benefit of R&D Survey 2012.

Saleh M. Al-Nabit, Ph.D.

Minister of Development Planning and Statistics

Acknowledgement

The Ministry of Development Planning and Statistics wishes to thank all those who contributed towards conducting and implementing the Research and Development Survey 2012, namely; Mr. Sultan Al Kuwari, General Supervisor of Survey; Ms. Wafaa Al-Sulaiti, Director of Survey; and Mr. Kassim Al-Amri, Assistant Director of Survey. Thanks is also extended to field researchers Mr. Samer M. Ahmed, Mr. Amin Khalifa, Ms. Dina Al-Heil, Ms. Doaa Al-Shib and Mr. Waseem Ashraf from IT Dept. Finally, we extend special thanks to both of survey advisors; Professor Michael Caan and Dr. Ahmed Hussein.



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Overview of Survey Results

This R&D Survey, conducted by the Ministry of Development Planning and Statistics, is the first of its kind to be implemented in cooperation with Qatar Foundation for Education, Science and Community Development (QF). MDPS has adopted the scientific methodologies and R&D foundations used in "Frascati Manual", a methodology approved by the UNESCO.

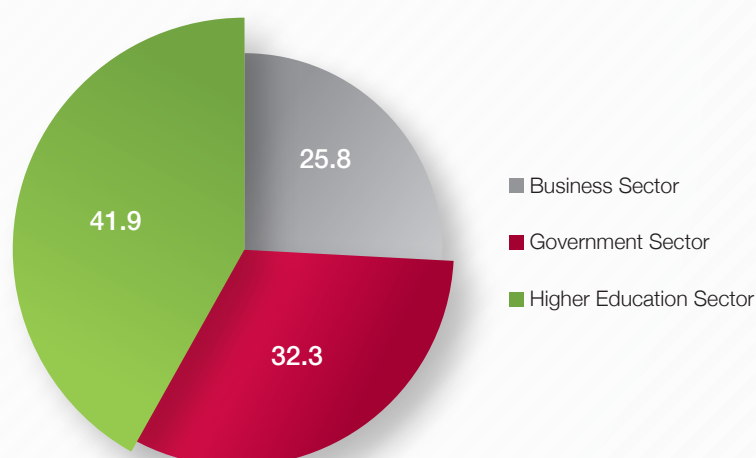
The survey outputs include R&D indicators in main topics; in particular, working HR, and the amount of expenditure on and purpose of each research.

This report will review the following key results:

Expenditure on R&D

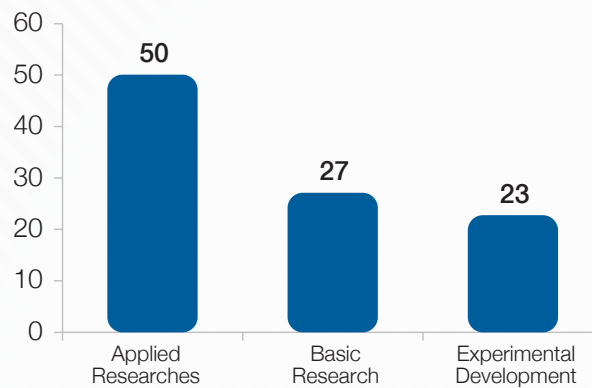
The expenditure on R&D amounted to 0.47% of Qatar's GDP. The results show that gross domestic expenditure on R&D by sector is accounted for 25.8% in business sector, 32.3% in government sector and 41.9% in higher education sector, of the total expenditure on R&D.

Percentage of Gross Domestic Expenditure
on R&D 2012



The results also show that the gross domestic expenditure on R&D by type of research amounted to 27% in basic research, 50% in applied research and 23% in experimental development.

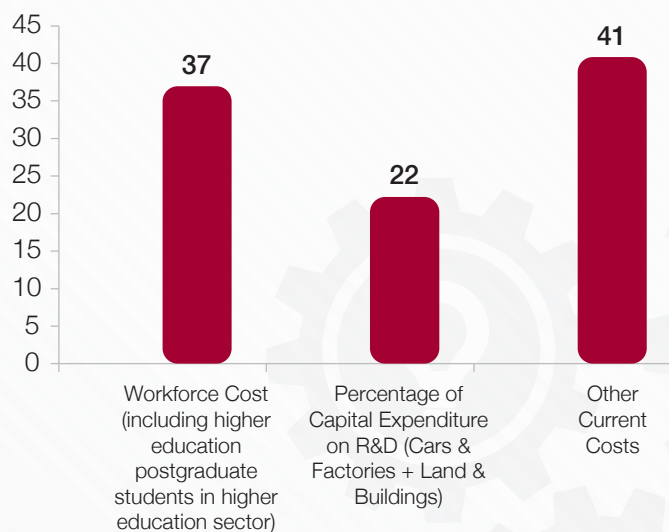
**Percentage of Gross Domestic
Expenditure on R&D
by Type of Research 2012**



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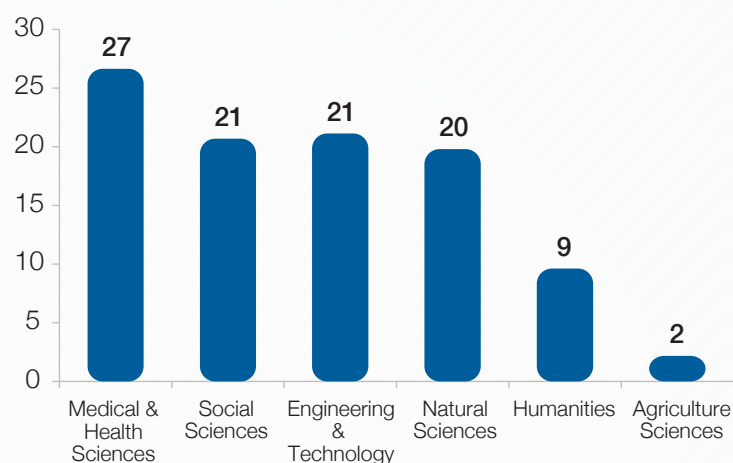
As for gross domestic expenditure by type of expenditure, the percentage of expenditure on capital (cars and factories + land and buildings) was 22%, while the workforce cost was 37%, and expenditure on other current costs was 41% of total expenditure.

**Percentage of Gross Domestic Expenditure
on R&D by Type of Expenditure 2012**



The results further show that gross domestic expenditure on R&D by field of science (FOS) amounted to 20% for natural science and 21% for engineering technology, while for medical and health science 27% and for social sciences and humanities 30% of total expenditure. The lesser proportion of expenditure was on agricultural science with 2% only.

**Percentage of Expenditure on R&D by
Field of Science 2012**



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R&D Personnel

There are 3,038 R&D personnel in Qatar, out of which 1,725 researchers are in various fields of science, accounting for 56.8% of R&D personnel, whereas the number of support employees amounts to 718 employees, which accounts for 23.6% of R&D personnel. The number of technicians working in various fields amounts to 595 technicians, accounting for 19.6%. Gender wise, the number of male workers has reached 2,236 employees, accounting for 73.6% compared to 802 females, representing 26.4% of total R&D personnel. Nationality wise, Qataris amount to 395 employees, accounting for 13% compared to 2,643 non-Qataris, representing 87% of all employees.



Comparisons with Other States

With regard to R&D, the State of Qatar is endeavoring great efforts in the higher education, health and industry sectors, notably; Qatar Science and Technology Park, Qatar Foundation, Qatar National Research Fund and University of Qatar, where these institutions represent the pounding heart of such efforts.

In terms of per capita GDP, population size and type of industries, Qatar can be compared to Luxembourg, Kuwait, Norway, Oman and Singapore. With the exception of population size, Qatar can be favourably compared to KSA and Chinese Taipei according to the following table which includes related science and technology indicators.

Qatar National Research Strategy 2012

Vision

Qatar will be a leading center of excellence for R&D, innovation and Preserving and improving natural and built environment.

Mission

The national research program will be based on inclusiveness and intellectual merit to:

- Develop the capabilities of Qatar's people and institutions.
- Build and maintain a competitive and diversified economy.
- Improve the health and social well-being of Qatar's population.
- Support Qatar's distinctive culture and the security of its people.
- Preserve and improve the natural and built environment.



Comparison of Science & Technology Indicators 2012

Country	Ranking of countries according to per capita GDP	Gross domestic expenditure on R&D of GDP	Global Competitiveness Index	Type of Global Competitiveness Index	Enabling innovation for Global Competitiveness Index	Available technology within Global Competitiveness Index	Global Innovation Index
Chinese Taipei	28	3.07	12	Innovation	8	30	NA
Kuwait	25	0.09	36	Factor / influence	118	69	50
Luxembourg	5	1.5	22	Innovation	18	2	12
Norway	10	1.65	11	Innovation	13	3	16
Oman	51	0.13	33	Factor / influence	45	56	80
Qatar	1	0.47	13	Innovation	17	20	16
Saudi Arabia	44	0.07	20	Factor / influence	30	41	42
Singapore	7	2.23	2	Innovation	9	7	8

Sources: Science & Technology Key Indicators of the Organization for Economic Co-operation and Development (OECD) <http://uis.unesco.org>. Global Competitiveness Report 2013/14, Global Innovation Index 2013, the World of Science.

With the exception of Luxembourg, which has a long history of manufacturing and communications, the compared countries have been “engaged in business” since the middle of last century.

In terms of per capita GDP, the countries that ranked top three were Qatar, Luxembourg and Singapore, respectively.

In terms of gross domestic expenditure on R&D (GERD), the State of Qatar ranked fourth in the table above with expenditure percentage of 0.47% of GDP. This expenditure reflects the national economy structure which enjoys the presence of large industries that are based on shared resources and investments with major global companies. In addition, the parent companies participating in investments with Qatar conduct R&D in their headquarters at home countries. This strong role of joint investment projects is also enjoyed by Kuwait, Oman, Saudi Arabia, Luxembourg and Singapore.

According to “Global Competitiveness Report 2013/2014”, Qatar ranked first in the Arab region and 13th globally out of 148 countries in the Competitiveness Index, which is an advanced ranking at the global level. Following in the list was the United Arab Emirates, which ranked (19) in the Arab region. With regard to innovation, the report indicated that Qatar ranked 16th globally, but ranked 17th in innovation capability. Qatar, once again, reaffirms its position as the most competitive economy in the region. The country’s strong performance in terms of competitive rests on solid foundations made up of a high-quality institutional framework (4th), a stable macroeconomic environment (6th) and an efficient commodity market (3rd). Furthermore, the low level of corruption, high efficiency of government agencies and strong security are the cornerstones of the country’s solid institutional framework, which provides a good foundation for high efficiency. In order to reduce vulnerability to commodity price fluctuations, added the report, Qatar needs to diversify other economic sectors and to reinforce some areas of competitiveness. As a high-income economy, Qatar will have to continue to place great emphasis on turning into a knowledge-and-innovation-driven economy. However, Qatar’s patenting activity remains low by international standards, ranking 60th, although some elements that could contribute to the promotion of innovation are in place. For Qatar to effectively turn into innovation-based economy, it will have to continue to promote a wider use of modern technologies (31st), ensure universal primary education, and foster more openness to foreign competition, where it currently ranks 30th.¹

¹ Global Competitiveness Report 2013-2014, Insights on Countries, P14

Qatar University is the main place for scientific production. It started offering courses in social sciences and humanities since 1977, and offered engineering programme in 1980 (it is worth mentioning that Luxembourg established its university in 2003). It is to be noted that branches of various foreign universities have joined Qatar Foundation for Education, Science and Community Development (QF), which also runs Qatar National Research Fund (QNRF), a member of R&D sector at (QF), which contributes to the support and development of scientific research in the state of Qatar.



Survey Methodology

Definition of R&D

Research and Development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge and competence, including the knowledge of humanity, culture and society, and the use of this stock of knowledge to devise new applications.

According to the Organization for Economic Cooperation and Development (OECD) 2005, innovation involves a wide range of activities that lead to the introduction of a new or significantly improved product, or a regulatory approach or change in a market or an organization. Thus, innovation could be technological or non-technological.

Innovation activities include the exchange of knowledge, training, dissemination of knowledge, search for information, templates, market research, cloning and reverse engineering, research and development, design, engineering and the use of skills.

• Basic Research

is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view.

• Applied Research

is also original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective.

• Experimental Development

is a systematic work, drawing on existing knowledge gained from research and/or practical experience, which is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed.

• Survey Objectives

This survey aims to identify R&D indicators in the State of Qatar with respect to the size and characteristics of human resources working in this field and the size of expenditure on R&D by type of expenditure and R&D fields, as well as to identify the reality of research in the State of Qatar.

• Time Period for Implementation

The time period for implementation of R&D survey was (November 2012 - March 2014). During this period, a training workshop was held for the coordinators of the research bodies to identify survey objectives and to devise a mechanism to collect data through an electronic form (R&D form) that has been designed on MDPS website.

• Scope of R&D Survey

R&D surveys identify inputs on sources of financial and human resources to conduct R&D surveys within the organization. At present, R&D surveys that utilize third party for a specified period during the survey are not accounted for. The organization conducting the survey needs to prepare a report on such activity. Also, R&D surveys that are conducted out of the country are not accounted for in standard R&D surveys. Both of OECD team and experts in NESTI (National Experts on Science and Technology Indicators) shall study these issues in deliberations within meetings to be held specifically for this purpose in order to print the 6th edition of «Frascati Manual», which will be published in 2015.

The next step is to determine the sampling frames of units of measurement for each sector. The surveys may require conducting a census of units of measurement, and a customized survey for the units of measurement, or a combination of both.

R&D personnel, researchers, technicians and other personnel are classified and divided into categories after determining an appropriate definition for each category. Doctoral students and doctorate recipients are defined as researchers.

Then, expenditure on R&D is calculated from bottom to top as the sum total cost of work and other current costs, as well as capital expenditure. It was agreed that R&D capital expenditure should be reported in full for the year when it took place.

The total expenditure on R&D can then be classified by type of R&D, field of science and socio-economic objective expected from R&D. Expenditure on issues of particular importance can also be reported, as well as regional demography. The expenditure on R&D must match with the financial resources. As for the accounting systems of those who conduct R&D, they are not usually designed to collect data according to the categories listed above. So, they might need to be assessed. And the data is basically quantitative. Nevertheless, a considerable judgment is to be involved in the assessment and classification process.

Based on the above, there is a need for great care in determining the units of measurement. It is also essential to establish close cooperation between the enumerators and the respondents during the survey period to ensure access to accurate, reliable and complete information in a timely manner .

The research and experimental development inputs survey complies with the guidelines indicated in OECD Frascati Manual 2002, and covers the fiscal year 2012/2013.

The research and development inputs survey measures three key sectors:

1. Business Enterprise Sector:

- All firms, organizations and institutions whose primary activity is the market production of goods or services (other than higher education).
- All private and public enterprises and non-profit institutions producing goods or service, with the exception of higher education.

Respondent unit is classified based on the dominance of its activity using the International Standard Industrial Classification of All Economic Activities (Rev. 4).

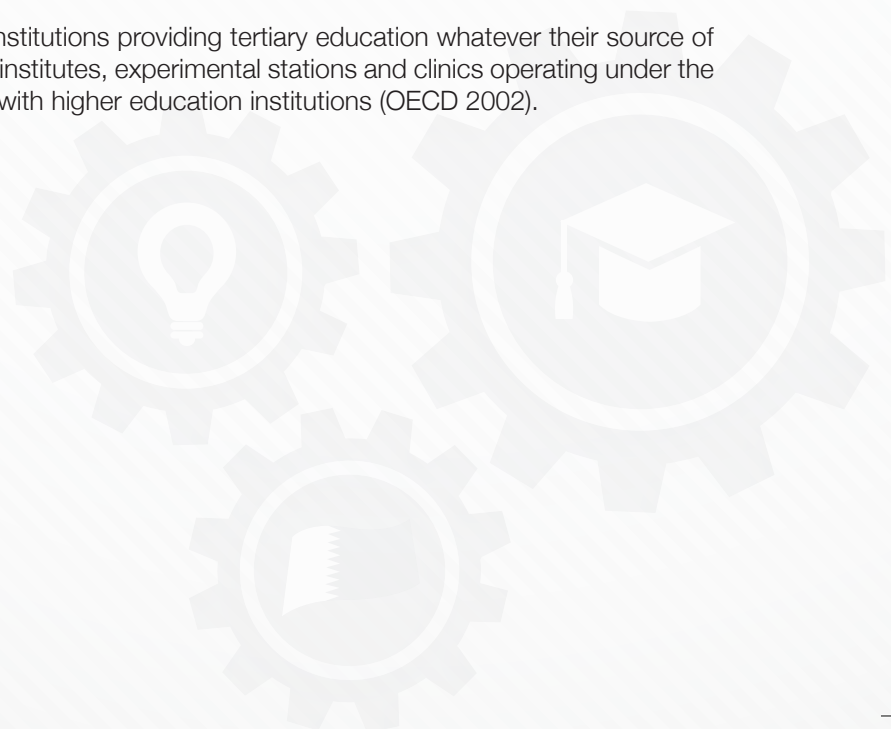
It is worth mentioning that non-profit private sector is included in the business enterprise sector. The R&D survey covers fields of natural science and engineering; agricultural, health and medical sciences; social sciences and humanities.

2. Government Sector:

- Research departments sections.
- Department-Based Research Institutes (DBRIs).
- Public research institutes.

3. Higher Education Sector:

All universities, colleges of technology and other institutions providing tertiary education whatever their source of finance or legal status. It also includes all research institutes, experimental stations and clinics operating under the direct control of or administered by or associated with higher education institutions (OECD 2002).



R&D Inputs:

• R&D Personnel

R&D personnel data measures the size of human resources participating in R&D activities: «this includes all persons employed directly on R&D, as well as those providing direct services, such as R&D managers, administrators and clerical staff» (OECD, 2002).

R&D personnel are measured in headcounts (HC) and full-time equivalent (FTE) and are classified by occupation and qualifications. They are:

Researchers

are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and also engaged in the management of the projects concerned.

Technicians and Equivalent Staff

are persons whose main tasks require technical knowledge and experience in one or more fields of engineering, physical and life sciences or social sciences and humanities. They participate in R&D by performing scientific and technical tasks involving the application of concepts and operational methods, normally under the supervision of researchers. The equivalent staff perform the tasks of research and experimental development under the supervision of researchers in the fields of social sciences and humanities.

Supporting Staff

include skilled and unskilled craftsmen, secretarial and clerical staff participating in R&D projects or directly associated with (or providing services to researchers involved in) such projects.

In tertiary educational institutions, doctoral students and postdoctoral fellows are considered as a sub-category of researchers.

14 Expenditure on R&D

It means the actual expenditures by those engaged in R&D, and not the budgeted amounts. The survey should include internal expenditures only, and must comply with reporting of other expenditures when outsourcing fully in R&D activities.

• Expenditure includes the following:

1. Current costs, which include:

- R&D labour costs.
- Other current costs.
- Indirectly paid current costs.

2. Capital Expenditure

is the amounts spent by an institution during the survey year. And is not to be registered as an element of depreciation. This approach differs from the accounting procedures that would distribute cost of capital expenditure over a number of years, e.g., buildings often depreciate over 20 years .

Capital expenditure comprises two categories:

1. Land and buildings.
2. Equipment and machines.

• Expenditure by Field of Science

It measures the amounts spent on R&D in the main fields of science (natural sciences, engineering and technology, medical and health sciences, agricultural sciences, social sciences and humanities).

• Expenditure by Socio-Economic Objectives (SEO)

It is the functional analysis of primary socio-economic objectives within the scope of R&D, for which the activities included in Frascati Manual 2002 have been completed.

Research-Related Terminologies and Idioms

Ministry of Development Planning & Statistics	MDPS
Business expenditure on research and development	BERD
Department Based Research Institute	DBRI
Field of Science	FOS
Full-time equivalent	FTE
Gross domestic product	GDP
Gross domestic expenditure on research and development	GERD
Government expenditure on research and development	GOVERD
Head count	HC
Higher education expenditure on research and development	HERD
International Standard Classification of Education	ISCED
International Standard Industrial Classification of All Economic Activities	ISIC
Non-profit organization	NPO
Organization for Economic Co-operation and Development	OECD
Purchasing power parity	PPP
Public Research Institute	PRI
Research and (experimental) development	R&D
Science and Technology	S&T
Socio-economic objective	SEO
Social sciences and humanities	SSH
Scientific and technological activities	STA
Scientific and technological education and training	STET
Science, technology and innovation	STI
Scientific and technological services	STS
UNESCO Institute for Statistics	UIS





OUTPUT TABLES

Main Indicators of Research & Development Survey 2012

Table No. (1)

Indicators	Value
Gross domestic expenditure on research and development (Riyals)	3,254,836,183
Gross domestic expenditure on research and development (in US \$)	894,185,765
Gross domestic expenditure on research and development per capita (Riyals)	1,775.78
Gross domestic expenditure on research and development per capita (US \$)	487.85
Gross domestic expenditure on research and development as a percentage of gross domestic product at current prices	0.47%
Domestic expenditure on research and development performed by the higher education sector as a percentage of gross domestic product at current prices	0.20%
Government expenditure on research and development as a percentage of gross domestic product at current prices	0.15%
Business expenditure on research and development as a percentage of gross domestic product at current prices	0.12%
Research and Development Expenditure-Sectoral distribution	
Total higher education sector research and development expenditure	1,362,982,966
Percentage of gross domestic expenditure on research and development performed by the higher education sector	41.88%
Value of expenditure on government sector projects (Qatari Riyal)	1,050,651,854
Share of government sector in funding Gross Domestic Expenditure on Research and Development	32.28%
Total business sector research and development expenditure (Riyals)	841,201,364
Percentage of gross domestic expenditure on research and development performed by the business sector	25.84%
Financing of Research and Development Expenditure	
Value of Gross Domestic Expenditure on Research and Development funded by the government (Qatari Riyal)	2,204,941,163
Share of government in funding Gross Domestic Expenditure on research and development	67.74%
Total gross domestic expenditure on research and development financed by local business	787,181,314
Percentage of gross domestic expenditure on research and development financed by local business	24.18%
Total funds by other national sources	183,943,565
Percentage of gross domestic expenditure on research and development financed by other national sources	5.65%
Total funds from abroad	78,770,141
Percentage of gross domestic expenditure on research and development financed from abroad	2.42%

Main Indicators of Research & Development Survey 2012

Table No. (1)

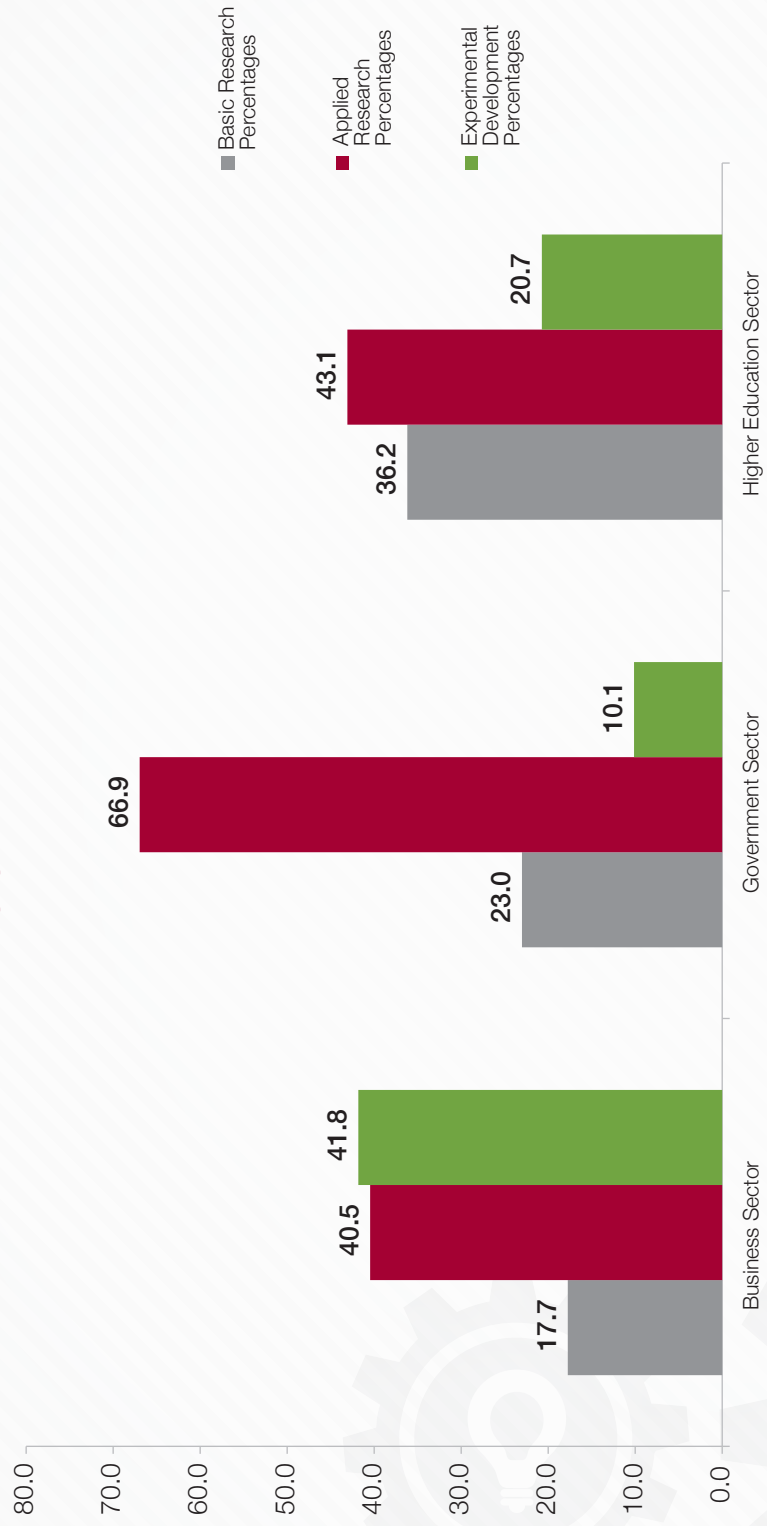
Indicators	Value
Research and Development Personnel	
Total research and development personnel (headcount) [including PhD and postdoctoral fellows.]	3,244
Higher education total research and development personnel (headcount)	1583
Total higher education research and development personnel full-time equivalent	855
Higher education post graduate (headcount)	206
Higher education post graduate full-time equivalent	108
Higher education researchers (headcount)	809
Business enterprise total research and development personnel (headcount)	647
Total business enterprise research and development personnel full-time equivalent	510
Business enterprise researchers (head count)	357
Government total research and development personnel (headcount)	808
Total government research and development personnel full-time equivalent	587
Government researchers (headcount)	559
Total research and development personnel /1000 labour force	2.41
Total researchers (headcount)	1,725
Female researchers as a percentage of total researchers (by headcount)	21.86%
Total researchers/1000 labour force	1.28
Gross domestic product in Mn Riyals (2012) (current prices)	692,655
Gross domestic product in US \$ (current prices)	190,290
Population (Mid-year)	1,832,903
Labour force	1,347,060

Gross Domestic Expenditure on Research and Development by type of Research and Sector 2012

Table No. (2)

Organization Type	TOTAL	Experimental Development Percentages	Applied Research Percentages	Basic Research Percentages
Business Sector	Riyals 841,201,364 100.0	351,775,116 41.8	340,304,188 40.5	149,122,060 17.7
Government Sector	Riyals 1,050,651,854 100.0	106,301,246 10.1	703,318,711 66.9	241,031,896 23.0
Higher Education Sector	Riyals 1,362,982,966 100.0	282,509,197 20.7	587,321,751 43.1	493,152,019 36.2
Total	Riyals 3,254,836,183 100.0	740,585,559 22.8	1,630,944,650 50.1	883,305,974 27.1

Percentage of Gross Domestic Expenditure on Research and Development by type of Research and Sector 2012



Graph No. (1)



Gross Domestic Expenditure on Research and Development by Accounting Category and Sector 2012

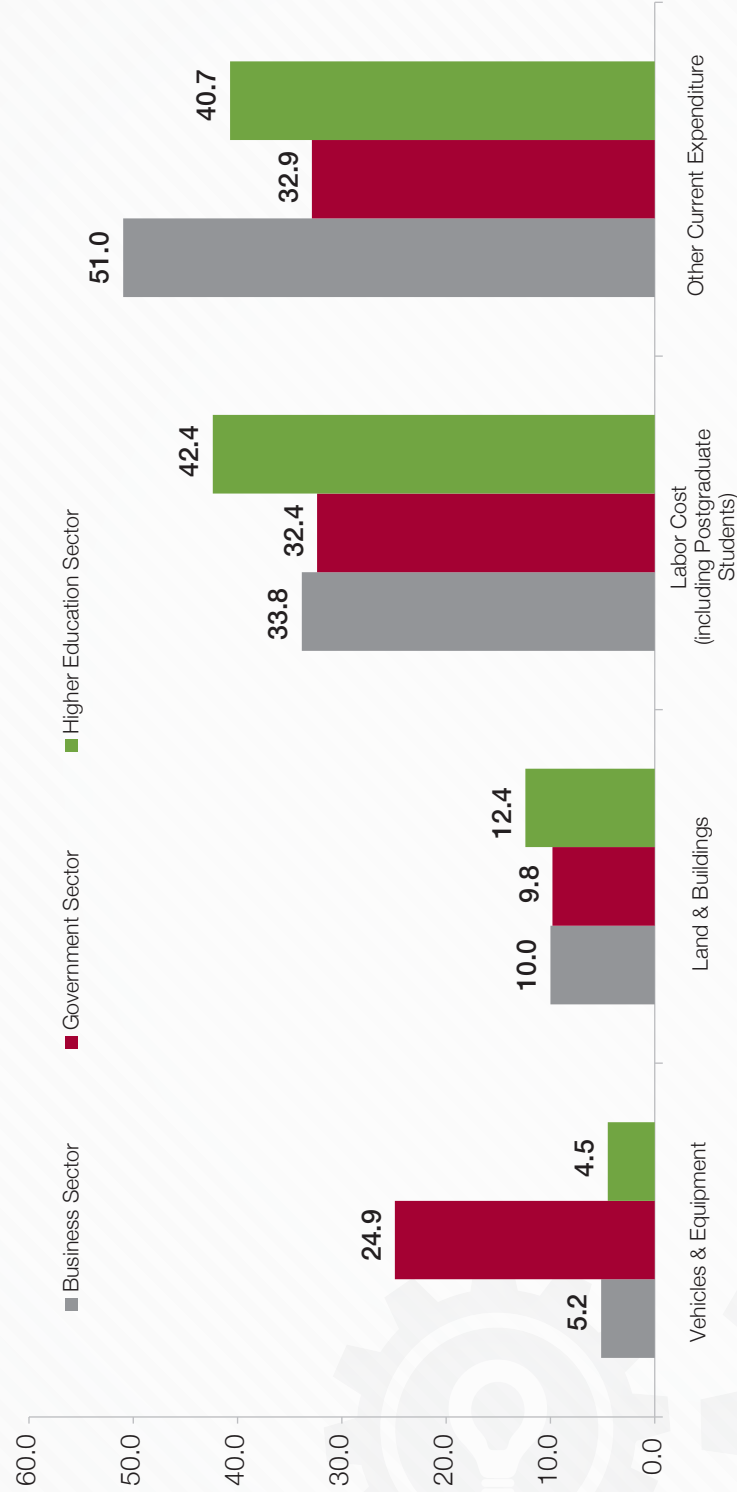
Table No. (3)

Organization Type	Total	Other Current Expenditure*	Labor Cost (including Postgraduate Students)	Capital Expenditure	
				Land & Buildings	Vehicles & Equipment
Business	Riyals	428,809,436	284,728,271	84,263,392	43,400,264
	%	100.0	33.8	10.0	5.2
Government	Riyals	345,589,137	340,132,942	103,041,000	261,888,775
	%	100.0	32.4	9.8	24.9
Higher Education	Riyals	554,972,943	577,612,902	169,029,290	61,367,830
	%	100.0	42.4	12.4	4.5
Total	Riyals	1,329,371,516	1,202,474,115	356,333,682	366,656,870
	%	100.0	36.9	10.9	11.3

*OTHER CURRENT EXPENDITURE ON R&D

Include The proportion of expenditure that is part of R&D activities such as materials, fuels and other inputs (including all running costs).

Gross Domestic Expenditure on Research and Development by Accounting Category and Sector 2012



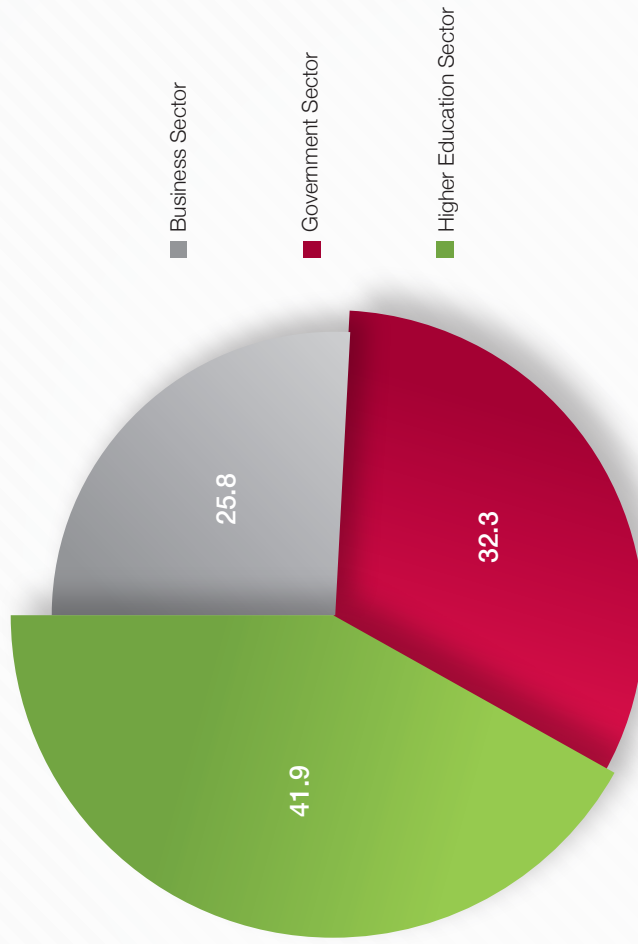
Graph No. (2)

Gross Domestic Expenditure on Research and Development by Accounting Category and Sector 2012

Table No. (4)

Organization Type	Total	Other Current Expenditure	Labor Cost (including Postgraduate Students)	Capital Expenditure	
				Land & Buildings	Vehicles & Equipment
Value in Qatari Riyal					
Business	841,201,364	428,809,436	284,728,271	84,263,392	43,400,264
Government	1,050,651,854	345,589,137	340,132,942	103,041,000	261,888,775
Higher Education	1,362,982,966	554,972,943	577,612,902	169,029,290	61,367,830
Total	3,254,836,183	1,329,371,516	1,202,474,115	356,333,682	366,656,870
Percentage out of total expenditures					
Business	25.8	13.2	8.7	2.6	1.3
Government	32.3	10.6	10.5	3.2	8.0
Higher Education	41.9	17.1	17.7	5.2	1.9
Total	100.0	40.8	36.9	10.9	11.3

Percentage of Gross Domestic Expenditure on Research and Development by type of Sector 2012



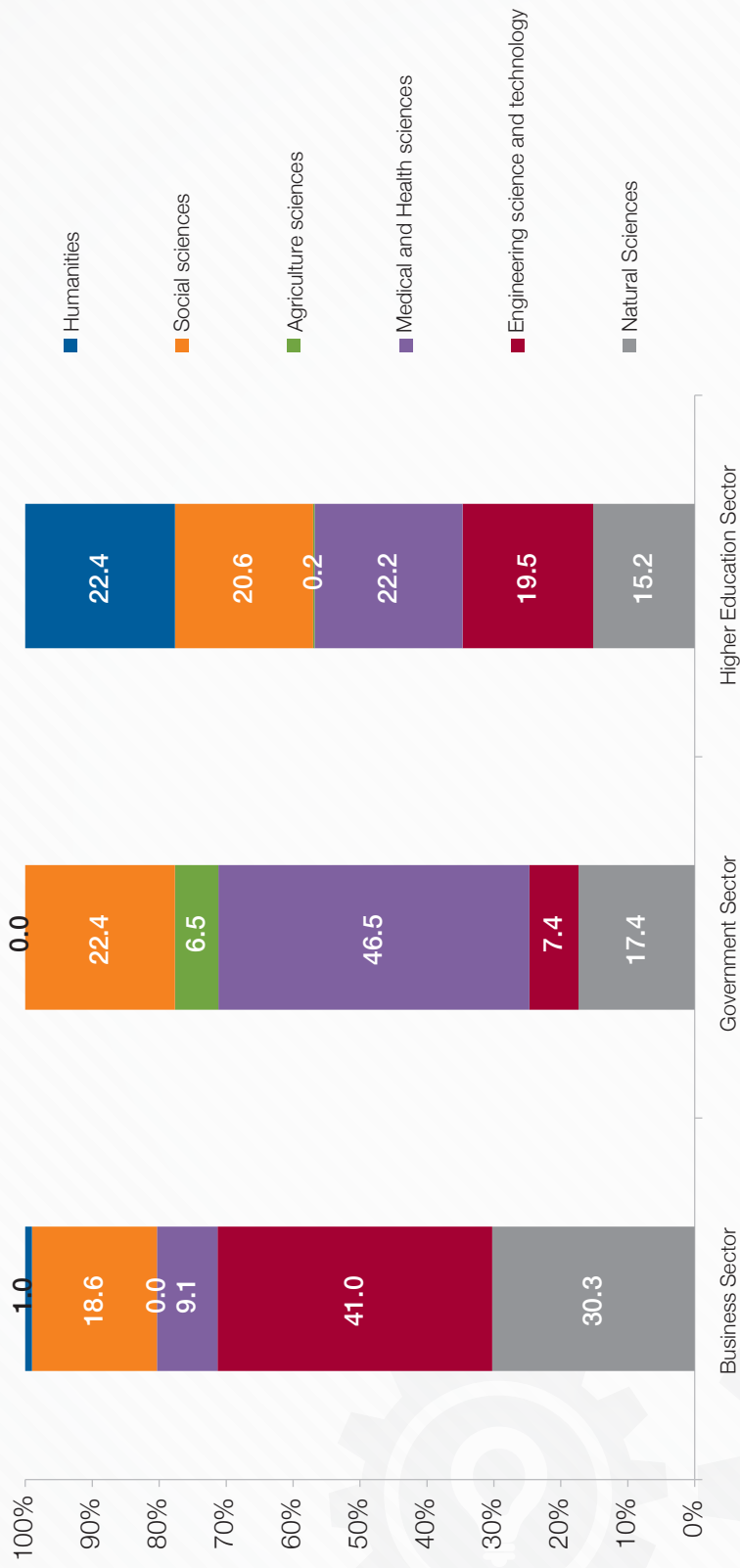
Graph No. (3)

Research and Development Expenditure by Sector & Field of Science 2012

Table No. (5)

Field of Science	Total		Higher Education		Government		Business	
	%	(M.Q.R)	%	(M.Q.R)	%	(M.Q.R)	%	(M.Q.R)
Natural Sciences	19.8	643,874,407	15.2	206,900,814	17.4	182,318,998	30.3	254,654,595
Engineering science and technology	21.1	687,655,454	19.5	265,509,082	7.4	77,253,813	41.0	344,892,559
Medical and Health sciences	26.6	866,617,675	22.2	301,900,727	46.5	488,244,097	9.1	76,472,851
Agriculture sciences	2.2	70,709,321	0.2	2,725,966	6.5	67,983,355	0.0	0
Social sciences	20.7	672,804,322	20.6	281,183,386	22.4	234,851,591	18.6	156,769,345
Humanities	9.6	313,175,005	22.4	304,762,991	0.0	0	1.0	8,412,014
Total	100.0	3,254,836,183	100.0	1,362,982,966	100.0	1,050,651,854	100.0	841,201,364

Research and Development Expenditure by Sector & Field of Science 2012



Graph No. (4)

Research and Development Expenditure by Socio-Economic Objective 2012

Table No. (6)

DESCRIPTION	Total		Higher Education		Government		Business	
	%	Value (Qatar Riyals)	%	Value (Qatar Riyals)	%	Value (Qatar Riyals)	%	Value (Qatar Riyals)
Exploration and Exploitation of the Earth Environment	8.2	266,614,528	10.0	136,298,297	2.9	30,901,525	11.8	99,414,707
Transport, telecommunication and other infrastructures	9.4	306,129,063	0.0	0	5.1	53,768,654	30.0	252,360,409
Energy	1.4	46,039,903	0.0	0	1.5	15,450,763	3.6	30,589,141
Industrial production and technology	4.8	155,112,179	0.0	0	3.1	32,755,617	14.5	122,356,562
Health	4.6	150,063,650	5.5	74,964,063	1.5	15,450,763	7.1	59,648,824
Agriculture	24.4	795,499,349	20.9	284,863,440	38.4	403,573,918	12.7	107,061,992
Education	2.5	80,343,965	0.0	0	7.6	80,343,965	0.0	0
Culture, recreation, religion and mass media	14.8	481,083,171	13.6	185,365,683	19.4	203,950,066	10.9	91,767,422
Political and social systems, structures and processes	12.8	418,165,347	30.0	408,894,890	0.9	9,270,458	0.0	0
General advancement of knowledge	5.7	184,583,972	6.0	81,778,978	6.0	63,039,111	4.7	39,765,883
Total	11.4	371,201,056	14.0	190,817,615	13.5	142,147,015	4.5	38,236,426
	100.0	3,254,836,183	100.0	1,362,982,966	100.0	1,050,651,854	100.0	841,201,364

Headcount and Full-Time Equivalent of Research and Development Personnel by Sector, Occupation and Field of Science 2012

Table No. (7)

Field of Science	Total			Higher Education		Government		Business	
	FTE (%)	FTE	Headcount (%)	FTE	Headcount	FTE	Headcount	FTE	Headcount
Researchers									
Natural sciences	4.87	95.1	5.30	161	126	27.1	32	3.0	3
Engineering & technology	30.62	597.7	24.23	736	278	86.0	132	321.1	326
Medical & health sciences	15.07	294.3	14.78	449	136	207.1	300	2.2	13
Agricultural sciences	0.55	10.7	0.92	28	8	7.5	20	0.0	0
Social sciences	7.36	143.7	8.10	246	175	55.3	56	10.3	15
Humanities	2.14	41.9	2.73	83	83	0.0	0	0.0	0
Not specified elsewhere	1.03	20.2	0.72	22	3	19.0	19	0.0	0
Sub-total	61.65	1203.5	56.78	1725	809	402.0	559	336.6	357
Support Staff									
Natural sciences	0.35	6.9	0.30	9	0	3.9	6	3.0	3
Engineering & technology	5.10	99.5	7.04	214	0	14.8	22	84.7	192
Medical & health sciences	1.67	32.6	1.61	49	16	31.0	31	0.3	2
Social sciences	0.87	17.0	0.76	23	19	3.0	3	1.0	1
Humanities	0.95	18.6	0.76	23	6	10.0	10	5.9	7
Not specified elsewhere	9.20	179.6	13.17	400	347	20.9	41	11.1	12
Sub-total	18.15	354.3	23.63	718	388	83.7	113	106.0	217
Technicians									
Natural sciences	1.20	23.4	0.89	27	11	11.4	14	1.0	2
Engineering & technology	4.30	84.0	3.06	93	1	18.0	25	65.5	67
Medical & health sciences	5.55	108.4	3.75	114	57	53.3	56	0.1	1
Agricultural sciences	0.52	10.2	0.99	30	0	10.2	30	0.0	0
Social sciences	0.46	9.0	0.30	9	0	8.0	8	1.0	1
Humanities	0.05	1.0	0.07	2	2	0.0	0	0.0	0
Not specified elsewhere	8.12	158.5	10.53	320	315	1.0	3	0.0	2
Sub-total	20.21	394.5	19.59	595	386	101.9	136	67.6	73
Total	100	1952.2	100	3038	1583	587.5	808	510.1	647

Headcount and Full-Time Equivalent by Qualification, Gender and Nationality 2012

Table No. (8)

	Qualification	Total		Higher Education		Government		Business		
		Total	Non-Qataris	Qataris	Non-Qataris	Qataris	Non-Qataris	Qataris	Non-Qataris	
Researchers	PhD, Doctorate or similar level (ISCED 6)	1011	917	94	662	63	170	18	85	13
	Bachelor or Masters programmes (ISCED 5A)	692	573	119	53	12	301	67	219	40
	All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3).	22	5	17	5	14	0	3	0	0
	Total	1725	1495	230	720	89	471	88	304	53
Support Staff	PhD, Doctorate or similar level (ISCED 6)	16	15	1	8	1	0	0	7	0
	Bachelor or Masters programmes (ISCED 5A)	444	419	25	347	14	51	6	21	5
	Higher Education Shorter occupation-oriented programmes (ISCED 5B)	36	25	11	2	0	21	8	2	3
	All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3).	222	167	55	2	14	14	13	151	28
Total	718	626	92	359	29	86	27	181	36	
Technicians	PhD, Doctorate or similar level (ISCED 6)	9	8	1	6	1	2	0	0	0
	Bachelor or Masters programmes (ISCED 5A)	506	449	57	300	13	95	29	54	15
	Higher Education Shorter occupation-oriented programmes (ISCED 5B)	75	64	11	62	4	1	5	1	2
	All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3).	5	1	4	0	0	0	4	1	0
Total	595	522	73	368	18	98	38	56	17	
Total	3038	2643	395	1447	136	655	153	541	106	

Research and Development Employees by Nationality, Gender, Occupation and Filed of Science & Sector 2012

Table No. (9)

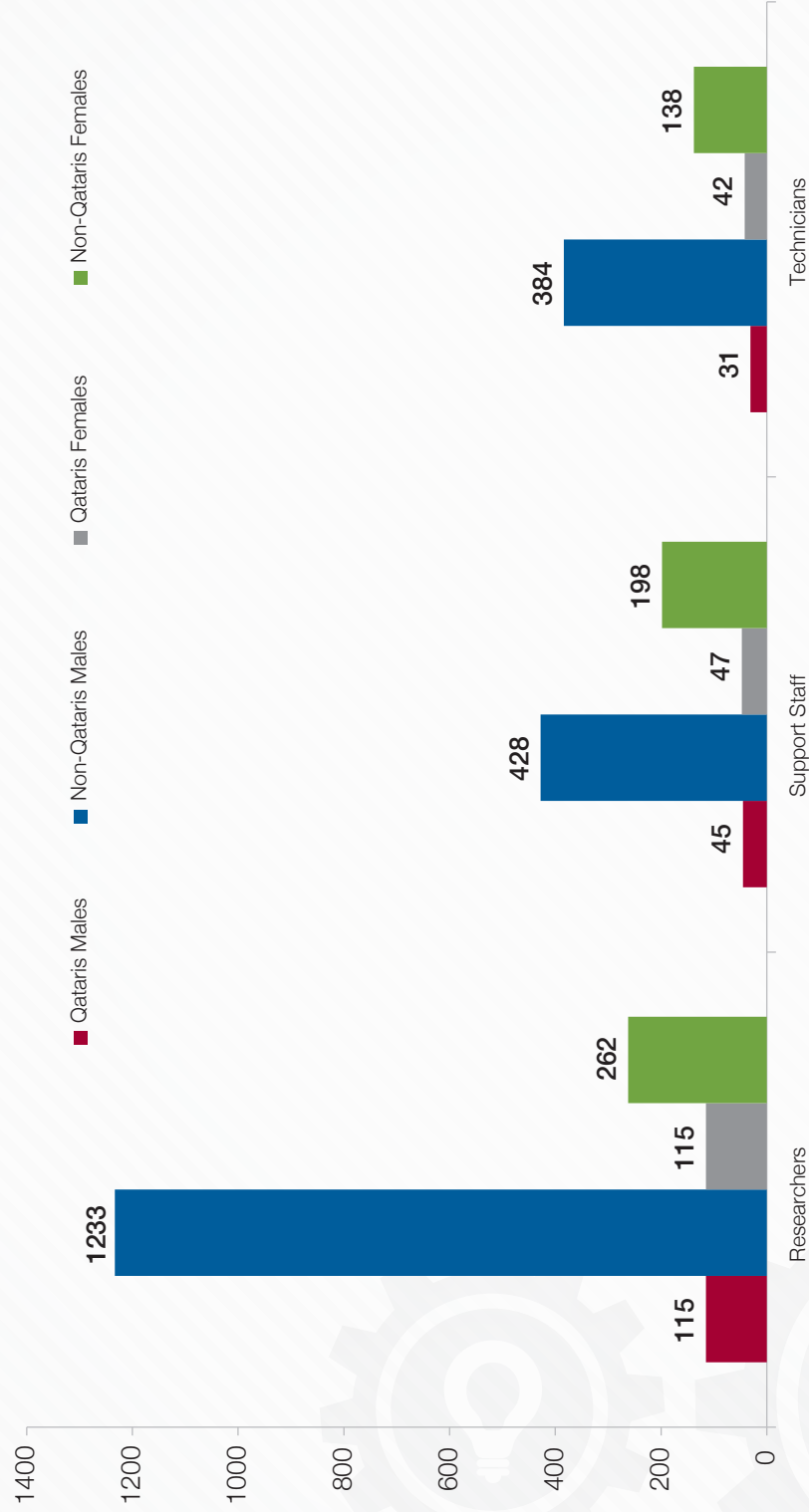
Field Science	Total		Higher Education						Government						Business													
	Total Employees(%)	Total Employees	Total		Female		Male		Total		Female		Male		Total		Female		Male									
			Non-Qatars	Qatars	Non-Qatars	Qatars	Non-Qatars	Qatars	Non-Qatars	Qatars	Non-Qatars	Qatars	Non-Qatars	Qatars	Non-Qatars	Qatars	Non-Qatars	Qatars	Non-Qatars	Qatars								
Natural sciences	5.30	161	126	24	12	12	102	90	12	32	17	15	11	3	8	21	14	7	3	0	0	3	0					
Engineering & technology	24.23	736	278	15	4	3	274	260	14	132	120	12	19	13	6	113	107	6	326	277	49	69	61	8	257	216	41	
Medical & health sciences	14.78	449	136	18	52	35	17	84	83	1	300	279	21	66	54	12	234	225	9	13	12	1	7	7	0	6	5	1
Agricultural sciences	0.92	28	8	5	3	2	6	5	1	20	12	8	3	0	3	17	12	5	0	0	0	0	0	0	0	0	0	0
Social sciences	8.10	246	175	23	52	34	18	123	118	5	56	27	29	3	22	31	24	7	15	12	3	8	7	1	7	5	2	
Humanities	2.73	83	83	77	6	28	25	3	55	52	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not specified elsewhere	0.72	22	3	0	0	0	3	3	0	19	16	3	7	5	2	12	11	1	0	0	0	0	0	0	0	0	0	0
Total	56.78	1725	809	89	162	109	53	647	611	36	559	471	88	131	78	53	428	393	35	357	304	84	75	9	273	229	44	
Natural sciences	0.30	9	0	0	0	0	0	0	0	6	6	0	3	3	0	3	3	0	3	3	0	1	1	0	2	2	0	0
Engineering & technology	7.04	214	0	0	0	0	0	0	0	22	16	6	16	12	4	6	4	2	192	162	30	50	44	6	142	118	24	
Medical & health sciences	1.61	49	16	2	14	14	2	12	2	31	25	6	26	20	6	5	5	0	2	2	2	0	1	1	0	1	0	
Social sciences	0.76	23	19	2	13	12	1	6	5	1	3	3	0	3	3	0	0	0	0	1	0	1	0	1	0	0	0	
Humanities	0.76	23	6	0	2	2	0	4	4	0	10	10	0	6	6	0	4	4	0	7	5	2	4	3	1	3	2	1
Not specified elsewhere	13.17	400	347	13	88	78	10	259	256	3	41	26	15	12	8	4	29	18	11	12	9	3	5	3	2	7	6	1
Total	23.63	718	388	29	117	94	23	271	265	6	113	86	27	66	52	14	47	34	13	217	181	62	52	10	155	129	26	
Natural sciences	0.89	27	11	9	2	9	7	2	2	0	14	10	4	10	6	4	4	4	0	2	1	1	2	1	1	0	0	0
Engineering & technology	3.06	93	1	0	0	0	1	1	0	25	22	3	6	5	1	19	17	2	67	54	13	9	6	3	58	48	10	
Medical & health sciences	3.75	114	57	53	4	54	50	4	3	0	56	48	8	18	11	7	38	37	1	1	0	1	1	0	0	0	0	
Agricultural sciences	0.99	30	0	0	0	0	0	0	0	30	12	18	15	0	15	15	12	3	0	0	0	0	0	0	0	0	0	
Social sciences	0.30	9	0	0	0	0	0	0	0	8	6	2	0	0	0	8	6	2	1	0	1	0	0	0	0	1	0	
Humanities	0.07	2	2	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Not specified elsewhere	10.53	320	315	303	12	54	50	4	261	263	8	3	0	3	0	3	0	3	0	2	0	2	1	0	1	1	0	1
Total	19.59	595	368	18	118	108	10	268	260	8	136	98	38	49	22	27	87	76	11	73	56	17	13	8	5	60	48	12
Grand Total	100	3038	1583	1447	136	397	311	86	1186	1136	50	808	655	246	152	94	562	503	59	647	541	106	159	135	24	488	406	82

Number of Research and Development Staff By Nationality, Gender and Occupational Science 2012

Table No. (10)

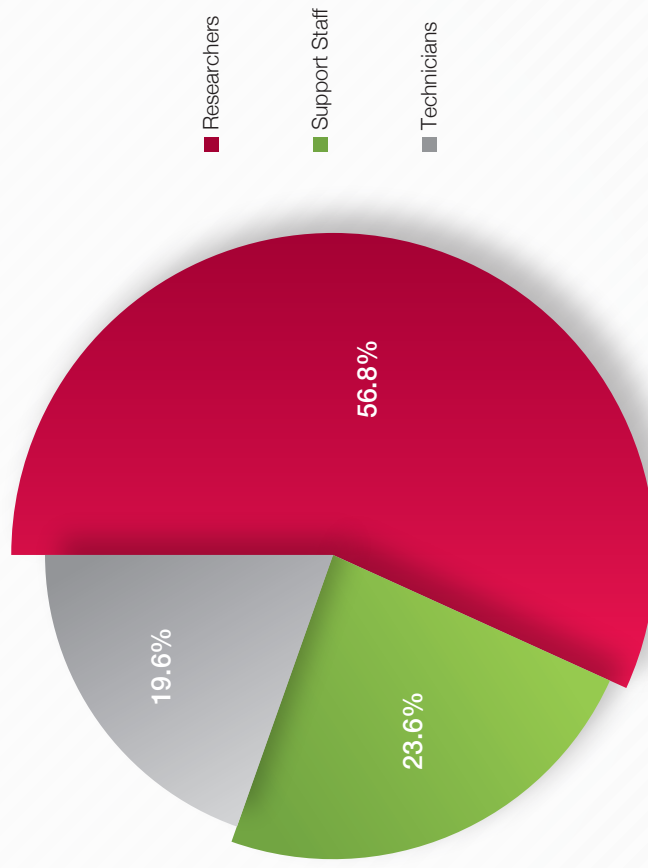
Field Science	Total Employees (%)	Total			Non-Qataris			Qataris		
		Total	Female	Male	Total	Female	Male	Total	Female	Male
Researchers		161	35	126	122	15	107	39	20	19
	Natural sciences	5.3								
	Engineering & technology	24.2	736	92	644	77	583	76	15	61
	Medical & health sciences	14.8	449	125	324	96	313	40	29	11
	Agricultural sciences	0.9	28	5	23	0	17	11	5	6
	Social sciences	8.1	246	85	161	44	147	55	41	14
	Humanities	2.7	83	28	55	25	52	6	3	3
Not specified elsewhere	0.7	22	7	15	19	5	14	3	2	1
Total	56.8	1725	377	1348	1495	262	1233	230	115	115
Support Staff		9	4	5	9	4	5	0	0	0
	Natural sciences	0.3								
	Engineering & technology	7.0	214	66	148	56	122	36	10	26
	Medical & health sciences	1.6	49	41	8	29	23	6	18	2
	Social sciences	0.8	23	17	6	20	15	5	3	2
	Humanities	0.8	23	12	11	21	11	10	2	1
	Not specified elsewhere	13.2	400	105	295	369	89	280	31	16
Total	23.6	718	245	473	626	198	428	92	47	45
Technicians		27	21	6	20	14	6	7	7	0
	Natural sciences	0.9								
	Engineering & technology	3.1	93	15	78	11	66	16	4	12
	Medical & health sciences	3.8	114	73	41	102	62	40	12	11
	Agricultural sciences	1.0	30	15	15	12	0	12	18	15
	Social sciences	0.3	9	0	9	6	0	6	3	0
	Humanities	0.1	2	1	1	2	1	1	0	0
Not specified elsewhere	10.5	320	55	265	303	50	253	17	5	12
Total	19.6	595	180	415	522	138	384	73	42	31
Total	100	3038	802	2236	2643	598	2045	395	204	191

Headaccount of Employees Research and Development by Nationality, Gender & Occupation 2012



Graph No. (5)

Percentage of Employees by Occupation 2012



Graph No. (6)



APPENDICES



NATIONAL SURVEY OF INPUTS TO RESEARCH AND EXPERIMENTAL DEVELOPMENT (R&D) ACADEMIC YEAR 2012: HIGHER EDUCATION

AUTHORITY

The Ministry of Development Planning & Statistics is mandated to conduct this Survey of the Inputs into Research and Experimental Development (R&D).

All data gathered for this survey will be kept confidential. Only the survey team will have access to individual organisation data. Raw data gathered for this survey are confidential except when an organisation gives written permission for its data to be disclosed to third parties.

Minister of Development Planning & Statistics

PURPOSE AND SCOPE OF SURVEY

This R&D survey collects data on the inputs into R&D activities performed **IN-HOUSE** by all organisations (including Business, Government, Higher Education and Not-for-Profit). It follows the guidelines for R&D Surveys of the Organisation for Economic Co-operation and Development, and the UNESCO Institute for Statistics.

The data is used for research and development planning and monitoring purposes and for measuring international competitiveness.

Kindly complete and return within **TWO WEEKS** to:

INSTITUTION AND DETAILS OF RESPONDENT

ORGANIZATION			
Name (with title)		Tel	()
Designation		Fax	()
Date		Cell	()
Signature		E-mail	

THE FOLLOWING GUIDELINES SHOULD BE FOLLOWED:

Scope of survey

- The survey requests data on **R&D performed by your organization** in the territory of Qatar.
- R&D that is outsourced by the organization must be reported by the entity that performs the R&D.

Definition of R&D

Research and Experimental Development (R&D) is defined as follows:

- **Research** is creative work and original investigation undertaken on a systematic basis to gain new knowledge, including knowledge of humanity, culture and society.
- **Experimental development** is the application of research findings or other scientific knowledge for the creation of new or significantly improved products, services or processes.
- R&D involves **novelty**, something new. It adds to the world stock of knowledge and techniques in the area being studied.

Examples of R&D:

Investigating chemical kinetics of new catalysts is **basic research**; application of chemistry to the properties of reactor linings is **applied research**. Designing new flexible borehole drill segments may involve **experimental development**.

It is sometimes difficult to make a precise distinction between these three types of R&D. A pragmatic way of deciding is provided by checking if the results are published in a journal, and if so, to use the journal title as a guide e.g. *Advances in Applied Ceramics* covers applied research.

R&D in the services sector includes software development and systems engineering. The test for novelty lies in determining if new algorithms are being developed that become company trade secrets.

Novel ways of mathematical modelling also count as R&D.

The R&D Survey covers:

- Activities of skilled personnel directly engaged in R&D.
- The provision of professional, technical, administrative or clerical support and/or assistance to personnel directly engaged in R&D.
- Natural sciences, engineering, medicine, agricultural sciences, social sciences and humanities.
- R&D projects performed for other parties.
- R&D leading to a first working prototype.
- All activities that are paid for as part of the R&D project value chain.

R&D Excludes:

- General purpose or routine data collection.
- Provision of routine scientific and technical services such as standards, testing, quality control, and information.
- Feasibility studies (except into R&D projects).
- Specialised routine medical care, for example routine pathology services.
- The commercial, legal and administrative aspects of patenting, copyrighting or licensing activities.
- Routine computer programming, systems work or software maintenance, routine customization or debugging.

FOR FURTHER INFORMATION CONTACT:

FOR OFFICIAL USE ONLY

ID #
ENUMERATOR
VERIFIED 1
VERIFIED 2
SIGNED OFF
CAPTURED

PART 1: GENERAL INFORMATION

H1. Name of Institution

H2. Name of Unit (Faculty etc.)

H3. Financial year (dd/mm/yyyy)

From	<input type="text"/>	to	<input type="text"/>
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H4. Legal status

Public	<input type="checkbox"/>	Private	<input type="checkbox"/>	Private (Foreign)	<input type="checkbox"/>
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H5A. Total number of employees
(include staff on contract for six months or longer)

H5B. Gross annual budget (Riyal)

H6. If the institution performed IN-HOUSE R&D complete Items H7 – H14

If the institution did not perform IN-HOUSE R&D check box as NIL



PART 2: IN-HOUSE R&D PERSONNEL

Report for all R&D personnel, both permanent and on contract (6 months or longer).

Researchers

Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the planning and management of the projects concerned.

Technicians directly supporting R&D

Persons doing technical tasks in support of R&D, normally under the direction and supervision of a Researcher.

Other personnel directly supporting R&D

Other personnel include skilled and unskilled crafts persons, secretarial and clerical staff participating in R&D projects or directly associated with R&D Projects.

Do not include the count of personnel indirectly supporting R&D.

Typical examples are transportation, storage, cleaning, repair, maintenance and security activities, as well as administration and clerical activities undertaken not exclusively for R&D (such as the activities of central finance and personnel departments).

Allowance for these should be made in other current R&D expenditure (Item H11D)

H7. HEADCOUNT OF R&D PERSONNEL

'HEADCOUNT' (HC)

HC data cover the total number of persons who are mainly or partially employed in R&D. This includes all staff employed whether permanent, contract, full-time or part-time.



H7A. Headcount of R&D personnel by Type, Gender, Nationality (Qataris and Non-Qataris) and Highest qualification

Qualifications are specified according to the International Standard Classification for Education (ISCED) 1997.

(1) RESEARCHERS (incl. Research Executives and Research Managers)

Highest qualification	Male		Female		Total
	Qataris	Non-Qataris	Qatar	Non-Qataris	
PhD, Doctorate or similar level (ISCED 6)					
Bachelor or Masters programmes (ISCED 5A)					
Higher Education Shorter occupation-oriented programmes (ISCED 5B)					
All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3)					
RESEARCHERS					

(2) TECHNICIANS

Highest qualification	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD, Doctorate or similar level (ISCED 6)					
Bachelor or Masters programmes (ISCED 5A)					
Higher Education Shorter occupation-oriented programmes (ISCED 5B)					
All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3)					
TECHNICIANS					

(3) OTHER SUPPORT STAFF

Highest qualification	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD, Doctorate or similar level (ISCED 6)					
Bachelor or Masters programmes (ISCED 5A)					
Higher Education Shorter occupation-oriented programmes (ISCED 5B)					
All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3)					
SUPPORT STAFF					

H7A: TOTAL R&D PERSONNEL (1+2+3)					
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H7B. Headcount of R&D personnel by Type, Gender, Nationality and Broad Field of Science**(1) RESEARCHERS (incl. Research Executives and Research Managers)**

Field of Science	Headcount				
	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences					
Engineering & technology					
Medical & health sciences					
Agricultural sciences					
Social sciences					
Humanities					
Not specified elsewhere					
RESEARCHERS (same as in Table H7A)					

(2) TECHNICIANS

Field of Science	Headcount				
	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences					
Engineering & technology					
Medical & health sciences					
Agricultural sciences					
Social sciences					
Humanities					
Not specified elsewhere					
TECHNICIANS (same as in Table H7A)					

43

(3) OTHER SUPPORT STAFF

Field of Science	Headcount				
	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences					
Engineering & technology					
Medical & health sciences					
Agricultural sciences					
Social sciences					
Humanities					
Not specified elsewhere					
SUPPORT STAFF (same as in Table H7A)					

TOTAL HEADCOUNT R&D PERSONNEL					
--	--	--	--	--	--

H8. HEADCOUNT AND FULL-TIME EQUIVALENT (FTE)

In order to calculate the labour cost it is first necessary to determine the FTE

A full-time equivalent (FTE) equals the work of a person for a year: 1 FTE is equal to 1 person working full-time on R&D for a period of 1 year, or more persons working part-time or for a shorter period, totalling one person-year. An employee can work a maximum of 1 FTE in a year.

The following formula can be used to calculate R&D personnel in FTE.

$$\text{FTE} = (\text{Dedication to the employment: FT/PT}) \times (\text{Portion of the year active on R\&D}) \times (\text{Time or portion spent on R\&D})$$

H8A. FTE by Personnel Category and Qualification

(1) RESEARCHERS (includes Research Executives and Research Managers)

Qualification	Headcount <i>Same as Table H7A</i>					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD or similar (ISCED 6)										
Bachelor or Masters (ISCED 5A)										
Higher Education Shorter occupation-oriented (ISCED 5B)										
All other: post-secondary non-tertiary programmes (ISCED 4) & upper secondary (ISCED 3)										
RESEARCHERS										

(2) TECHNICIANS

Qualification	Headcount <i>Same as Table H7A</i>					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD or similar (ISCED 6)										
Bachelor or Masters (ISCED 5A)										
Higher Education Shorter occupation-oriented (ISCED 5B)										
All other: post-secondary non-tertiary programmes (ISCED 4) & upper secondary (ISCED 3)										
TECHNICIANS										

(3) SUPPORT STAFF

Qualification	Headcount <i>Same as Table H7A</i>					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD or similar (ISCED 6)										
Bachelor or Masters (ISCED 5A)										
Higher Education Shorter occupation-oriented (ISCED 5B)										
All other: post-secondary non-tertiary programmes (ISCED 4) & upper secondary (ISCED 3)										
SUPPORT STAFF										

TOTAL FTE R&D PERSONNEL										
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H9. Headcount of Postgraduate Students by Type, Gender, Nationality (Qataris and Non-Qataris)

Type of Certificate	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Doctoral students					
Postdoctoral Fellows					
TOTAL					

H10. FTE of Postgraduate Students by Gender and Nationality (Qataris and Non-Qataris)

Using the headcounts of all R&D post-doctoral fellows and postgraduate students reported in Q9, provide the Full Time Equivalents (FTE) on R&D.

Type of Certificate	Male		Female		Total FTE
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Doctoral students					
Postdoctoral Fellows					
TOTAL FTE					



H12. SOURCES OF FUNDS FOR IN-HOUSE R&D

Provide a breakdown of total R&D expenditure by the sources of funds.

H12A. Institution

Riyal

Own funds								
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H12B. Government (include Departments/Ministries and grant making Institutes)

Grants, especially general purpose including studentships								
Contracts to perform directed R&D								

H12C. Local Businesses

Contracts to perform R&D								
--------------------------	--	--	--	--	--	--	--	--

H12D. Other national sources

Not for Profit Organizations (including Foundations)								
Individual Donations								
Other Higher Education institutions								

H12E. Foreign sources

Parent Institution								
Philanthropic organizations and Foundations								
All other foreign sources								

TOTAL R&D EXPENDITURE (to equal Item 11D) Sum of H12A to H12E								
--	--	--	--	--	--	--	--	--



PART 4: CATEGORIES OF IN-HOUSE R&D EXPENDITURE

H13. IN-HOUSE R&D EXPENDITURE BY TYPE OF R&D.

H13A. Basic Research

Work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without a specific application in view

Analyses of properties, structures and relationships with a view to formulating and testing hypotheses, theories or laws.

The results of basic research are usually published in peer-reviewed scientific journals

(Percentage)

H13B. Applied Research

Original investigation to acquire new knowledge with a specific application in view.

Activities that determine the possible uses for the findings of basic research.

The results of applied research are intended primarily to be valid for a single or limited number of products, operations, methods, or systems.

Applied research develops ideas into operational form.

Information or knowledge derived from applied research may be published in peer-reviewed journals or subjected to other forms of intellectual property protection.

(Percentage)

H13C. Experimental Development

Systematic work using existing knowledge for creating new or improved materials, products, processes or services, or improving substantially those already produced or installed.

(Percentage)

TOTAL (H13A + H13B + H13C)

1 0 0



H14. FUNCTIONAL INTENTION

H14A. FIELD OF SCIENCE (FOS)

Classify R&D expenditure according to the Two Digit Field of Science (FOS) with percentage share

[See Appendix B of Instruction Manual]

The FOS Codes are based on recognised academic disciplines and emerging areas of study.

FOS Codes			%		FOS Codes			%	
FOS					FOS				
FOS					FOS				
FOS					FOS				
FOS					FOS				
FOS					FOS				
Total					1	0	0		

H14B. Classify R&D expenditure by Socio-Economic Objective and percentage share.

[See Appendix C of Instruction Manual]

The SEO classification provides an indication of the main beneficiary of your R&D activities.

SEO					SEO				
SEO					SEO				
SEO					SEO				
SEO					SEO				
SEO					SEO				
Total					1	0	0		



PART 5: PUBLICATION OUTPUTS OF IN-HOUSE R&D EXPENDITURE

H15. PUBLICATION OUTPUTS.

- Indicate the number of publications by publication type that Researchers at your organization authored during the reporting period.
- Only count publications that include at least one author that lists the address of the organization e.g. University – Qatar.

H15A. Peer reviewed articles (Web of Science; Scopus)				
H15B. Books				
H15C. Client reports				
H15D. Policy briefs; other				

THANK YOU FOR YOUR TIME AND EFFORT



NATIONAL SURVEY OF INPUTS TO RESEARCH AND EXPERIMENTAL DEVELOPMENT (R&D) FINANCIAL YEAR 2012: GOVERNMENT

AUTHORITY

The Ministry of Development Planning & Statistics is mandated to conduct this Survey of the Inputs into Research and Experimental Development (R&D).

All data gathered for this survey will be kept confidential. Only the survey team will have access to individual organisation data. Raw data gathered for this survey are confidential except when an organisation gives written permission for its data to be disclosed to third parties.

Minister of Development Planning & Statistics

PURPOSE AND SCOPE OF SURVEY

This R&D survey collects data on the inputs into R&D activities performed IN-HOUSE by all organisations (including Business, Government, Higher Education and Not-for Profit). It follows the guidelines for R&D Surveys of the Organization for Economic Cooperation and Development, and the UNESCO Institute for Statistics.

The data is used for research and development planning and monitoring purposes and for measuring international competitiveness.

Kindly complete and return this questionnaire within TWO WEEKS to:

DETAILS OF ORGANIZATION OFFICIAL COMPLETING THE QUESTIONNAIRE

ORGANIZATION		Tel	()
		Fax	()
Name (with title)		Tel	()
Designation		Fax	()
Date		Cell	()
Signature		E-mail	

THE FOLLOWING GUIDELINES SHOULD BE FOLLOWED:

Scope of survey

- The survey requests data on **R&D performed by your organization** in the territory of Qatar.
- R&D that is outsourced by the organization must be reported by the entity that performs the R&D.

Definition of R&D

Research and Experimental Development (R&D) is defined as follows:

- **Research** is creative work and original investigation undertaken on a systematic basis to gain new knowledge, including knowledge of humanity, culture and society.
- **Experimental development** is the application of research findings or other scientific knowledge for the creation of new or significantly improved products, services or processes.
- R&D involves **novelty**, something new. It adds to the world stock of knowledge and techniques in the area being studied.

Examples of R&D:

Investigating chemical kinetics of new catalysts is **basic research**; application of chemistry to the properties of reactor linings is **applied research**. Designing new flexible borehole drill segments may involve **experimental development**.

It is sometimes difficult to make a precise distinction between these three types of R&D. A pragmatic way of deciding is provided by checking if the results are published in a journal, and if so, to use the journal title as a guide e.g. Advances in Applied Ceramics would be applied research

R&D in the services sector includes software development and systems engineering. The test for novelty lies in determining if new algorithms are being developed that become company trade secrets.

Novel ways of mathematical modelling also count as R&D.

The R&D Survey covers:

- Activities of skilled personnel directly engaged in R&D.
- The provision of professional, technical, administrative or clerical support and/or assistance to personnel directly engaged in R&D.
- Natural sciences, engineering, medicine and social science.
- R&D projects performed for other parties.
- R&D leading to a first working prototype
- All activities that are paid for as part of the R&D project value chain

R&D Excludes:

- General purpose or routine data collection.
- Provision of routine scientific and technical services such as standards, testing, quality control, and information..
- Feasibility studies (except into R&D projects).
- Specialised routine medical care, for example routine pathology services.
- The commercial, legal and administrative aspects of patenting, copyrighting or licensing activities.
- Routine computer programming, systems work or software maintenance, routine customization or debugging.

FOR FURTHER INFORMATION CONTACT:

FOR OFFICIAL USE ONLY

ID #
ENUMERATOR
VERIFIED 1
VERIFIED 2
SIGNED OFF
CAPTURED

PART 1: GENERAL INFORMATION

G1. Department or Organization

G2. Financial year (dd/mm/yyyy)

From		to	
------	--	----	--

G3. Total number of all employees

(include staff on contract for six months or longer)

--	--	--	--	--	--

G4. Gross annual budget (Riyal)

--	--	--	--	--	--

G5. If the entity performed IN-HOUSE R&D complete Items G6 – G11

If the entity did not perform IN-HOUSE R&D check this box as NIL



PART 2: IN-HOUSE R&D PERSONNEL

Report for all R&D personnel, both permanent and on contract (6 months or longer).

Researchers

Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the planning and management of the projects concerned.

Technicians directly supporting R&D

Persons doing technical tasks in support of R&D, normally under the direction and supervision of a Researcher.

Other personnel directly supporting R&D

Other personnel include skilled and unskilled crafts persons, secretarial and clerical staff participating in R&D projects or directly associated with R&D Projects.

Do not include the count of personnel indirectly supporting R&D.

Typical examples are transportation, storage, cleaning, repair, maintenance and security activities, as well as administration and clerical activities undertaken not exclusively for R&D (such as the activities of central finance and personnel departments).

Allowance for these should be made in other current R&D expenditure (Item G8C)

G6. HEADCOUNT OF R&D PERSONNEL

'HEADCOUNT' (HC)

HC data cover the total number of persons who are mainly or partially employed in R&D.
This includes staff employed whether permanent, contract, full-time or part-time.



G6A. Headcount of R&D personnel by Type, Gender, Nationality (Qataris and Non-Qataris) and Highest qualification

Qualifications are specified according to the International Standard Classification for Education (ISCED).

(1) RESEARCHERS (incl. Research Executives and Research Managers)

Highest qualification	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD, Doctorate or similar level (ISCED 6)					
Bachelor or Masters programmes (ISCED 5A)					
Higher Education Shorter occupation-oriented programmes (ISCED 5B)					
All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3)					
RESEARCHERS					

(2) TECHNICIANS

Highest qualification	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD, Doctorate or similar level (ISCED 6)					
Bachelor or Masters programmes (ISCED 5A)					
Higher Education Shorter occupation-oriented programmes (ISCED 5B)					
All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3)					
TECHNICIANS					

55

(3) OTHER SUPPORT STAFF

Highest qualification	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD, Doctorate or similar level (ISCED 6)					
Bachelor or Masters programmes (ISCED 5A)					
Higher Education Shorter occupation-oriented programmes (ISCED 5B)					
All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3)					
SUPPORT STAFF					

G6A: TOTAL R&D PERSONNEL (1+2+3)					
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G6B. Headcount of R&D personnel by Type, Gender, Nationality and speciality by Broad Field of Science

(1) RESEARCHERS (incl. Research Executives and Research Managers)

Field of Science	Headcount				Total
	Male		Female		
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences					
Engineering & technology					
Medical & health sciences					
Agricultural sciences					
Social sciences					
Humanities					
Not specified elsewhere					
RESEARCHERS					

(2) TECHNICIANS

Field of Science	Headcount				Total
	Male		Female		
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences					
Engineering & technology					
Medical & health sciences					
Agricultural sciences					
Social sciences					
Humanities					
Not specified elsewhere					
TECHNICIANS					

56

(3) OTHER SUPPORT STAFF

Field of Science	Headcount				Total
	Male		Female		
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences					
Engineering & technology					
Medical & health sciences					
Agricultural sciences					
Social sciences					
Humanities					
Not specified elsewhere					
SUPPORT STAFF					

G7. HEADCOUNT AND FULL-TIME EQUIVALENT (FTE)

In order to calculate the labour cost it is first necessary to determine the FTE

'FULL TIME EQUIVALENT' (FTE) = Annual duration of employment x time committed

The FTE equals the work of a person for a year: 1 FTE is equal to 1 person working full-time on R&D for a period of 1 year, or more persons working part-time or for a shorter period, totalling one person-year. An employee can work a maximum of 1 FTE in a year.

G7A. FTE by Personnel Category and Qualification

(1) RESEARCHERS (includes Research Executives and Research Managers)

Qualification	Headcount					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD or similar (ISCED 6)										
Bachelor or Masters (ISCED 5A)										
Higher Education Shorter occupation-oriented (ISCED 5B)										
All other: post-secondary non-tertiary programmes (ISCED 4) & upper secondary (ISCED 3)										
RESEARCHERS										

(2) TECHNICIANS

Qualification	Headcount					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD or similar (ISCED 6)										
Bachelor or Masters (ISCED 5A)										
Higher Education Shorter occupation-oriented (ISCED 5B)										
All other: post-secondary non-tertiary programmes (ISCED 4) & upper secondary (ISCED 3)										
TECHNICIANS										

(3) SUPPORT STAFF

Qualification	Headcount					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD or similar (ISCED 6)										
Bachelor or Masters (ISCED 5A)										
Higher Education Shorter occupation-oriented (ISCED 5B)										
All other: post-secondary non-tertiary programmes (ISCED 4) & upper secondary (ISCED 3)										
SUPPORT STAFF										

G7A: TOTAL R&D PERSONNEL (1+2+3)

G9. SOURCES OF FUNDS FOR IN-HOUSE R&D

Provide a breakdown of total R&D expenditure by the sources of funds.

G9A. Direct budget

Riyal

Internal funds								
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G9B. Government (include Departments/Ministries and grant making Institutes)

Other transfers and Grants								
Contracts to perform directed R&D								

G9C. Local Businesses

Contracts to perform R&D								
--------------------------	--	--	--	--	--	--	--	--

G9D. Other national sources

Not for Profit Organizations (including Foundations)								
Individual Donations								
Higher Education institutions								

G9E. Foreign sources

Businesses								
Philanthropic organizations and Foundations								
All other foreign sources								

TOTAL R&D EXPENDITURE (to equal Item G8D)								
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PART 4: CATEGORIES OF IN-HOUSE R&D EXPENDITURE

G10. IN-HOUSE R&D EXPENDITURE BY TYPE OF R&D.

G10A. Basic Research

Work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without a specific application in view

Analyses of properties, structures and relationships with a view to formulating and testing hypotheses, theories or laws.

The results of basic research are usually published in peer-reviewed scientific journals

(Percentage)

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G10B. Applied Research

Original investigation to acquire new knowledge with a specific application in view.

Activities that determine the possible uses for the findings of basic research.

The results of applied research are intended primarily to be valid for a single or limited number of products, operations, methods, or systems.

Applied research develops ideas into operational form.

Information or knowledge derived from applied research may be published in peer-reviewed journals or subjected to other forms of intellectual property protection.

(Percentage)

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G10C. Experimental Development

Systematic work using existing knowledge for creating new or improved materials, products, processes or services, or improving substantially those already produced or installed.

(Percentage)

--	--	--

TOTAL	1	0	0
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G11. FUNCTIONAL INTENTION

G11A. FIELD OF SCIENCE (FOS)

Classify R&D expenditure according to the Two Digit Field of Science (FoS) with percentage share

[See Appendix B]

The FoS Codes are based on recognised academic disciplines and emerging areas of study.

FOS Codes			%		FOS Codes			%	
FOS					FOS				
FOS					FOS				
FOS					FOS				
FOS					FOS				
FOS					FOS				
Total					1	0	0		

G11B. Classify R&D expenditure by Socio-Economic Objective and percentage share.

[See Appendix C]

SEO					SEO				
SEO					SEO				
SEO					SEO				
SEO					SEO				
SEO					SEO				
Total					1	0	0		

The SEO classification provides an indication of the main beneficiary of your R&D activities.



THANK YOU FOR YOUR TIME AND EFFORT





NATIONAL SURVEY OF INPUTS TO RESEARCH AND EXPERIMENTAL DEVELOPMENT (R&D) FINANCIAL YEAR 2012: BUSINESS

AUTHORITY

The Ministry of Development Planning & Statistics is mandated to conduct this Survey of the Inputs into Research and Experimental Development (R&D).

All data gathered for this survey will be kept confidential. Only the survey team will have access to individual organisation data. Raw data gathered for this survey are confidential except when an organisation gives written permission for its data to be disclosed to third parties.

Minister of Development Planning & Statistics

PURPOSE AND SCOPE OF SURVEY

This R&D survey collects data on the inputs into R&D activities performed IN-HOUSE by all organisations (including Business, Government, Higher Education and Not-for Profit). It follows the guidelines for R&D Surveys of the Organization for Economic Cooperation and Development, and the UNESCO Institute for Statistics.

The data is used for research and development planning and monitoring purposes and for measuring international competitiveness.

Kindly complete and return this questionnaire within TWO WEEKS to:

Kindly provide details of the COMPANY and the PERSON COMPLETING the questionnaire

COMPANY	
PERSON (with title)	
Designation	
Date	
Signature	

Tel	()
Fax	()
Tel	()
Fax	()
Cell	()
E-mail	

FOLLOW THESE GUIDELINES:

Scope of survey

- The survey requests data on **R&D performed by the company** in the territory of Qatar.
- R&D that is outsourced by your company should be reported by the entity that performs the R&D.

Definition of R&D

Research and Experimental Development (R&D) is defined as follows:

- **Research** is creative work and original investigation undertaken on a systematic basis to gain new knowledge, including knowledge of humanity, culture and society.
- **Experimental development** is the application of research findings or other scientific knowledge for the creation of new or significantly improved products, services or processes.

R&D involves **novelty**, something new. It adds to the world stock of knowledge and techniques in the area being studied.

Examples of R&D:

Investigating chemical kinetics of new catalysts is **basic research**; application of chemistry to the properties of reactor linings is **applied research**. Designing new flexible borehole drill segments may involve **experimental development**.

It is sometimes difficult to make a precise distinction between these three types of R&D. A pragmatic way of deciding is provided by checking if the results are published in a journal, and if so, to use the journal title as a guide e.g. Advances in Applied Ceramics would suggest applied research.

R&D in the services sector includes software development and systems engineering. The test for novelty in these fields lies in determining if new algorithms are being developed that become company trade secrets.

Novel ways of mathematical modelling also count as R&D.

The R&D Survey includes:

- Activities of skilled personnel directly engaged in R&D.
- The provision of professional, technical, administrative or clerical support and/or assistance to personnel directly engaged in R&D.
- Natural sciences, engineering, medicine and social science.
- R&D projects performed for other parties.
- R&D leading to a first working prototype
- All activities that are paid for as part of the R&D project value chain

The R&D Survey excludes:

- General purpose or routine data collection.
- Provision of routine scientific and technical services such as standards, testing, quality control, and information..
- Feasibility studies (except into R&D projects).
- Specialised routine medical care, for example routine pathology services.
- The commercial, legal and administrative aspects of patenting, copyrighting or licensing activities.
- Routine computer programming, systems work or software maintenance, routine customization or debugging.

FOR FURTHER INFORMATION CONTACT:

FOR OFFICIAL USE ONLY

ID #
ENUMERATOR
VERIFIED 1
VERIFIED 2
SIGNED OFF
CAPTURED

PART 1: GENERAL INFORMATION

B1A. Registered name of Company:

B1B. Trading as:

B2B. List the principal activities and/or National Classification/International Standard Industrial Classification (ISIC) code (see Appendix A) from which your company derives its main income.

Activities	ISIC	Company Income Obtained (%)

B3. Parent Company (if applicable) with % ownership

	%
--	---

B4. Approximate foreign/local ownership

Qatar	%
	%
	%
	%
Domestic	%
TOTAL	100

B5. Financial year (dd/mm/yyyy)

From		to	
------	--	----	--

B6. Total number of all employees

(include staff on contract for six months or longer)

--	--	--	--	--	--

B7. Gross Sales Revenue or Turnover (Riyal)

--	--	--	--	--	--

B8. If the company performed IN-HOUSE R&D complete Items B9 – B14

If the company did not perform IN-HOUSE R&D check this box as NIL



PART 2: R&D PERSONNEL

Report for all R&D personnel, both permanent and on contract (6 months or longer).

Researchers

Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the planning and management of the projects concerned.

Technicians directly supporting R&D

Persons doing technical tasks in support of R&D, normally under the direction and supervision of a Researcher.

Other personnel directly supporting R&D

Other personnel include skilled and unskilled crafts persons, secretarial and clerical staff participating in R&D projects or directly associated with R&D Projects.

Do **not** include the count of personnel indirectly supporting R&D.

Typical examples are transportation, storage, cleaning, repair, maintenance and security activities, as well as administration and clerical activities undertaken not exclusively for R&D (such as the activities of central finance and personnel departments).

Allowance for these should be made in other current R&D expenditure (Item B11D)

B9. HEADCOUNT OF R&D PERSONNEL

'HEADCOUNT' (HC)

HC data cover the total number of persons who are mainly or partially employed in R&D.
This includes all staff employed whether permanent, contract, full-time or part-time.



B9A. Headcount of R&D personnel by Type, Gender, Nationality (Qataris and Non-Qataris) and Highest qualification.

Qualifications are specified according to the International Standard Classification for Education (ISCED).

(1) RESEARCHERS (incl. Research Executives and Research Managers)

Highest qualification	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD, Doctorate or similar level (ISCED 6)					
Bachelor or Masters programmes (ISCED 5A)					
Higher Education Shorter occupation-oriented programmes (ISCED 5B)					
All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3)					
RESEARCHERS					

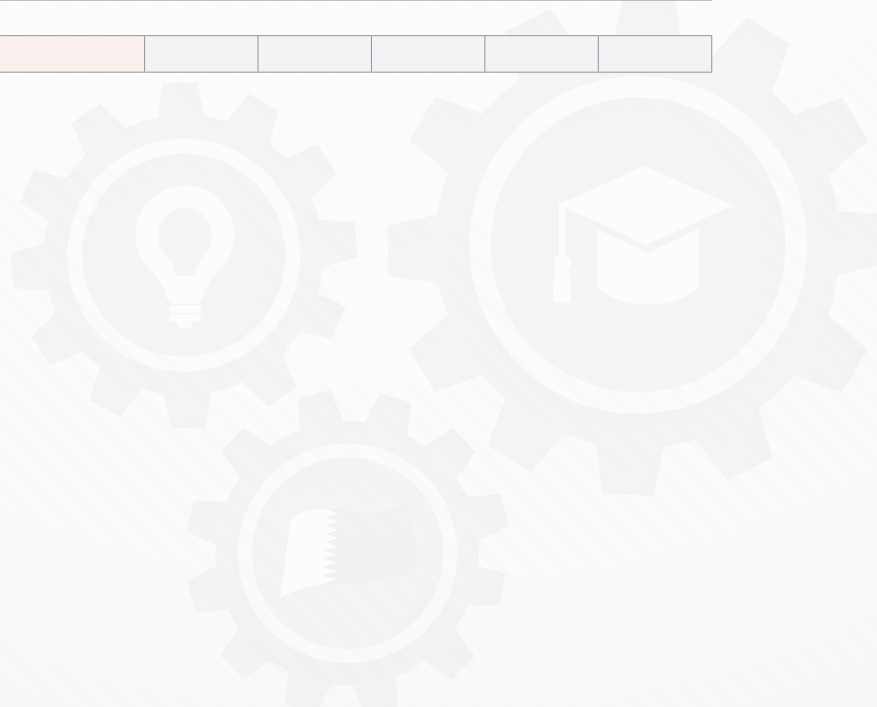
(2) TECHNICIANS

Highest qualification	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD, Doctorate or similar level (ISCED 6)					
Bachelor or Masters programmes (ISCED 5A)					
Higher Education Shorter occupation-oriented programmes (ISCED 5B)					
All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3)					
TECHNICIANS					

(3) OTHER SUPPORT STAFF

Highest qualification	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD, Doctorate or similar level (ISCED 6)					
Bachelor or Masters programmes (ISCED 5A)					
Higher Education Shorter occupation-oriented programmes (ISCED 5B)					
All other qualifications: including post-secondary non-tertiary programmes (ISCED 4) and upper secondary programmes (ISCED 3)					
SUPPORT STAFF					

B9A: TOTAL R&D PERSONNEL (1+2+3)					
---	--	--	--	--	--



B9B. Headcount of R&D personnel by Type, Gender, Nationality and speciality by Broad Field of Science**(1) RESEARCHERS (incl. Research Executives and Research Managers)**

Field of Science	Headcount				Total
	Male		Female		
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences					
Engineering & technology					
Medical & health sciences					
Agricultural sciences					
Social sciences					
Humanities					
Not specified elsewhere					
RESEARCHERS					

(2) TECHNICIANS

Field of Science	Headcount				Total
	Male		Female		
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences					
Engineering & technology					
Medical & health sciences					
Agricultural sciences					
Social sciences					
Humanities					
Not specified elsewhere					
TECHNICIANS					

(3) OTHER SUPPORT STAFF

Field of Science	Headcount				Total
	Male		Female		
	Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences					
Engineering & technology					
Medical & health sciences					
Agricultural sciences					
Social sciences					
Humanities					
Not specified elsewhere					
SUPPORT STAFF					

B10. HEADCOUNT, FULL-TIME EQUIVALENT (FTE) AND LABOUR COST

In order to calculate the labour cost it is first necessary to determine the FTE

'FULL TIME EQUIVALENT' (FTE) = Annual duration of employment x time committed

The FTE equals the work of a person for a year: 1 FTE is equal to 1 person working full-time on R&D for a period of 1 year, or more persons working part-time or for a shorter period, totalling one person-year. An employee can work a maximum of 1 FTE in a year.

B10A. FTE by Personnel Category and Qualification**(1) RESEARCHERS (includes Research Executives and Research Managers)**

Qualification	Headcount					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD or similar (ISCED 6)										
Bachelor or Masters (ISCED 5A)										
Higher Education Shorter occupation-oriented (ISCED 5B)										
All other: post-secondary non-tertiary programmes (ISCED 4) & upper secondary (ISCED 3)										
RESEARCHERS										

(2) TECHNICIANS

Qualification	Headcount					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD or similar (ISCED 6)										
Bachelor or Masters (ISCED 5A)										
Higher Education Shorter occupation-oriented (ISCED 5B)										
All other: post-secondary non-tertiary programmes (ISCED 4) & upper secondary (ISCED 3)										
TECHNICIANS										

(3) SUPPORT STAFF

Qualification	Headcount					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
PhD or similar (ISCED 6)										
Bachelor or Masters (ISCED 5A)										
Higher Education Shorter occupation-oriented (ISCED 5B)										
All other: post-secondary non-tertiary programmes (ISCED 4) & upper secondary (ISCED 3)										
SUPPORT STAFF										

FTE R&D PERSONNEL 1+2+3										
------------------------------------	--	--	--	--	--	--	--	--	--	--

B10B. FTE by Broad Field of Science

RESEARCHERS (includes Research Executives and Research Managers)

Field of Science	Headcount					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences										
Engineering & technology										
Medical & health sciences										
Agricultural sciences										
Social sciences										
Humanities										
Not specified elsewhere										
RESEARCHERS										

TECHNICIANS

Field of Science	Headcount					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences										
Engineering & technology										
Medical & health sciences										
Agricultural sciences										
Social sciences										
Humanities										
Not specified elsewhere										
TECHNICIANS										

Other support staff by Field of Science

Field of Science	Headcount					FTE				
	Male		Female		Total	Male		Female		Total
	Qataris	Non-Qataris	Qataris	Non-Qataris		Qataris	Non-Qataris	Qataris	Non-Qataris	
Natural sciences										
Engineering & technology										
Medical & health sciences										
Agricultural sciences										
Social sciences										
Humanities										
Not specified elsewhere										
SUPPORT STAFF										

B12. SOURCES OF FUNDS FOR IN-HOUSE R&D

Provide a breakdown of total R&D expenditure by the sources of funds.

B12A. Company

Riyal

Internal sources								
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B12B. Government (include Departments/Ministries and grant making Institutes)

Direct incentives and Grants								
Contracts to perform directed R&D								

B12C. Other Local Businesses

Contracts to perform R&D								
--------------------------	--	--	--	--	--	--	--	--

B12D. Other national sources

Not for Profit Organizations (including Foundations)								
Individual Donations								
Higher Education institutions								

B12E. Foreign sources

Parent Company								
Philanthropic organizations and Foundations								
All other foreign sources								

TOTAL R&D EXPENDITURE (to equal Item B11D)								
--	--	--	--	--	--	--	--	--



PART 4: CATEGORIES OF IN-HOUSE R&D EXPENDITURE

B13. IN-HOUSE R&D EXPENDITURE BY TYPE OF R&D.

B13A. Basic Research

Work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without a specific application in view

Analyses of properties, structures and relationships with a view to formulating and testing hypotheses, theories or laws.

The results of basic research are usually published in peer-reviewed scientific journals

(Percentage)

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B13B. Applied Research

Original investigation to acquire new knowledge with a specific application in view.

Activities that determine the possible uses for the findings of basic research.

The results of applied research are intended primarily to be valid for a single or limited number of products, operations, methods, or systems.

Applied research develops ideas into operational form.

Information or knowledge derived from applied research may be published in peer-reviewed journals or subjected to other forms of intellectual property protection.

(Percentage)

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B13C. Experimental Development

Systematic work using existing knowledge for creating new or improved materials, products, processes or services, or improving substantially those already produced or installed.

(Percentage)

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TOTAL	1	0	0
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B14. FUNCTIONAL INTENTION

B14A. FIELD OF SCIENCE (FOS)

Classify R&D expenditure according to the Two Digit Field of Science (FoS) with percentage share

[See Appendix B]

The FoS Codes are based on recognised academic disciplines and emerging areas of study.

FOS Codes			%		FOS Codes			%	
FOS					FOS				
FOS					FOS				
FOS					FOS				
FOS					FOS				
FOS					FOS				
Total					1	0	0		

B14B. Classify R&D expenditure by Socio-Economic Objective and percentage share.

[See Appendix C]

The SEO classification provides an indication of the main beneficiary of your R&D activities.

SEO					SEO				
SEO					SEO				
SEO					SEO				
SEO					SEO				
SEO					SEO				
Total					1	0	0		



THANK YOU FOR YOUR TIME AND EFFORT

