



جامعة قطر
QATAR UNIVERSITY



QATAR UNIVERSITY

SUSTAINABLE DEVELOPMENT GOALS

REPORT 2022/2023

KEY FACTS AND FIGURES

TIMES HIGHER EDUCATION (THE) UNIVERSITY RANKINGS

| THE WORLD UNIVERSITY RANKINGS | | |
|-------------------------------|-----------------|-----------------|
| 2021 | 2022 | 2023 |
| 350 | 301-400 | 201-250 |
| TOTAL ENTRANTS | TOTAL ENTRANTS | TOTAL ENTRANTS |
| 1527 | 1662 | 1799 |
| THE ARAB UNIVERSITY RANKINGS | | |
| 2 nd | 2 nd | 2 nd |

KEY FACTS

We are:

The first university in Qatar

The largest and most comprehensive university in Qatar

The first higher education institution to enter the Metaverse

We have:

Published the first book in the region on Reverse Osmosis

Published the first volume of the first encyclopaedia on Occidentalism

Established the first UNESCO Chairs in Marine Sciences in the region

Established the first UNESCO Chair in Desalination and Water Treatment in the region

KEY FIGURES

| |
|-------------------------------------|
| 11 Colleges |
| 22000+ Students |
| 3000+ Employees |
| 1300+ Faculty and TAs |
| 240+ Researchers |
| 16 Research Centers |
| 430 Study Units Related to the SDGs |
| 90+ student nationalities |
| 60+ faculty nationality |

INTRODUCTION

The 17 Sustainable Development Goals (SDGs) adopted by the UN General Assembly in 2015 represent a collective global response to the challenges, threats, and opportunities facing our planet and life on earth as we know it.

We firmly believe that universities – such as Qatar University - are active agents of change within their societies. Through transformational education, research and community engagement, universities are at the forefront of driving the change needed to achieve the SDGs.

As the first higher education institution in Qatar, we are deeply committed to the comprehensive development of Qatari society. We are dedicated to identifying and studying the multifaceted challenges we face, as a country and as humans on earth, and to finding actionable solutions to these challenges. We are building the next generation of change makers in Qatari society, and the world, and equipping them with the tools needed to address the challenges they may face.

Our work towards achieving the 17 SDGs follows four pillars: Research, Outreach, Students and Learning, Operations and Collaborations. Research is at the core of our inquiry into finding solutions to the challenges we face. The pillars of Outreach and Students and Learning make our research accessible. Through our outreach work, we raise awareness of sustainable development issues among a diverse wider community, and inspire discussion and debate to encourage active engagement with the SDGs. Through the pillar of Students and Learning, we expose the next generation of researchers, industry leaders and activists to the most pressing challenges of our time, transfer our research and experience, and empower them to take the lead in finding solutions. Finally, the last pillar is how we as a university do our part operationally in working towards the sustainable development goals while building a strong network of partners.

We understand that the SDGs can only be achieved when different sectors in society work collectively to contribute their expertise in addressing the challenges we face globally and locally. Accordingly, across the pillars we have built local, regional and international partnerships with a range of organisations – including academic, governmental, industry and NGOs - to ensure real, meaningful and effective collective action is taken towards achieving the SDGs.

In this report, we have summarized some of our efforts in working towards the SDGs. We hope that this report acts as a springboard to furthering the SDGs both locally and regionally.

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SDG 1: NO POVERTY

End poverty in all its forms everywhere

1.1 RESEARCH

1.1.1 Workers Welfare Index

Since Qatar won the rights to host the FIFA World Cup, its labour law and the welfare of migrant workers have been under persistent international scrutiny. A team of researchers at the Social and Economic Survey Research Institute (SESRI) at Qatar University developed the [Guest Worker Welfare Index](#) (GWWI) - a unique survey-based tool that measures and monitors the impact of the Qatari government's policies on guest workers. Now in its fifth wave, the survey - which was administered in more than seven languages - evaluates several aspects of the working and living conditions of guest workers, including: safety and security at working sites and living compounds; human rights and labor rights; finance and remittances; and treatment by their employers. In addition to assessing and tracking workers welfare, the index identifies areas of improvement to guide policy formulation.

1.1.2 Supreme Committee for Delivery and Legacy (SC)

The SC is responsible for the delivery of the required infrastructure, planning and operations for Qatar to host the 2022 FIFA World Cup. Since 2018, the SC have commissioned our SESRI to carry out an annual [independent survey of SC workers](#) in relation to their working and living conditions. The aim of the survey is to acquire in-depth insights on SC workers including sentiment, satisfaction and demographics. It also gave workers a platform to share their feedback on key matters affecting their lives in Qatar. The questions covered include recruitment and contracts; duties and work environment; remittance and pay; accommodation; life in Qatar; wellbeing and healthcare; and leisure and social capital. In the latest commissioned survey, SESRI surveyed approximately 10% of the total workforce. Findings indicate a high level of satisfaction among workers from their experience of working on SC projects. These surveys are important to gain insights into what affects the workers, how to improve their conditions and tailor programs to support their needs.

1.1.3 Contractors Survey

In addition to the workers welfare survey (WWS), the SC commissioned our SESRI to carry out an extensive independent [contractors' survey](#) to understand the benefits and challenges associated with implementing the WWS. The survey found that contractors had a positive experience. The majority of contractors - 83% - stated they have extended the WWS to their workers on non-SC projects, while 94% said they would recommend the WWS to other companies.

| | |
|-------------------------------|------|
| Scholarly Output | 59 |
| Views Count | 3314 |
| Citation Count | 490 |
| International Collaboration % | 58% |

1.2 OUTREACH

1.2.1 Humanitarian Work Forum – Qatar Charity and QU

In a first-of-its-kind in Qatar, and in collaboration with Qatar Charity (QC), we ran the [Humanitarian Work Forum](#). The forum brought together high-ranking officials, experts and academics from local and international organizations, including the United Nations (UN). It shed light on the challenges facing humanitarian organizations, their workers, and volunteers and discussed solutions to these challenges. Through discussion sessions, the forum also brought together the youth - who engaged with key stakeholders in the humanitarian sector, and benefitted from their experience and expertise.

1.2.2 Charity Campaigns

We regularly take part in nationwide humanitarian campaigns. For example, we ran the [‘Provide them Warmth’](#) campaign, as part of QC’s larger ‘Warmth and Peace’ campaign, which sought to protect Syrians in refugee camps from on-coming harsh winter conditions. Activities included providing winter clothes, leading medicine drives and collecting donations for providing food packages to Syrian refugees. This campaign saw members across our whole community taking part - from faculty, to students, to on-campus restaurants who pledged a percentage of their sales to the campaign.

1.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
|-------------------|
| 20 |

1.3.1 Student Employment

Our [Student Employment Program](#) provides part-time job opportunities for students – filling the gap of part-time job availability in the country, and empowering our students financially. Student jobs are available across all colleges, departments and centers in both administrative and academic positions. This program prepares our students for post-university life, by giving them hands-on work experience, improving their financial capabilities, and providing them with a competitive edge in the job market.

1.3.2 Graduate Assistantships

The university provides attractive [employment opportunities](#) for its postgraduate students - enabling unemployed students to pursue their studies, while having the opportunity to take on a salaried job. The graduate assistantship initiative enriches the student’s portfolio through developing their professional and academic skills, abilities, and competencies, while supporting them financially.

1.3.3 Sanabel Club

Our Sanabel Club is a student club, which focuses on humanitarian work. Among campaigns they run, the Sanabel Club runs the [Charity Week](#) campaign annually. Charity Week is a 100% volunteer-led international movement uniting communities across the globe to fundraise for children and orphans worldwide. It is affiliated with Islamic Relief worldwide, and Education Above All (EAA) within Qatar. As part of Charity Week, Sanabel collaborates with different businesses, and organises a range of fundraising events across campus.

1.4 OPERATIONS AND COLLABORATIONS

1.4.1 Financial Aid

To widen access to education for the most marginalised, we have signed agreements with a number of the most important institutions in Qatar that provide [financial aid to students](#). Partnering with **Qatar Charity, Education Above All Foundation (Al Fakhoora Programme), the Social Development Center (Nama), Jassim and Hamad Bin Jassim Charitable Foundation, Seashore Group and Afif Charity** has significantly increased access of low-income families to educational opportunities and contributed towards bringing them out of poverty.

1.4.2 More Financial Aid

Our [Student Financial Aid Service](#) is a student service offered our undergraduate students who encounter financial difficulties in covering their education-related expenses. This service provides a range of financial aid packages designed to support students' access and success at Qatar University according to their financial needs and academic status including: monthly financial aid; emergency aid; and full or partial exemption from tuition fees, transportation fees, housing fees. Our financial support enables students equal to access education, no matter their financial background.

1.4.3 RACA

We have [signed a memorandum of understanding](#) (MOU) with the **Regulatory Authority for Charitable Activities (RACA)** for collaboration in research, events, workshops and conferences of mutual interest, as well as providing training experience for our students, and job opportunities for our graduates.

1.4.4 Supporting Innovation

The [Office of Strategic Innovation, Entrepreneurship and Economic Development](#) (SIEED) designs and executes a wide variety of innovation, entrepreneurship and economic development programs. It runs competitions, training activities, product innovation and development services and offers research commercialization support, consultations, pre-seed funds, business development assistance, start-up pre-incubation, incubation, and acceleration programs, and facilities of access to finance and funds from external partners.

SDG 2: ZERO HUNGER

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

2.1 RESEARCH

2.1.1 M-NEX

Urban communities are particularly vulnerable to the future demand of food, energy, water and waste (FEWW) and this is further exacerbated by the onset of climate change. [M-NEX](#) is an international joint research project: "**The Moveable Nexus: Design-led Urban Food, Energy and Water Management Innovation in New Boundary Conditions of Change**", granted by Belmont Forum/JPI Urban Europe. As member of an international consortium with seven partners from six countries, Qatar University is participating in the project through its Center for Sustainable Development (CSD) and is fully funded by Qatar National Research Fund (QNRF). This internationally diverse project, based around urban design practice, sees urban agriculture as a key facilitator of the Nexus, needing water and energy to become productive. Working directly with living labs in some of the most vulnerable communities in the partner cities, the team aims to co-design new food futures with stakeholders that leave them less vulnerable to forces disturbing the nexus.

2.1.2 First Agricultural Census in Qatar

Working with the Ministry of Municipalities and Environment (MME), and under the supervision of the Arab organisation for Agricultural Development, our SESRI conducted the pioneering [Agricultural Census in Qatar](#). The census, a first of its kind in Qatar, collected data on the structure of agriculture in Qatar including number and size of properties; land usage; cropping areas; irrigation; number of farm animals; resources; and work force. A team of 115 researchers, including veterinarians and agricultural engineers carried out the data collection process across plant and animal holding facilities across the whole of Qatar. This census acts as a benchmark for government entities and policy makers in developing Qatar's food security plans and agricultural policies.

2.1.3 Supporting Sustainable Agriculture in Qatar

With Qatar's National Food Security Strategy, farming activities have increased across Qatar and local production has boomed. However, Qatar faces harsh challenges in ensuring food security, namely its small area, water scarcity, shortage of arable land, and its hot and dry environment coupled with its rapidly growing population. Researchers at our university tackle these challenges on many fronts: from the development of [biopesticides](#) at the Department of Biological and Environmental Sciences (DBES); to biofertilizers and irrigation systems at the [Agricultural Research Station](#); to gene transformation and plant DNA fingerprinting at the [Plant Biotechnology Lab](#). With our pioneering research and links to industry, we are at the forefront of research that will ensure a sustainable agricultural future in Qatar.

2.1.4 Our Own Farm

Our [Agricultural Research Station](#) is a specialised research farm and center for agricultural research in the north of Qatar. The station develops innovative agricultural techniques including developing biofertilizers for the improvement of plant productivity, salt tolerance and fruit quality; development of hydroponics and irrigation systems; and the application of integrated agricultural pest management and plant disease control. The station also develops and creates organic and sustainable crops and produces sustainable organic fertilizer to increase and preserve agricultural soil fertility. They are also constructing an on-campus

[Vegetable Factory Pilot Plant](#) with the help of Japanese company Chiyoda Corporation and Qatari Chiyoda AlMana.

| | |
|-------------------------------|------|
| Scholarly Output | 136 |
| Views Count | 6578 |
| Citation Count | 1427 |
| International Collaboration % | 73% |

2.2 OUTREACH

2.2.1 Exhibition time

Every year, [we participate](#) in the Qatar International Agricultural and Environmental Exhibition (AgriteQ and EnviroteQ) where we display our latest innovations in food and water security, and other aspects related to agriculture. The exhibition provides an opportunity for different actors in the agricultural sector to come together to exchange experiences and knowledge. Our pavilion presented some of our research supporting food security projects in Qatar, such as an innovative gel that maintains the moisture of the soil; extending the shelf life of fruit; and building the first plant for growing microalgae.

2.2.2 Living Lab Doha

Our [Living Lab Doha](#) concept focuses on expanding the effectiveness of food production on the campus with minimal water availability and energy use. It will be at the center of engaging stakeholders and the community through participative actions and community gardens. The Doha Living Lab will be open to the community and everyone interested in urban farming. It will be providing a green sheltered area that will act as a meeting point and a recreational area to the whole campus community.

2.3 STUDENTS AND LEARNING

| |
|-------------------|
| UNITS TOWARDS SDG |
| 22 |

2.3.1 Hassad “harvest”

Qatar University [signed an MOU with Hassad](#) – an investment arm of the Qatar Investment Authority with a focus on agriculture – that gives students the opportunity to learn about the field of food and agricultural investment through practical experience, starting from agriculture to production and manufacturing processes. The training occurs across a number of companies affiliated with Hassad and introduces the students to the importance of food security in particular and the agricultural sector in general.

2.3.2 Food revival

We are proud that the first-ever Qatari team to qualify for the finals of the world's largest start-up program – the Hult Prize – is an all-female team of [Qatar University students](#). The team – 'Revive' - aims to introduce a new technology that will preserve surplus food and redistribute it to those in need – improving nutrition among the under-served, fighting food waste, and enhancing food-security in Qatar.

2.4 OPERATIONS AND COLLABORATIONS

2.4.1 Waste Not

Our [Qatar University Zero Waste Plan](#) demonstrates the university's commitment, priorities, goals, targets and activities that will lead the university to be a truly zero-waste university. The plan operates on four central pillars: governance and monitoring structure; waste measurement and prevention system; communications strategy; and culture of innovation and social change. Indeed, as part of this initiative, the first batch of fertilizer was created using food-waste from our campus.

2.4.2 Future Food Systems

Our Environmental Sciences Center is [collaborating with Western Sydney University](#) under the Future Food Systems in Australia to co-operate in research in an initial project to develop fertigation solutions as a first step in addressing agricultural production in Qatar - which faces similar agricultural challenges as Australia. The sustainable fertigation project identifies novel, cost-effective fertigation, nutrient delivery and management approaches to growing greenhouse vegetables that increase yield and quality, assisting commercial growers in both Australia and Qatar. The project also involves effective transfer of knowledge and technology between the two nations.

2.4.3 On-Campus Vegetable Plant

We established the first leafy [vegetable plant on campus](#). Using hydroponics, the plant produces lettuce, spinach, rocca, and others leafy vegetables – minimizing the need for importing these products, and hence minimising their cost. The engineering, procurement services, supply and installation of the cultivation equipment of the project [was awarded to Chiyoda Corporation](#) and Chiyoda Almana Engineering jointly.

SDG 3: GOOD HEALTH AND WELLBEING

Ensure healthy lives and promote well-being for all at all ages

3.1 RESEARCH

3.1.1 National Mental Health Study

In collaboration with the World Health Organisation (WHO), Harvard University, University of Michigan, Hamad Medical Corporation (HMC) and the Ministry of Public Health (MoPH), our SESRI has conducted the [first National Mental Health Study in Qatar](#). The project collected comprehensive data on the prevalence and associated factors of mental disorders to enhance understanding of the epidemiology of mental illness in Qatar's society today. This mental health study is part of an international consortium in survey research, an initiative that has collected data in more than 30 countries worldwide and has been instrumental in supporting countries to establish the necessary infrastructure to collect representative epidemiological data of population mental health.

3.1.2 COVID-19 response

We are committed to better understanding the challenges we face, and finding solutions to these challenges. As such, our university took a [pro-active role](#) in response to the Covid-19 pandemic. As part of the international research effort to respond to COVID-19, we launched the [QU Emergency Response Grant \(ERG\)](#) – which supports the rapid initiation of scientific research in basic molecular research, clinical research, social-behavioural research, infectious disease epidemiology and e-health. Our colleges were at the forefront of Covid-19 research in the country, with the development of a possible vaccine at the Biomedical Research Center (BRC), studying the impact of the coronavirus on cancer patients at the College of Medicine and the development of a number of e-health initiatives at the College of Engineering. These research initiatives were in collaboration with different stakeholders, including HMC, the MoPH and the National Center for Cancer Care & Research, who applied the results of the studies and implemented the use of the innovations.

| | |
|-------------------------------|-------|
| Scholarly Output | 2100 |
| Views Count | 66721 |
| Citation Count | 33249 |
| International Collaboration % | 76% |

3.2 OUTREACH

3.2.1 Smart Start

In an effort to combat childhood obesity in the Qatar population, our university, led by the College of Health Sciences, runs the [‘Smart Start’](#) campaign. The campaign aims to build a physically and psychologically healthy society by raising awareness and educating schoolchildren and parents about the different facets of health. Some topics include the significant role of good nutrition, physical activity and healthcare in the early

years. The campaign introduced food groups, and included hand-on activities about creating balanced meals and packing balanced lunchboxes, as well as tips on increasing physical activity and reducing screen time.

3.2.2 Save a Life, Donate Blood

QU Health holds [regular blood donation campaigns](#) in cooperation with the Blood Bank Center of Hamad Medical Corporation – Qatar’s principal public healthcare provider. The campaigns raise awareness about blood donation in Qatar and its benefits, as well as facilitate blood donation in the university community – including among students, faculty and staff.

3.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
|-------------------|
| 55 |

3.3.1 Health Heroes

Students from the College of Health Sciences Students Association, in collaboration with the College of Health Sciences and Qatar Cancer Society launched the [‘Health Heroes’ series](#). This series spotlights the careers of successful healthcare professionals; and invites past patients as key-note speakers to share their inspiring stories of overcoming health issues. By bringing both healthcare professional and patient together, this holistic series aims to inspire future health care providers to reach new heights in their professions with patient-centred care as their focus.

3.3.2 COVID-19 is not over yet

Our College of Pharmacy with Qatar Pharmacy Undergraduate Society ran an outreach campaign in a popular mall in Qatar to [raise awareness of COVID-19](#) best practices within the community. The outreach campaign included different stations with information regarding COVID-19 generally; immune-compromised and pregnant patients; COVID-19 during Ramadan; and vaccinations. Students and faculty engaged with the public, answering questions related to COVID-19, and educating the public regarding COVID-19 misconceptions. The campaign was a huge success, breaking previous campaign records by educating more than 500 visitors.

3.3.3 Breathalyzer

A research team at our university [developed a breathalyzer – the Q Breath Analyser](#) that can potentially predict COVID-19 and other lung diseases. Under the Undergraduate Research Experience Program (UREP) grant, the team included seven undergraduate students from our university. The team sought to make virus testing more efficient and effective in order to better track and control the virus.

3.4 OPERATIONS AND COLLABORATIONS

3.4.1 Emergency Response Grant

In response to the global COVID-19 pandemic, we established the [QU Emergency Response Grant \(ERG\)](#). The grant is dedicated to emergency circumstances and provides support to new and early stage investigations

that provide a basis for more extended research. The first ERG theme in 2020 was the coronavirus disease (COVID-19), and was part of the international research effort to respond to COVID-19. The ERG supported rapid initiation of scientific research, and has a short lifecycle to accelerate the start of the awarded projects, due to the critical nature of the situations.

3.4.2 Healthy University

WHO has designated Qatar University as a [‘Healthy University’](#). WHO launched the global initiative Healthy Cities with the goal of elevating health to the top of cities’ social and political agendas by promoting sustainability, equity, and good health through innovation – and the same is applied to universities.

3.4.3 Student Counseling

Our [Student Counseling Center](#) provides support and psychotherapy services to students to overcome psychological, behavioural, social and emotional disorders and difficulties that may affect their performance. The Center is also an essential reference for faculty and staff; it facilitates their services in supporting students through counselling sessions, educational programs, and prevention strategies

3.4.4 Sports Matter

Together with the **Qatar Olympic Committee**, our university will establish the [Qatar University Sports Federation](#), with the aim of advancing, developing, and encouraging sports activities in university.

A first in the MENA, the 2022 [Congress of World Association of Sport Management \(WASM\)](#) will be held in Qatar after the successful joint bidding by our university and **Hamad Bin Khalifa University**.

3.4.6 Healthcare

Our university [signed an MOU](#) with the **Primary Health Care Corporation** to provide faculty, staff and students (residing in student housing), with free healthcare services. This is in addition to the private health insurance we provide for our university’s employees.

SDG 4: QUALITY EDUCATION

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.1 RESEARCH

4.1.1 Problem-Based Learning (PBL)

An [interdisciplinary research project](#) that brought together researchers from our College of Medicine, College of Dental Medicine, and College of Education together with researchers from Malmo University in Sweden examined the perceptions of professionals using the PBL approach of their agency in negotiating their facilitator roles in a post-pandemic context. Results revealed a high variation in participants' perceptions and indicated that additional institutional efforts are needed to support professional learning for PBL facilitation.

4.1.2 Education Research Center

We are committed to educational excellence and high-quality research. Combining these values, we inaugurated the [Educational Research Center \(ERC\)](#). The ERC engages in educational research for Qatar's sustainable development by providing research-based answers to educational challenges in Qatar. The ERC contributes to and supports our university as a research institution by nurturing a culture of multidisciplinary research in K-12 and post-secondary education, in addition to assessment and evaluation. The centre works to bring about change, innovation, and improvement in Qatar's educational system.

| | |
|-------------------------------|------|
| Scholarly Output | 252 |
| Views Count | 8055 |
| Citation Count | 1490 |
| International Collaboration % | 57% |

4.2 OUTREACH

4.2.1 Summer Camp

Middle school students enjoy the opportunity to participate in our [on-campus summer camp](#). Organised with Ministry of Education and Higher Education (MoEHE), the summer camp focuses on enriching students' knowledge, developing their abilities, and introducing new skills in the fields of science and technology. Faculty and students from the College of Engineering and the Professional Development Center at the university guide the students and run the educational activities at the camp.

4.2.2 Young Scientist Center

Our [Young Scientist Center \(QU-YSC\)](#) is a scientific hub that trains and empowers the next generation in STEM subjects. Through a range of programs, the center makes STEM accessible to high school students. It offers a QU Bridge program, which enriches the research capacity of Qatari youth through participation in

the [National Science Promotion Program \(NSPP\)](#), [‘I am a Researcher’](#) program and the QU Gateway program. [Al Bairaq](#) offers a range of programs, from Science in Sports, to [Design Thinking](#). In addition, the QU-YSC carries out a range of community initiatives such as the Art in Science Exhibition; Scout Scientific Innovative Camp; internships and workshops; and often competes in national and global competitions. Their [Fifth Youth Research Forum](#) will run under the theme: “Higher education institutions and their role in achieving sustainable development goals”.

4.2.3 Al Qabas

[Al Qabas](#) program educates high school students from grades 10 and 11 about university life. The program introduces students to the skills required to succeed at university, improves their English and math skills, and enhances their chances of successfully enrolling in STEM and health majors at Qatar University.

4.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
|-------------------|
| 52 |

4.3.1 QU Health

We have made vast developments in the health sector. Our university now encompasses five colleges in the health field: College of Health Sciences, College of Pharmacy, College of Medicine, College of Dental Medicine and most recently College of Nursing. The five colleges fall under [QU Health](#), which is the national provider of higher education in health and medicine. Through high quality interdisciplinary programs, QU Health colleges prepare competent graduates capable of shaping the future of healthcare in Qatar.

4.3.2 edX and continuing education

We offer [free Massive Online Open Courses](#) (MOOCs) on edX as well as [training programs and professional development courses](#) in a range of disciplines including languages, business, leadership, management, finance, accounting and information processing. We also offer preparation courses for GMAT, GRE, IELTS, ACT, PMP and others. In fact, our Community Service and Continuing Education Center (CCE) is the leading provider of non-academic programs in Qatar, allowing the greater community access to the resources available at the university.

4.3.3 Three Minute Thesis

The [Three Minute Thesis Competition](#) (3MT) challenges Masters and PhD students to present their research in three minutes to the public. The competition is open to all higher-education institutions based in Qatar and aims to encourage students to present their research to the broader community while celebrating their discoveries.

4.3.4 Evidence-based training

Our [National Center for Educational Development \(NCED\)](#) builds local educational capacity in Qatar by adopting evidence-based research and current best practices. The center has several professional development projects and programs for educators. These include general vocational teacher training through school-based learning programs and more specific support such as the ‘Reading Together for Qatar’ program that supports students in public schools to improve their Arabic language reading skills. The center

also includes the International Math-Teacher Professionalization Using Lesson Study (IMPULS) program, a joint effort between our university and Tokyo-Gakugei University in Japan to teach through problem-solving.

4.4 OPERATIONS AND COLLABORATIONS

4.4.1 Enter the Metaverse

We [made history](#) by becoming the first university to enter the metaverse. We have [partnered with Metavisionaries](#) - a company that leverages frontier technologies and uses access to space to democratize education and provide global, interdisciplinary, and immersive learning opportunities to learners around the globe. Our partnership will bring together educators, space scientists, and industry experts to deliver interdisciplinary curricula and prepare students for the future of work.

4.4.2 Accessible Education

To widen access to education for the most marginalised, we have signed agreements with a number of the most important institutions that provide [financial aid to students](#). Partnering with **Qatar Charity, Education Above All Foundation (Al Fakhoora Programme), the Social Development Center (Nama), Jassim and Hamad Bin Jassim Charitable Foundation, Seashore Group and Afif Charity** will widen access to quality education to low-income families and contribute towards bringing them out of poverty.

4.4.3 Employee Benefits

We provide all of our employees with a range of **benefits** including an **educational allowance** for up to three dependants, from grade 1 until the age of 18. We also offer **academic scholarships** to children of full time university employees – with a maximum of three children at any one time. This way, we are ensuring all our staff and their families have **equal access to quality education** throughout their time at the university.

SDG 5: GENDER EQUALITY

Achieve gender equality and empower all women and girls

5.1 RESEARCH

5.1.1 Female Labor Force Participation

Qatar has made remarkable strides in reducing gender disparities in health, education and the labour market. Despite this, little empirical data about factors affecting female labor force participation in Qatar is available. Researchers at SESRI are leading the way in this regard. Using nationally representative surveys, they are studying how micro-level factors such as age, education, and marital status affect [women's participation in the workforce](#) in Qatar, and how public attitudes affect participation. This research also explains how state-directed initiatives can encourage women to participate in the labor market, and calls for enacting policies to facilitate a rapid increase in the number of employed women in Qatar.

5.1.2 Entrepreneurship for Women

Researchers at our College of Business and Economics received a National Priorities Research Program (NPRP) grant to create a [platform to promote entrepreneurship for women in Qatar](#). The project explored ways of creating opportunities to stimulate and support Qatari women's engagement in action-oriented entrepreneurial activities such as practical training, international collaboration, knowledge exchange and shared learning to foster entrepreneurship among Qatari women in order to enable them to initiate new business start-ups. It adopted a structured program of training and mentoring that combined multiple-methods and ICT tools to facilitate the process of joint-innovation and start-up between Qatari and international female entrepreneurs.

5.1.3 Women in Nanotechnology

A special issue of *Emergent Materials* (EMMA), a multi-disciplinary journal of Qatar University (QU) focused on [women in nanotechnology](#) with the aim of highlighting the work of research groups led by female researchers around the world. The issue included distinctive projects in the field of nanotechnology written and supervised by women.

| | |
|-------------------------------|------|
| Scholarly Output | 94 |
| Views Count | 5364 |
| Citation Count | 1158 |
| International Collaboration % | 57% |

5.2 OUTREACH

5.2.1 Women in STEM

Our university runs a range of initiatives that highlight women in STEM with the aim of [celebrating the success of women](#) in STEM fields and encouraging future generations to join these fields. [Cyber Women](#) is an initiative by our KINDI Computing Research Center (KINDI) that aims to inspire and encourage females to engage with

STEM subjects and to bring women in academia and industry together to collaborate, share inspiring success stories and discover new talent. Additionally, our university celebrates the [International Day of Women and Girls in Science](#) annually, where prominent women in STEM are brought together to discuss pertinent issues in their field, and to honor female researchers at our university.

5.2.3 Women in Law

Female faculty and students from our College of Law have organised and conducted the oral history exhibit titled [“Voices of Qatari Women in Law and International Diplomacy”](#). Sponsored by our university, the exhibition memorializes the stories of female pioneers in law, development, international law, and diplomacy in Qatar while inspiring youth by introducing them to new role models. The exhibit toured Qatar and showed at several special events including Hamad Bin Khalifa University’s (HBKU) “Maker’s Majlis: Islam in a Global World”, THIMUN Qatar’s “Qatar Leadership Conference,” the “XIX World Congress of Criminology” and the “Doha Learning Days,” part of the WISE Summit.

5.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
|-------------------|
| 11 |

5.3.1 L’Oreal Prize

A female graduate from College of Health Sciences was awarded the [L’Oreal-UNESCO for Women in Science Middle East Regional Young Talents Award](#) – a prestigious award recognising young female scientists in the region. She was recognized for her research towards developing non-conventional, novel therapeutic tools to prevent the development of diabetes mellitus and cardiovascular diseases.

5.3.2 Boss Ladies

Each year, we [celebrate Women’s Entrepreneurship Week](#) by organising a series of events highlighting female entrepreneurs - their stories, lessons learnt, and hope for the future. These inspiring stories empower our female students, highlight the important role women play in economic development, and encourage our student to pursue their entrepreneurial ideas.

5.4 OPERATIONS AND COLLABORATION

5.4.1 Campus Pre-School

Our [Early Childhood Center](#), a part of the College of Education, offers highly subsidized, on-campus, accessible childcare for children of our students, faculty and staff.

5.4.2 Nursing Hours

Female staff who have recently given birth have a [right by law to ‘nursing hours’](#) in addition to their maternity leave. While Qatar’s law stipulates that female employees are entitled to one hour daily for nursing for a period of one year, female employees at our university are given **two nursing hours** daily for

the period of **2 years** after the end of the maternity leave, **without a reduction in remuneration**. The female employee can choose how use these hours, by arriving to work later or leaving work early.

SDG 6: CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

6.1 RESEARCH

6.1.1 Clean Water

Research at our Center for Sustainable Development focuses on the sustainable use of Qatar’s natural resources. Important initiatives at the Center are the Biotechnology and Algal Technologies Programs (ATP). Part of the research in these programs uses the properties of native microorganisms such as microalgae to bio remediate various waste streams. Our ATP, along with Exxon Mobil Research Center in Qatar (EMRQ) have developed [biological technologies for the treatment of waste-water using algae species](#) that are native to Qatar. Using these microalgae to treat industrial wastewater helps support Qatar’s water security, and encourages economic diversification through the production of algae-based products such as lower emission biofuels. With such collaborations with industry partners, we can implement the technologies developed and help address Qatar’s water scarcity challenges.

6.1.2 Water Safety and Security

In a desert peninsula, with little natural fresh water sources, water security is a major concern. Our Center for Advanced Materials (CAM) carries out cutting-edge research in nanomaterials for energy and the environment. A large part of the centre’s work focuses on water safety and security. The Center published the [first book](#) in the region on membrane-based reverse osmosis (RO) desalination: *Reverse Osmosis Systems: Design, Optimization and Troubleshooting Guide* (published by Elsevier). The book will help develop technological solutions to contribute to the water production efforts of the nation. Researchers at the Center have also [developed innovative nanostructured membranes](#) that can efficiently absorb and separate oil from oil-water mixtures and emulsions. These membranes can efficiently produce filtrates of pure water – ensuring efficient solutions to oil spills to protect our waters. Additionally, in collaboration with Qatar Electricity and Water Company (QEW), CAM established the [Water Technology Unit](#) – a center of excellence in research on desalination and water treatment in the region.

6.1.3 Living Lab Doha Concept

Our [Living Lab Concept](#) focuses on five themes – one of which is The Urban Water Machine. This theme focuses on expanding the effectiveness of food production on campus with minimal water availability and energy use. Since water is a scarce resource, water-saving techniques are applied such as hydroponic farming and sophisticated irrigation systems. In addition, new crops are tested using innovative methods like microalgae cultivation for animal feed, and fertilizer production using seawater. The energy requirements of the Living Lab are covered by renewable energy sources, such as solar panels and wind turbines.

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|-------------------------------|-------|
| Scholarly Output | 571 |
| Views Count | 26380 |
| Citation Count | 9609 |
| International Collaboration % | 66% |

6.2 OUTREACH

6.2.1 Research-in-Action

As part of our university's commitment to research-in-action and our strong ties with industry, CAM carried out [training for engineers](#) on membrane-based water treatment. The engineers attending the workshop work in the field of water technology at QEWC and Kahramaa – Qatar's General Electricity and Water Corporation.

6.2.2 Research Wednesdays

Our [Research Wednesday Series](#) is a series of biweekly research seminars highlighting cutting-edge research and innovation at Qatar University. These seminars showcase the on-going scientific research at Qatar University to the public. The series presented an episode featuring prominent speakers from Qatar's industrial sector on the topic of water desalination and innovations in reverse osmosis.

6.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
|-------------------|
| 15 |

6.3.1 Internships

As part of our research center-wide internship program, CAM offers [internships](#) covering innovative research in desalination and water treatment. The internships provide students with hands-on experience of research and prepares the next generation of experts in this field.

6.3.2 Water Filtration

One of our PhD students at the College of Engineering has [developed a water filtration system](#) to facilitate commercial water filtration. Qatar has no fresh surface water resources, making rainfall and groundwater recharge the main freshwater resources in the country. The innovation optimizes filtration performance for the production of fresh drinking water from waste-water that is generated by the oil and gas industries. The filtration system can be implemented at industrial levels to contribute towards satisfying the growing demand for fresh drinking water locally and internationally. The filtration innovation is currently in the process of being patented.

6.4 OPERATIONS AND COLLABORATIONS

6.4.1 UNESCO Chair

Together with UNESCO, we are set to establish [a UNESCO Chair in Desalination and Water Treatment](#) at our Water Technology Unit at CAM. It is the first of its kind in the region under UNITWIN/ UNESCO Chairs Program, and it is the outcome of the co-operation of more than 30 universities and organizations from 15 countries in the region.

6.4.2 Algal Technologies

Our ATP and **Exxon Mobil Research Center in Qatar (EMRQ)** have developed a biological technology for [the treatment of industrial wastewater](#) using native algae species. This longstanding relationship between the centers has enhanced essential research and development into technology to treat and recycle industrial wastewater.

SDG 7: AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and modern energy

7.1 RESEARCH

7.1.1 Agri-greenhouse

With food security as a priority and with Qatar making a commitment to sustain about 70% self-sufficiency in greenhouse vegetables, a more sustainable solution needs to be found for Qatar's greenhouses. Conventional greenhouses work well in the winter season – but let in excessive amounts of solar radiation in the hot season in dry and arid regions. This requires high energy-intensive cooling demand. Our researchers are developing the country's first [agri-greenhouse](#) to overcome this problem. The greenhouse is a thermally insulated greenhouse that allows the entry of optimum solar radiation levels through negative linear Fresnel lenses on the roof. This agri-greenhouse will enable Qatar to work towards its food security goals in a more sustainable, energy efficient, and environmentally friendly way.

7.1.2 Catalytic Converter

One of our researchers at the College of Arts and Sciences has registered a [new patent](#), which will remove toxic carbon monoxide from the air. The invention is a catalytic converter that can be used to improve air quality by converting toxic carbon monoxide gas into less toxic carbon dioxide gas *without* the need to utilize the high cost precious metals such as platinum, gold or palladium that are well-known for their superior catalytic activity. Instead, they oxidise carbon monoxide that is emitted into the air in flue gas, from car exhausts, or factories. The catalyst can also be used for purifying hydrogen gas during the methane reforming process and for fuelling cell systems. One of the most important benefits of this invention is that it simplifies difficult tasks that require very high physical efforts in construction, drilling, and excavation operations.

7.1.3 Biofuels for clean energy

Together with the MME and Korea Maritime and Ocean University, researchers at our university are leading a [research project](#) on sustainable biofuel production using solar energy and organic materials: "Sustainable Solar-Driven Biofuel Generation from Industrial Wastewater without External Bias". Around the world, huge amounts of wastewaters loaded with high concentrations of organic, non-organic, and microbiological pollutants are disbursed to agricultural banks and inland lakes without reasonable treatment. This causes deleterious influences on public health and the environment. Utilization of wastewater as an energy source is a novel and promising approach to meeting the increasing energy demand and it could serve as a substitute for fossil fuels. Using microbial electrochemical cell (MEC) is a versatile and promising technique for simultaneous biohydrogen production and degradation of organic pollutants - generating environmentally friendly and sustainable hydrogen fuel.

7.1.4 Energy at our Centers

One of the focuses of our Center for Law and Development is '[Energy and Environment](#)'. The Center explores solutions for the challenges of increasing energy demand and associated environmental degradation, and it calls for sustainability in the regional and global context. Researchers at the Center [published a book](#) titled *International Energy Agency* as part of Wolters Kluwer's International Encyclopedia of Laws: Intergovernmental Organizations, and have published articles on topics such as '[Greening the Economy](#)' and [blockchain and climate change](#).

| | |
|-------------------------------|-------|
| Scholarly Output | 1459 |
| Views Count | 48502 |
| Citation Count | 21298 |
| International Collaboration % | 71% |

7.2 OUTREACH

7.2.1 Genesis Technologies

We announced a spin-off of [our first faculty led start up](#) in the Fintech sector – Genesis Technologies. The current manifestations of blockchain technology suffer from significant drawbacks, such as high-energy consumption and costly drawbacks. The founders and their team developed a novel blockchain technology platform that promises to enable more cost-and-energy-efficient decentralized and secure transactions in the digital economy. Genesis Technologies is a direct result of the work of the university’s Innovation & Entrepreneurship Strategy, a major initiative launched by our university that aims to position the university as a catalyst for sustainable socio-economic development of Qatar.

7.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
|-------------------|
| 18 |

7.3.1 Intelligent System for Solar Energy Green Technology Competition

In collaboration with Qatar University Institute of Electrical and Electronics Engineers (IEEE), our Department of Electrical Engineering ran its one-of-a-kind intelligent system for solar energy [‘Green Technology’ competition](#) for high school students. The competition exposed high schoolers to engineering skills, processes and materials and laid the foundations to their future projects through the design of a solar tracker.

7.3.2 Iberdrola

We [signed a memorandum of understanding \(MOU\) with Iberdrola](#) Innovation Middle East – the number one producer of wind power. The MOU will establish applied research and development co-operation in the field of sustainable energy, and includes training students and co-funding of graduate MSc and PhD research students.

7.4 OPERATIONS AND COLLABORATIONS

7.4.1 Solar Panels On-Campus

As part of our green initiative across campus, we have installed solar panels on the rooftops of our car parks and male and female student housing. The energy generated from these solar panels is used to heat water at the university.

7.4.2 Award Winning Sustainable Energy Building

Our new award-winning [College of Education building](#) has created the ideal environment for innovation and excellence in our university community. Located in the center of our campus, the building is a model of sustainable development, being built to 4-Star Design and Construction Standards by Qatar's Global Sustainability Assessment System (GSAS)

7.4.3 Energy Policy

Our [Renewable Energy and Conservation Policy](#) guides different operations at the Facilities and General Services Department (FGSD) to meet Qatar University commitment towards sustainability. The policy aims to create a more sustainable campus and maximize efficiency while responsibly managing energy, water and human resources.

SDG 8: DECENT WORK AND ECONOMIC GROWTH

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

8.1 RESEARCH

8.1.1 Our Center

One of the functions of our [Center for Law and Development](#) is 'Economic Development'. The Center offers the Middle East a legal platform of interaction between industry, academia and government entities to promote sustainable economic development in Qatar. Their areas of research include business law, finance and Islamic finance, tax law, anti-corruption and corporate governance. They have led important research on [decarbonizing bitcoin](#), which explored how to promote the environmentally sustainable development of applications of blockchain without damaging the sector and identified appropriate fiscal policy options targeted at mitigating energy consumption of blockchain technologies. Their work on [greening the economy](#) examines the concepts of green economy and green growth from a legal perspective and highlights barriers that should be taken into consideration by the international community in order to keep moving forward with green transition.

8.1.2 Workers Welfare Index

Since Qatar won the rights to host the FIFA World Cup, its labour law and the welfare of migrant workers have been under persistent international scrutiny. A team of researchers at the Social and Economic Survey Research Institute (SESRI) at Qatar University developed the [Guest Worker Welfare Index](#) (GWWI) - a unique [tool](#), based on survey data, for the evaluation of the impact of the government's policies on guest workers. Now in its fifth wave, the survey - which was administered in more than seven languages - evaluates several aspects of the working and living conditions of guest workers, including: safety and security at working sites and living compounds; human rights and labor rights; finance and remittances; and treatment by their employers. In addition to assessing and tracking workers welfare, the index identifies areas of improvement to guide policy formulation.

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| Scholarly Output | 329 |
| Views Count | 20224 |
| Citation Count | 5060 |
| International Collaboration % | 60% |

8.2 OUTREACH

8.2.1 Entrepreneurship

Together with the Arab Planning Institute, our College of Business and Economics organises the [Annual Conference on Entrepreneurship in Economic Development](#) – a leading entrepreneurship conference in the Middle East. The conference provides a forum for the exchange of ideas and collaborations to advance entrepreneurship research in the region. The objectives of the conference were: to foster research collaborations among our members; share experiences in entrepreneurship and innovation practices; and develop sustainable policies that address economic, social and environmental challenges.

8.2.2 Career Skills

Our Honors Program, in collaboration with Qatar Career Development Center (QCDC), a member of Qatar Foundation, ran a [Career Skills Development Program](#). The program sought to enable youth to achieve a smooth and successful transition to the labour market, and to efficiently manage their careers through lifelong learning and active interaction with a network of professionals who can support their development and growth. The program was attended by hundreds of participants and sessions covered topics such as identifying academic and career objectives, employability skills, CV and cover letter writing and navigating job interviews.

| UNITS TOWARDS SDG |
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8.3.1 Student Employment

Our [Students Employment Program](#) provides part-time job opportunities for students – filling the gap of part-time job availability in the country, and enabling our students to gain hands-on real work experience. Student jobs are available across all colleges, departments and centers in both administrative and academic positions – preparing our students financially and practically for life post-university.

8.3.2 Employer Relations

Our [Employer Relations](#) section opens channels of communication between students and graduates and the labor market through organizing career events, information sessions, panel discussions, site visits and the annual Career Fair – where students can interact on campus with more than 60 employers. These events equip students with the necessary skills and knowledge needed for the labour market, and provide them with the opportunity to network with potential employers.

8.3.3 Al Fikra

[Al Fikra](#) is a national [entrepreneurship competition](#), in collaboration with Qatar Development Bank. Translated as ‘The Idea’, it provides an opportunity for university communities to develop and transform their ideas, knowledge, and intellectual outputs into impactful economic outputs. One of the two tracks specifically targets undergraduate students by necessitating an undergraduate team leader. The competition has witnessed an increasing turnout annually, with 600 people participating in 2021.

8.4 OPERATIONS AND COLLABORATIONS

8.4.1 Supporting Start-Ups

We have established the [Qatar University Holding Company](#). The company will embrace the creative ideas of faculty, students and researchers in order to turn theoretical research into practice. It will establish new micro, small and medium companies or start-ups that will be a nucleus for creating job opportunities and achieving a knowledge-based economy.

8.4.2 Faculty Affairs

We work very hard to ensure the best work and non-work conditions for our employees. We have several policies to regulate the work environment, such as the [faculty workload policy](#), which ensures balance

between the different roles of research faculty. We also provide several **benefits** to our employees such as accommodation, or accommodation allowance, private health insurance, transport allowance, annual airfare for the employee and family to return to their home country, and children's educational allowance.

8.4.3 Exceptional Legal Clinic

Our College of Law won the title of [Best Worker](#) in the **Workers' Welfare Awards**. The awards committee commended the efforts made by the Legal Clinic at the College of Law in assisting vulnerable groups, especially migrant workers, in various labor cases, including breaching the terms and conditions stipulated in work contracts, especially those related to wages and end-of-service benefits, and other obligations imposed on the employer.

SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote sustainable industrialization and foster innovation

9.1 RESEARCH

9.1.1 Dr. Cool

The mastermind behind the cooling technologies for the FIFA World Cup Qatar 2022 stadiums, nicknamed 'Dr. Cool', is a professor of mechanical engineering at Qatar University. He led the Qatar National Research Fund (QNRF) research project resulting in the [development of the cooling technologies](#) used in the stadiums for the upcoming World Cup. Designing air conditioning for an open-air stadium is a big challenge that design houses around the world had not done before. With sustainability, modularity and functionality in mind, the approach was not just innovative, but also sustainable. Using the air circulation technique, the air is drawn back and re-cooled before being pushed out resulting in venues that can be used all year round. The research effort to cool the stadiums served as a springboard for the pioneering cooling technology, which has since been deployed in several places across Qatar, including Katara Plaza, a commercial greenhouse, and even for cooling local cow barns.

9.1.2 Intelligent Crowd Management

Qatar is hosting the FIFA World Cup in 2022. With the huge number of people that will come to Doha - including players, spectators and volunteers - ensuring their security and safety is of major importance. Especially important is crowd management at the stadiums and their perimeters. A research team at our College of Engineering, in collaboration with the Supreme Committee for Delivery and Legacy (SC), has [developed intelligent crowd management and control systems](#). The systems include multiple components for crowd counting, face recognition, and abnormal event detection – which will all help to control and manage crowds at the Event.

9.1.3 Lower Energy Fintech

We announced a spin-off of [our first faculty led start up](#) in the Fintech sector – Genesis Technologies. The current manifestations of blockchain technology suffer from significant drawbacks, such as high energy consumption. The founders and their team developed a novel blockchain technology platform that allows for more cost-and-energy-efficient decentralized and secure transactions in the digital economy. Genesis is a direct result of the work of the university's Innovation & Entrepreneurship Strategy, a major initiative launched by QU that catalyzes sustainable socio-economic development of Qatar.

9.1.4 Qatar Mobility Innovation Center (QMIC)

[QMIC](#) is the first independent innovation center in the region, founded by our university. It focuses on using R&D to develop and deploy Intelligent Mobility and Smart Cities platforms and technologies. QMIC uses locally engineered innovations & knowledge to enable creating home-grown technology industries that address national strategies and tackle regional emerging challenges. In particular, QMIC has played a pioneering role in delivering platforms & solutions focusing on key domains including Intelligent Transport, Logistics & Telematics, Road Safety, and Connected & Autonomous Mobility. Through its integrated innovations development & delivery model, QMIC represents a unique and important category within the

national Research & Development & Innovations (RDI) enterprise in Qatar that is strategically driven, R&D-based, solution-focused, and business-oriented.

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| Scholarly Output | 579 |
| Views Count | 32205 |
| Citation Count | 8927 |
| International Collaboration % | 69% |

9.2 OUTREACH

9.2.1 Gasna

From competitions organised by the College of Business and Economics, Young Scientist Center and the Office of Strategic Innovation, Entrepreneurship and Economic Development (SIEED), our university runs several competitions to encourage innovation. One such example is the annual [Gasna Competition](#) for schools, which is run by our Gas Processing Center and sponsored by ExxonMobil. The competition provides students with insight into the energy sector including how it operates, technology used, production and environmental protection. It aims to enhance the level of awareness of the role of the gas industry in Qatar’s economy and future, and to nurture a skilled future workforce. In 2021, 144 schools participated in the competition and the categories covered kindergarten to grade 12.

9.2.2 Scout Scientific Innovation Camp

Our Young Scientist Center ran the [Scout Scientific Innovation Camp](#) in co-operation with Qatar Scout Association. The camp merged important scouting principles of preparedness, leadership, discipline and taking initiative with scientific challenges to foster creativity and problem solving in a fun environment.

9.2.3 STEM Bus

Our [STEM bus](#) is a mobile laboratory that brings STEM to state-school children in Qatar in a fun and innovative way. Sponsored by Qatar Petrochemical Company (QAPCO) and Dolphin Energy Company, the bus motivates students to explore the broad possibilities and applications of engineering, mathematics, physics and science outside the classroom. It enhances their academic achievements and encourages them to study STEM subjects in the future.

9.3 STUDENTS AND LEARNING

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| UNITS TOWARDS SDG |
| 21 |

9.3.1 Boeing

Our College of Engineering (CENG) continues its [partnership with Boeing](#). The partnership – which is in the field of education – brings several initiatives that benefit academic programs and support both university

and high school students. It hopes to prepare a capable Qatari generation that can respond to future scientific challenges with confidence and competence.

9.3.2 AI

Our College of Engineering, along with Hamad bin Khalifa University (HBKU), Qatar Computing Research Institute (QCRI) and Huawei-Qatar ran Qatar's 2022 [Artificial Intelligence Competition](#). The competition challenged high school and university students, with expert mentors, to develop creative AI solutions to tackle pertinent challenges in various fields such as healthcare, FinTech, and education, and raised awareness of AI technologies in Qatar and the MENA region.

9.3.3 The Global Space Sustainability Challenge

We ran the [Global Space Sustainability Challenge \(GSSC\)](#). Sponsored by Qatar General Electricity & Water Corporation (Kahramaa), supported locally by the Ministry of Environment and Climate Change (MOECC), and co-organized with global partners - Metavisionaries, ICE Cubes, Space Applications Services, International Space University and Club of the Future by Blue Origin - the GSSC is the first of its kind globally. It challenges school and university students across the world to find innovative solutions that address pressing challenges that threaten sustainability on our planet while recognizing the importance of space as a driving force in global efforts to address these challenges. Former [NASA Chief Scientist](#), Dr. James Green, attended the launch of the GSSC, and took part in a discussion session about space frontiers as part of the launch.

9.4 OPERATIONS AND COLLABORATIONS

9.4.1 Entrepreneurship and Innovation

The Office of Strategic Innovation, Entrepreneurship & Economic Development ([SIEED](#)) enables strategies and cross-sector initiatives - such as the entrepreneurship and innovation strategy, and the digital transformation strategy. The SIEED Office supports university-wide and cross-sector implementations of core drivers of socio-economic development of 21st century knowledge-based economies such as digital, innovation, and entrepreneurial initiatives - positioning QU as a catalyst for socio-economic development of Qatar. The SIEED Office is particularly focused on design, management, and development of a holistic "QU Innovation, Entrepreneurship & Economic Development Ecosystem" across all QU sectors.

9.4.2 Collaboration for Innovation

We have signed several MOUs with international and local research entities and the industry, which will strengthen our capabilities and opportunities in the innovation space. For example, we signed an [MOU with Qatar Research, Development and Innovation Council \(QRDI\)](#), establishing a key partnership to promote various programs, policies and activities that will contribute to the development of the overall national research, development and innovation ecosystem.

9.4.3 QU Holding

We have established the [Qatar University Holding Company](#). The company will embrace the creative ideas of faculty, students and researchers to put theoretical research into practice. It will establish new micro, small and medium companies or start-ups that will be a nucleus for creating job opportunities and achieving a knowledge-based economy.

SDG 10: REDUCED INEQUALITIES

Reduce inequality within and among countries

10.1 RESEARCH

10.1.1 AI and Developing Countries

As part of a larger FinTech and RegTech project, researchers at our Center for Law and Development are examining the multifaceted impacts of blockchain technologies. They have uncovered how [unregulated artificial intelligence \(AI\)](#) can cause harm to sustainable development efforts, especially in developing countries that tend to relax AI regulations in order to attract investments from Big Tech. As governments commonly use AI in national security databases, criminals could use it to launder money or plan criminal activities. In most developing countries, input data may be easily accessed because of poor security measures. The study suggests that, to prevent this, there should be risk assessment at each stage of AI development. Moreover, the design of the AI software should make sure that it is inaccessible when there is a threat of it being hacked. Research at the center is at the forefront of uncovering the effects of the disruption caused by new financial technologies; the center is working diligently to significantly strengthen the financial frameworks to reduce global inequalities that have caused this disruption.

10.1.2 Female Labor Force Participation

Qatar has made remarkable strides in reducing gender disparities in health, education and the labor market. Despite this, we lack empirical data about factors affecting female labour force participation in Qatar. Researchers at the Social and Economic Survey Research Institute are filling this gap. Using nationally representative surveys, they are studying how micro-level factors such as age, education, and marital status affect [women's participation in the workforce](#) in Qatar and how public attitudes affect participation. This research also explains how state-directed initiatives can encourage women to participate in the labour market, and it calls for enacting policies to facilitate a rapid increase in the number of employed women in Qatar.

10.1.3 Design for Learning

We held [the first Arab Universal Design for Learning \(UDL\) Conference](#) under the theme of 'Scientific Perspectives for the future of Inclusive Education in Arab Countries'. UDL aims to reduce inequalities in learning by removing the physical, digital, and educational barriers that hinder the learning process and to enable students with different abilities to become "Expert Learners". The conference, which was held in partnership with fifteen Arab universities, gave participants in the Arab world the opportunity to explore the latest educational practices and scientific applications of UDL. It shed light on Arab experiences of disability inclusion, and raised awareness of UDL guidelines as a scientific framework for improving education in the Arab world. It also raised awareness of architectural accessibility, digital accessibility, assistive technology and brain-based learning, and provided practical solutions for the development of UDL programs in the Arab world.

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| Scholarly Output | 192 |
| Views Count | 8689 |
| Citation Count | 1656 |
| International Collaboration % | 55% |

10.2 OUTREACH

10.2.1 Humanitarian Work Forum

In a first-of-its-kind in Qatar, and in collaboration with Qatar Charity (QC), we ran the [Humanitarian Work Forum](#). The forum brought together high-ranking officials, experts and academics from local and international organizations, including the United Nations (UN). It shed light on the challenges facing humanitarian organizations, their workers, and volunteers and discussed solutions to these challenges. Through discussion sessions, the forum also brought together the youth - who engaged with key stakeholders in the humanitarian sector and benefitted from their experience and expertise.

10.2.2 One Community

As a university, we honour and appreciate every single person in our community. Our [Special Needs Student Initiative](#) is dedicated towards supporting special needs students and enhancing their integration within our community. We also [show our appreciation](#) to students and faculty with special needs and disabilities and to students who take part in our initiative. Each year, we also [light up our buildings blue](#) as part of Autism Speaks global campaign 'Light it up Blue' to raise awareness of autism in our community.

10.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
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| 57 |

10.3.1 Support Center

Our [Inclusion and Special Needs Support Center](#) ensures equal opportunities for students with special needs to access higher education programs and support services at the university. We offer a range of services such as assistive technology, digital and physical accessibility and accommodations in the classroom and in exams. The Center also raises awareness among those with special needs of their rights and the services they can expect, ensures that all University buildings and facilities are physically accessible, and maintains digital accessibility to all University websites.

10.3.2 Access across Campus

We offer [free specialised transportation services](#) for students with special needs using vehicles supported with the latest equipment to ensure students' safety and to help them access the buildings and colleges on campus.

10.4 OPERATIONS AND COLLABORATIONS

10.4.1 Financial Aid

To widen access to education for the most marginalised, we have [signed agreements](#) with a number of the most important institutions that provide financial aid to students. Our partnerships with **Qatar Charity, Education Above All Foundation (Al Fakhoora Programme), the Social Development Center (Nama), Jassim and Hamad Bin Jassim Charitable Foundation, Seashore Group, and Afif Charity** will widen access to low-income families and contribute towards bringing them out of poverty.

10.4.2 Anti Discrimination

We have a [range of policies](#) that outline measures against discrimination and for disability accommodations, such as the Faculty Professional Conduct Bylaws, Student Code of Conduct, Business Operations Department Policies Handbook, Policies of the Inclusion and Special Needs Support Center, and the Student Housing Instructions.

SDG 11: SUSTAINABLE CITIES AND COMMUNITIES

Make cities inclusive, safe, resilient and sustainable

11.1 RESEARCH

11.1.1 Documenting Qatari Heritage

We are [building an archive](#) that documents the social history and intangible cultural heritage of the early modernization era in the State of Qatar in the 1950s and 1960s. This period witnessed definitive changes in the lifestyle of the Qatari community, yet there is a lack of written records documenting this. Led by QU Library, we are [collecting the stories](#) of Qatari people and their daily lives during the 1950s and 1960s, in order to preserve this aspect of the national heritage of the State of Qatar. To face the future, you must know your past. Thus, this initiative will benefit future generations of Qataris as well as students and researchers from all around the world interested in studying and researching Qatar and the Gulf region in general.

11.1.2 Safer Roads

Death by road accidents, especially among young adults is a growing concern nationally and globally. In Qatar, the highest rate of death among young males is due to road accidents. The causes of road accidents are mainly behavioral such as over-confidence, prevalent risk taking, speeding, and mobile usage. Together with Northwestern University in Qatar, we [received a grant](#) to study 'Dangerous Driving Behavior Interventions through the Usage of Telematics Data: Application to Young Drivers in Qatar'. Smart phones are equipped with accurate built-in GPS and are portable telematics devices. This study demonstrates that telematics devices can be used as a means of direct intervention to reduce risky driving behavior amongst young adult drivers in Qatar, and indirect intervention through the usage of telematics data for traffic violation citations. The project addresses the issue from three perspectives: scientific, behavioral and legal.

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| Scholarly Output | 546 |
| Views Count | 21619 |
| Citation Count | 7393 |
| International Collaboration % | 68% |

11.2 OUTREACH

11.2.1 Traffic Safety

The Qatar Transportation and Traffic Safety Center (QTTSC) at our university is one of several agencies tasked with advancing transportation studies through research, development, education, and community engagement. It addresses national and regional challenges for safe, efficient and environmentally sustainable transportation systems. The Center has developed a course, "Traffic Safety and Human Behavior," to introduce the importance of traffic safety, and it organizes scientific international traffic Safety conferences under the patronage of the Minister of Interior and the Prime Minister of Qatar. The Center has also developed professional road safety training programs and workshops that aim to build road safety capacity locally and regionally. It is heavily involved with Mowasalat-Karwa Driving Schools in developing training workshops for driving instructors (train the trainer) regarding different issues such as autism,

aggression, driving errors and violations. They also run the [Traffic Safety Ambassadors Program](#) to raise awareness among school students and the wider community of the importance of traffic safety, and to cultivate safe driving practices among the youth. The program is in co-ordination with the Ministry of Interior and the National Committee for Traffic Safety, and it is supported by Qatar Petrochemical Company (QAPCO).

11.2.2 Our Culture

Our community supports, enriches and contributes to the national cultural movement at various levels. Our students participated in the [Doha Theatre Festival](#), with a student-led theatrical performance. Our students also took part in [International Story-telling Day](#) by sharing **Qatari-folktales** in the English language with schoolchildren. They read stories to 450 children, in twenty classes from kindergarten to grade five.

11.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
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| 40 |

11.3.1 Cultural MOOCs

We have launched [three new cultural Massive Open Online Courses \(MOOCs\)](#) on edX. The courses are Arabic for Non-Arab Speakers, The Human Being in Islam and Qatari History and Heritage. These free, online courses will give people all over the world access to the cultural heritage of Qatar.

11.3.2 Culture on Campus

Our department of Arts and Culture organises a range of programs, activities, workshops, and cultural-artistic events for our community. These events encourage students to connect to culture, arts and heritage, and promote the cultural and creative movement in our university. Among other activities, The [Awtaar Competition](#) brings together the orient and the west by providing a platform for students to display their talents in playing the oud and the piano. The [Fasih Poetry Competition](#) encourages our students' literary expression, while the weekly [Qatari Authors Café](#) is a cultural platform that discusses pertinent topics related to the cultural scene.

11.3.3 Cultural Village

Our [Cultural Village](#) is a unique student event that showcases the different cultures across campus annually. The village includes booths, exhibitions, and activities that reflect each culture and present folkloric shows, music, traditional customs, and plays.

11.4 OPERATIONS AND COLLABORATIONS

11.4.1 Cultural Awareness

We [signed an MOU](#) with **Qatar Cultural and Heritage Events Center** to promote culture, arts, media and research on campus. The partnership will offer students training opportunities in the relevant fields as well as cooperation between the two institutions in organizing workshops that will develop students'

organizational, technical and intellectual skills. In addition, the MOU will open the door for joint research projects, academic studies and polls.

11.4.2 Accommodation Provision

As part of the compensation package, we provide our faculty with accommodation or accommodation allowance, ensuring all faculty have access to decent accommodation.

As for students, our [on-campus student housing](#) is highly subsidised, and includes transportation and meals. In addition, our free internal [shuttle service](#) makes it easier for the university community to access our buildings and colleges, and students to move between hostels and university buildings.

11.4.3 Award Winning Building

Our recently-constructed College of Education building was built to Qatar's **Global Sustainability Assessment System's (GSAS)** 4-Star Design and Construction Standards and [won the Award of Merit](#) in the Education/Research category at the Engineering News-Record (ENR) 2021 Global Best Projects Awards.

SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

12.1 RESEARCH

12.1.1 Fish Consumption

As a peninsula, Qatar has traditionally had fish as a main component of the people's diet. With the changing demographics and lifestyles, understanding fish consumption patterns in the country has become vital for managing fish levels and introducing appropriate policies to protect fish stocks. However, little is known about current fish consumption patterns in the country. Our Social and Economic Survey Research Institute (SESRI) [conducted a survey](#) to understand these patterns. The survey targeted a representative sample of the three main groups residing in Qatar: Qatar citizens, "white-collar" expats, and "blue collar" expats and found that while the rate of fish consumption in Qatar is high, fish-type preference varied among resident groups. It suggested policies to safeguard fish biodiversity, and alternative uses of less demanded fish – such as using them for animal and aquaculture feed.

12.1.2 Increasing Crop Production

In collaboration with Agrico and the Center of Biotechnology of Sfax, Tunisia, our Center for Sustainable Development is [producing biological fertilizers](#) based on salt-tolerant microorganisms to promote organic crop production in Qatar. This bio-fertilizer will not only improve plant productivity and fruit quality, but it will also enhance the soil-quality and allow for the use of salt-water for the sustainable production of conventional crops such as tomatoes. The ability of crops to grow using salt-water will significantly alleviate the pressure on Qatar's scarce ground-water resources.

12.1.3 Managing Food Waste

Food waste is widespread in the Gulf. This aggravates the already existing problems of food availability, water scarcity, adverse environmental impact, and increasing food imports. To counter that, we at QU are involved in several research projects related to food security with the purpose of reducing food loss and waste and increasing agricultural production. Examples of these research efforts are the use of biopesticides and biofertilizers, [cleaning polluted soil from oil spillages](#), development of the [first solar agricultural greenhouse](#) and creating an innovative [app to manage food waste](#).

| | |
|-------------------------------|-------|
| Scholarly Output | 336 |
| Views Count | 23367 |
| Citation Count | 4998 |
| International Collaboration % | 59% |

12.2 OUTREACH

12.2.1 Ramadan Tents

In the holy month of Ramadan, marquees are set up across the country to provide meals for thousands of people. This excess generosity often comes with excess waste. We carried out the ['Eco-Friendly Ramadan](#)

[Tents'](#) initiative in co-ordination with the Ministry of Municipality and Environment (MME) and Qatar Red Crescent Society (QRCS). The initiative collected excess food from the marquees and converted it into compost in an effort to reduce waste and the environmental footprint and to encourage sustainable consumption. Researchers at SESRI further formulated policies and recommendations for future development projects of this kind.

12.2.2 Corporate Social Responsibility (CSR)

Qatar [CSR National Program](#) is an academic initiative hosted by our university, in partnership with governmental and non-governmental bodies, aiming to advance corporate social responsibility (CSR) awareness among students, and engage with the business sector. The [program](#) includes academic activities such as CSR research studies, public surveys, workshops, training courses, lectures, awareness campaigns, student's competitions, awards, and a conference and exhibition organized alongside the launch of an annual CSR report covering social investment achievements by the public and private sectors in Qatar.

12.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
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| 10 |

12.3.1 National Environment Day

Each year, we [mark Qatar National Environment Day](#) with a theme, and run activities to raise awareness among our university community as well as the wider community on the importance of the environment. For example, in 2021, we celebrated the day under the theme of 'Environmentally-friendly Solutions: Green Technology' - where we ran two student competitions to encourage a deeper interest in the subject.

12.3.2 Market time

Our student-led Environment and Sustainability Club have offered [free workshops](#) for children at Torba Farmers Market. The workshops educate children about environmental issues including how to minimize waste and the correct way to dispose of waste. They also include hands-on activities using waste, to encourage children to view 'waste' from a different perspective.

12.3.3 Consume Responsibly Challenge

Our College of Business and Economics (CBE) initiated the '[Consume Responsibly](#)' challenge during Qatar Sustainability Week. Participants were asked to submit digital posters with innovative solutions to challenges linked to seven themes related to sustainable development and to propose an action plan to put their ideas into practice. Over 300 students presented 117 projects covering the different themes. The competition, sponsored by Abu Issa Holding Company, sought to build awareness and engage students in real-world challenges linked to achieving the sustainable development goals.

12.4 OPERATIONS AND COLLABORATIONS

12.4.1 Sustainable Consumption

As part of our commitment to turning QU campus into a model for sustainable consumption with a circular economy, we launched our [Zero Waste Action Plan](#). The ultimate purpose of the plan is to reduce waste on campus. It identifies the initial actions needed to introduce sustainable procurement practices, waste measurement activities and waste prevention policies. The Zero Waste Plan builds on earlier successful initiatives at QU, such as reduction of paper consumption and recycling, waste audits, plastic bottle collection program, shift from paper to e-business cards, and [other green initiatives](#).

12.4.2 Closing the Loop

As part of our Zero Waste Initiative, the Facilities & General Services Department in Qatar University (QU) has succeeded in producing the [first batch of fertilizer](#) by converting food waste generated at the students housing. The initiative strives to minimize both virgin material inputs and waste outputs by closing organic resource flow loops (food waste). Furthermore, the use of palm waste fiber generated on campus in the production of smart eco-friendly recycling dumpsters is another example of how we upcycle waste materials on our campus. The use of such products on campus encourages the community to gradually shift towards a more sustainable lifestyle.

SDG 13: CLIMATE ACTION

Take urgent action to combat climate change and its impacts

13.1 RESEARCH

13.1.1 Thermally Insulated Greenhouse

QU researchers received an National Priorities Research Program grant to design and build a [greenhouse](#) that can provide favorable sustainable agricultural microclimate conditions for growing produce in the harsh Qatar climate. The project developed a thermally insulated greenhouse that allows the entry of optimum solar radiation levels through negative linear Fresnel lenses located in its roof. The lenses distribute the solar radiation over the plant rows. The performance of the proposed greenhouse in terms of providing the required levels of solar radiation for plant growth and the reduction in cooling load were assessed using ray tracing simulations, cooling load calculations, and field trials. The greenhouse uses modern agricultural technologies such as cooling, lighting system, and recycling palm leaf waste. The new greenhouse is considered to be a quantum leap in the field of protected agriculture, in which it is expected that production will be increased in quantity and quality while reducing the operating costs of energy and water consumption.

13.1.2 Doha Corniche

Doha's Corniche, located in the center of Doha, contains many important marine organisms. Intense human activity in the area, however, has led to a gradual deterioration of the quality of life and water. Our Environmental Science Center (ESC) and ExxonMobil Research Center in Qatar (EMRQ) have signed a cooperation agreement to [launch a detailed environmental study](#) of Doha's Corniche. This study is the first attempt to understand the ecosystem and potential pollutants at the Corniche, as well as monitor harmful changes and provide policy recommendation to protect and restore marine biodiversity and develop the ecosystem of this vital area.

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|-------------------------------|-------|
| Scholarly Output | 473 |
| Views Count | 22525 |
| Citation Count | 7739 |
| International Collaboration % | 71% |

13.2 OUTREACH

13.2.1 Carbon Management

We organized a [high-profile workshop](#) on "Carbon Management and Climate Change: CO2 Conversion/Mineralization". The workshop, sponsored by QatarGas, brought together high profile representatives of government, industry and academia to tackle the challenges of climate change and global warming. The workshop facilitated an open communication channel that will strengthen ties between all three types of stakeholders and have a positive impact on the carbon management ecosystem in Qatar.

13.2.2 Greener Schools

In the '[Qatar Greener Schools Initiative](#)' project, our researchers propose a new Energy Management System for greener schools in Qatar. The proposed model architecture aims at providing a new perspective for automatic and intelligent management of electricity distribution networks integrating green energy (e.g. solar energy) and enabling secure and reliable ICT within the future Qatar Smart Grid infrastructure. This project provides participating schools with the resources and communications support they need to educate their students and staff community on renewable energy and energy efficiency best practices.

13.2.3 Desert Camping...Yay or Nay?

As the winter arrives in Qatar, so the camping season starts. Camping in the desert is an old-age Qatari tradition. Now, camping is being modernized and looks more like glamping, with caravans, running water and electricity, and built 'tents'. The effect of these modernized camping activities on the environment is unknown. We have [signed and MOU with the Ministry of Environment and Climate Change \(MoECC\)](#) to cooperate in studying the social and environmental impacts of these camping activities. As part of this MOU, we will also collaborate on organizing seminars, workshops, lectures, and training courses about this for Qatar's community.

13.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
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| 14 |

13.3.1 Farmers Market

Our student-led Environment and Sustainability Club have offered [free workshops](#) for children at Torba Farmers Market. The workshops educate children about environmental issues including how to minimize waste and the correct way to dispose of waste. They also include hands-on activities using waste, to encourage children to view 'waste' from a different perspective.

13.4 OPERATIONS AND COLLABORATIONS

13.4.1 Carbon Footprint

Qatar's economy depends mostly on fossil fuels, and the country is one of the highest carbon dioxide emitters in the region. As universities, we have the obligation to enact change in our communities and environments. Our [Carbon Footprint Report](#) is our effort to do this. The report estimates our contribution to global climate change, assesses the current situation, informs decision-making and future plans, and drives the implementation of new techniques to reduce emissions. By paving the way with this report, we hope to inspire and encourage other institutions in the country to take the same measures.

13.4.2 Greening Award

Our Department of Facilities and General Services [won an award](#) in the Green Educational Building category at the Fourth Qatar Sustainability Awards, organized by Qatar Green Building Council (QGBC). The Qatar Sustainability Awards aim to recognize the efforts, commitment, and contributions of individuals, institutions and organizations in furthering sustainable development and environmental protection in Qatar and beyond.

Winning this award is a testament to our university's diverse efforts in fighting climate change and moving towards sustainability.

13.4.3 Conservation

Our [Renewable Energy and Conservation Policy](#) guides different operations at the Facilities and General Services Department to meet Qatar University commitment towards sustainability. The policy aims to create a more sustainable campus and maximize efficiency while responsibly managing energy, water and human resources.

SDG 14: LIFE BELOW WATER

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

14.1 RESEARCH

14.1.1 'Gardening' Coral Reef

One of the most tangible ways in which we can see the effects of climate change is to examine coral reefs. These essential players in the ocean's ecosystem are now withstanding the worst effects of climate change. Researchers at our Environmental Science Center (ESC) are behind a [groundbreaking discovery](#) that could counter coral reef damage - The 'Mushroom Forest Artificial Reef'. Named after its structural shape, these artificial reefs are farmed indoors and then deployed to the sea using an innovative technique (coral gardening) that allows damaged coral reefs to revive themselves. The fragmentation of resilient coral species has already been performed, and more than 4000 fragments have been planted in Qatar's natural ecosystem. The technology, which was designed, developed, patented and validated within our research facilities is now being exported to Brazil, where it will be used to restore marine resources.

14.1.2 RESTORE and QataREEF

Our researchers, in partnership with TotalEnergies and SEABOOST, are working on a series of interconnected projects titled "[RESTORE](#)" and "[QataREEF](#)" aiming to bridge science to policy and to apply advanced scientific knowledge and tools to achieving coral reef sustainability in Qatar and the region. Artificial reefs can be used to compensate for the degradation of natural habitats as well as the conservation and restoration of corals in Qatar. An artificial coral reef built by SEABOOST has been deployed in close proximity to healthy coral reef areas, and will remain for there 3-4 years to allow the growth of new coral larvae. These artificial reefs are built using innovative technologies and specific materials to increase the settlement of coral larvae. The artificial reefs are then moved to a new location where monitoring will occur for an additional period.

14.1.3 Janan

Our research vessel [Janan](#) is a multi-purpose research vessel, designed as per international standards for marine research. Janan provides oceanographic data to support important scientific research locally, regionally and globally. Our ESC conducts studies on weather and air pollution surrounding the marine environment, tidal conditions and water currents, in addition to monitoring the features of the country's territorial waters and the waters of the Arabian Gulf. The [ship is also used](#) in the implementation of many programs, studies and research projects, including: studying the Qatari marine waters, which involves conducting physical, chemical, biological and geological studies; providing training and practical programs for students and technicians; and supporting student and faculty research.

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| Scholarly Output | 173 |
| Views Count | 6712 |
| Citation Count | 1933 |
| International Collaboration % | 72% |

14.2 OUTREACH

14.2.1 Protecting Dugongs

Dugongs, or Sea Cows, have inhabited the waters surrounding Qatar’s peninsula for more than 7,500 years. With industry leaders, government entities and academia (including our university), efforts have been made to preserve the dugongs in our waters. With the help of researchers and scientists from Qatar University and Texas A&M, The National Museum of Qatar (NMoQ) launched a [special exhibition on the Dugong](#). The free exhibition - Seagrass Tales, Dugong Trails - was open to the public and took visitors on an interactive learning journey about the dugong.

14.2.2 Meet the Expert

We participated in Qatar Science and Technology Park’s (QSTP) [‘Meet the Expert Series’](#), as part of Sustainability Week in Qatar. Along with our partners – TotalEnergies - we presented the latest updates in our coral reef restoration project – QataREEF. Members of the community learned about our unique project and were able to directly interact with and ask question to the experts.

14.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
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| 11 |

14.3.1 Leading student research

In our support for undergraduate research, our students participated in the World Congress on Undergraduate Research (WorldCUR) – the first edition of which was held at Qatar University. In the latest edition, one of our undergraduates [won the prize for the best environmental project](#). Her research study entitled “Antibacterial Activity of New Sponge Species Isolated from the Qatari Marine Zone” revolves around the discovery of two new species of sponge on the coast of Qatar that proved to contain antibiotics.

14.3.2 Earth-Friendly Lubricants

A group of our undergraduate students, with funding from the Undergraduate Research Experience Program ([UREP](#)), are carrying out a study on the development of marine microalgal biolubricants using a biorefinery approach. Lubricants are typically petroleum derived. They have harmful effects on the ecosystem, and contain non-biodegradable carcinogenic components. The students, led by a faculty mentor, are producing a lubricant from microalgae that does not pose a threat to the eco-system and is biodegradable.

14.4 OPERATIONS AND COLLABORATIONS

14.4.1 UNESCO Chair

Together with UNESCO, we have established a [UNESCO Chair in Marine Sciences](#) at our ESC. The chair in marine science is the first of its type in the region. The Science Plan, which is embedded in this awarded proposal, covers the following natural and anthropogenic components related to the Arabian Gulf: Arabian Gulf circulation, climate change, sea level rise, Shamal winds and swells, geomorphological changes due to

coastal and offshore developments, marine pollution and its management, hypoxia formation & ocean acidification and anthropogenic impacts on the Gulf's ecosystems.

14.4.2 Exporting our Tech

We [signed an agreement with the Brazilian Company 'Blue Reef'](#) to export the 'Mushroom Forest Artificial Reef' – a coral reef restoration technology. The technology was designed, developed, patented and validated within our research facilities. The technology will be exported to Brazil where it will be used to restore marine resources.

14.4.3 Marine Clutch

We signed a co-operation agreement with the **Ministry of Municipality and Environment (MME)** on [licensing the use of marine clutch technology](#). Under this agreement, we granted the necessary licenses to the MME to manufacture, distribute, and use the Marine Clutch devices within Qatar permanently. The invention, a fishing-cage-retrieval device, is designed to reduce or eliminate environmental damage to the seafloor.

SDG 15: LIFE ON LAND

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss

15.1 RESEARCH

15.1.1 Cleaning Oily Soil

Qatar's limited soil and groundwater resources are affected by hydrocarbon contamination that occurs during the extraction, transport and processing of oil and natural gas. Though oil spills do occur, what is the more common phenomenon is the adverse effect of extensive weathering caused by the harsh weather in Qatar, which has led to oil contaminating the soil. Left untreated, removal of pollutants from the soil would take a very long time and comes with a high risk of spreading the pollution into air, ground water, sea water and deeper into the soil. Our researchers have [discovered that microbial remediation](#) – i.e. the use of microorganisms to break down toxic pollutants – is a better strategy to clean polluted soil. The bacteria used is indigenous to Qatar and the research shows that in fact these novel bacterial strains are more active under the harsh physical and chemical conditions of Qatari soil, making them appropriate for use in enhanced oil recovery and bioremediation in Qatar. Bioremediation of polluted soil and groundwater is vital to protect the limited soil and water resources in Qatar.

15.1.2 Soil Gel

In an effort to contribute to food security in Qatar, our researchers have created an [innovative environmentally friendly gel](#) to promote agriculture in dry and harsh climates. The gel maintains the moisture of the soil, limiting the amount of water needed to grow crops. This innovation will encourage agricultural activities in Qatar that suffer from limited fresh water resources and significant water loss through evaporation. This technology is now being tested on a commercial scale at Qatar's first organic farm.

15.1.3 Sabkhas of Qatar

Researchers at our Environmental Science Center (ESC) are collaborating with scientists from international universities and research centers including ExxonMobil Research Center in Qatar (EMRQ); ETH Zurich; Space Exploration Center in Switzerland; NASA Jet Propulsion Laboratory; and the University of Toronto, to examine the multitude of microbes in the [Sabkhas](#) of Qatar. Sabkhas are a coastal, supratidal mudflat or sandflat in which evaporite-saline minerals accumulate as the result of the semi-arid to arid climate and are among the rare environments on Earth where it is possible to study the formation of carbonate and evaporite minerals. Usually, these are commonly found mineral association in ancient sedimentary sequences and, furthermore, constitute economically important gas and oil reservoir rocks. These reservoirs are often located at depth in the subsurface, making their characteristic and physical properties difficult to evaluate and predict. Thus, the study of the Qatari Sabkhas, where the same sedimentary sequence is forming today close to the surface, is of great benefit for geologists and engineers engaged in the exploration and exploitation of similarly constituted hydrocarbon reservoirs.

15.4.2 Repurposing Tunneling Soil

ESC researchers have analyzed different soil samples from the rubble resulting from the Doha Metro tunneling works by Qatar Rail and conducted laboratory experiments that included soil enhancement in search of opportunities to produce various agricultural crops. The soil testing results revealed a vast similarity in the mineral and physical composition of the natural soil used in local farms in the country. The

research team in charge of the project revealed that the [soil will be successfully used in agriculture](#) after mixing it with natural soil conditioners in various ratios. To obtain these results, the team cultivated various plants used as pasturages such as clovers and millets.

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|-------------------------------|------|
| Scholarly Output | 115 |
| Views Count | 4562 |
| Citation Count | 1209 |
| International Collaboration % | 66% |

15.2 OUTREACH

15.2.1 Protecting our Turtles

Each year, hawksbill turtles come to Qatar to nest. However, human activity has caused negative effects on their habitats. Our ESC along with Qatar Petroleum, work to protect and [monitor the turtles](#) and restore their population and habitats across the Qatari coast, and on Qatari islands. Some activities include erecting protected nest hatcheries and using satellite trackers. The turtle protection program also involves the public in their activities in order to raise awareness and increase interest in environmental protection.

15.2.2 Greener Future

Our Environment and Sustainability Club runs an ongoing [“Together for a Greener Future”](#) campaign, where they raise awareness on issues of the environment. For example, club members carried out a ‘Plant a Tree’ campaign where they involved students, faculty, and staff in planting trees for a greener university environment.

15.3 STUDENTS AND LEARNING

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| UNITS TOWARDS SDG |
| 11 |

15.3.1 Aladaam

Our [Aladaam Initiative](#) is a national initiative that aims to promote national values, patriotism, loyalty and love of belonging to the homeland, and to celebrate Qatar National Day throughout the month. The initiative brings together students from various disciplines to express their love and pride for the homeland through short films that are shared with the community. The theme for the latest Aladaam Initiative was ‘Ancestral Meadows: A Matter of Trust’ and highlighted the importance of preserving the environment and preserving the heritage of our ancestors in general.

15.3.2 Batman

One of the students in Environmental Sciences, supervised by our faculty, conducted a first-of-its-kind nationwide [bat survey](#) in Qatar. Bats are important bioindicators used for assessing environmental health

and biogeographic changes taking place in the environment. The need to study and keep track of them is therefore essential to understanding and monitoring the country's ecosystem.

15.4 OPERATIONS AND COLLABORATION

15.4.1 Zero Waste

[Our Zero Waste Action Plan](#) is an example of our university's commitment and action plans to reduce waste on campus. The holistic plan identifies action points in moving to a circular economy and addresses paper recycling, plastic and single-use disposables, and food waste. It also identifies the initial actions needed to introduce sustainable procurement practices, waste measurement activities and waste prevention policies. Examples include our success in producing the first batch of fertilizer by [converting food waste](#) generated at the students housing, and shifting from paper [e-business cards](#) – the first academic institution in Qatar to do so.

15.4.2 Special Habitats

We have reserved [three natural habitat](#) areas within our campus. Each of these fields exhibits notable differences in their biodiversity of flora and fauna and serve as important sites to study the diversity and interactions of plants, animals and microorganisms in their natural habitats. Additionally, these fields are used as labs for several courses in the university.

SDG 16: PEACE, JUSTICE AND STRONG INSTITUTIONS

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

16.1 RESEARCH

16.1.1 Encyclopedia of Occidentalism

The [Encyclopedia of Occidentalism](#) is the first-ever and largest intellectual project in the Arab and Islamic world that provides a comprehensive understanding of the West's culture, ideology, history, religion and politics. The encyclopaedia is a result of cooperation between Qatar Committee for the Alliance of Civilizations at the Ministry of Foreign Affairs, the Islamic World Educational, Scientific and Cultural Organization (ISESCO), and Qatar University represented by the ISESCO Chair for Dialogue of Civilizations at our College of Sharia and Islamic Studies. The Encyclopaedia is a reference on different aspects of Western civilization through an Islamic perspective and contributes to promoting dialogue and civilized understanding between East and West.

16.1.2 Financial and Regulatory Technology

Financial technology (FinTech) and regulatory technology (RegTech) are revolutionizing global financial services. Important financial infrastructure areas such as currency, payment systems and clearing services are all being disrupted by the advent of a new generation of digital developments such as blockchain. Our Center for Law and Development won an NPRP grant: '[FinTech and RegTech: Building a resilient, inclusive and competitive legal and regulatory framework for 21st century finance in Qatar](#)'. This project examines, reviews, and proposes a complete suite of legal reforms specifically for the Qatari financial services sector that address and support the significant global advances in digital technology. The project examines the impact of blockchain technology on financial transactions, secured distributed ledger technology applied to industry and the diversification of the Qatari economy. As part of the grant, the researchers also help build local capacity to implement a resilient and responsive legal framework that is efficient and globally competitive in the economy of the 21st century. By bringing world leading expertise together with Qatar based researchers, this project is significantly strengthening the financial sector in Qatar as it moves into a new era.

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|-------------------------------|------|
| Scholarly Output | 131 |
| Views Count | 7950 |
| Citation Count | 3901 |
| International Collaboration % | 59% |

16.2 OUTREACH

16.2.1 Model UN

Members from our College of Law [volunteer annually](#) for schools running the Hague International Model United Nations (THIMUN). Professors and students teach local school students the importance of SDG16; the role of advocacy in Qatar; how to find legal counsel in Qatar; what to prepare as a client when hiring legal

counsel and how the local courts function. Our professors taught basic ethics, philosophy and social psychology principles while stimulating the students to debate perceptions of fairness and justice.

16.2.2 Education for Justice

Members from our college of law have been working together with the United Nations Office on Drugs and Crime’s (UNODC) to [rollout their Education for Justice \(E4J\)](#) initiative to Arabic speaking countries. The E4J initiative seeks to prevent crime and promote a culture of lawfulness through education activities designed for primary, secondary and tertiary levels. We are translating all E4J University Modules Series to support teaching on the SDGs, and particularly SDG16, across the region.

16.3 STUDENTS AND LEARNING

| UNITS TOWARDS SDG |
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| 48 |

16.3.1 Teaching EU Law in the GCC

Our Center for Law and Development (CLD) [have been awarded](#) the European Union Jean Monnet Module funding to deliver courses on EU law to students and professionals in Qatar. The ‘Doha Courses on European Union Law’ is the first Jean Monnet Module in Qatar and the GCC, and the courses will be delivered annually for three years. In a funding competition, the Center for Law and Development won a competitive grant and was one of 360 awarded applications out of the 1447 eligible funding applications. The Module will constitute the basis for future knowledge and research about Europe in Qatar and will allow the CLD to deliver tailor-made courses on specific European Union law issues relevant to graduates’ professional lives. It will enable Qatar-based lawyers to develop skills and knowledge in EU law to help local businesses and organizations to better trade with EU businesses and deal with EU institutions.

16.3.2 Maker-Majlis

Students from the College of Law [volunteered in HBKU’s ‘Maker-Majlis’](#) – a platform for youth engagement in the UN SDGs. The 4-day event saw more than 1,100 local school children, and 500 visitors participate in a range of activities that raise awareness of the SDGs. Our students had the opportunity to engage with these visitors, and actively contribute to and advance the role of law and the legal profession in Qatari society.

16.3.3 Student Representative Board

Our [Student Representative Board](#) represents our university’s students. It functions as a mediator among students, faculty members and the university’s administration, and takes part in the administration’s decision-making. The board is made up of student representatives from each college, who are democratically elected each year.

16.4 OPERATIONS AND COLLABORATIONS

16.4.1 Peacebuilding

Our Gulf Studies Center signed an MOU with the [Cordoba Peace Institution](#) (Geneva) on joint co-operation in the field of peacebuilding.

16.4.2 Legal Consultations

Our [Office of the General Counsel](#) provides free consultations and legal services to the university's academic and administrative staff.

16.4.3 Academic Freedom

We support a free and open flow of information and ideas between our community members and stakeholders and are committed to the highest standards of integrity and transparency. Our [mission and vision](#) statement lists six core values that include **academic freedom** and further delineate this value in our [Academic Freedom Policy](#).

SDG 17: PARTNERSHIP FOR THE GOALS

Strengthen the means of implementation and revitalise the global partnership for sustainable development

17.1 RESEARCH

17.1.1 International

We lead and participate in many global research partnerships. We have been collaborating with academic institutions, government, industry, and NGOs across the world to advance our research involving the sustainable development goals.

- One example of our partnerships is the internationally-joint research project [M-NEX](#): "The Moveable Nexus: Design-led Urban Food, Energy and Water Management Innovation in New Boundary Conditions of Change", granted jointly by [Belmont Forum](#) and [PI Urban Europe](#). Qatar University is one of [seven partners from six countries](#).
- Another example are our international partnerships is on implementing the first ever [National Mental Health Study](#) - for which we partnered with the World Health Organization, Harvard University, the University of Michigan – and other local partners.
- Research at our Environmental Science Center has seen international collaboration with ETH Zurich; Space Exploration Center in Switzerland; NASA Jet Propulsion Laboratory; and the University of Toronto. The project is a joint effort to examine the multitude of microbes in the [Sabkhas](#) of Qatar.
- We have also partnered with [Imperial College London](#), [Biostage Inc](#) in the US, and the [American University of Beirut](#), Lebanon, to develop living heart valves that can grow with the body and integrate with the patient's native tissue.
- We have established UNESCO Chairs in [Marine Sciences](#) and in [Desalination and Water Treatment](#) – both firsts in the region and both aiming to advance international co-operation to institutional capacities, knowledge sharing and collaborative work.

17.1.2 Local

Locally, we have worked side by side with academic institutions, government ministries and agencies, the industry, and NGOs to further research and policy in the sustainable development goals.

- We have partnered with [ExxonMobil Research Qatar](#) on a range of research projects including our Algal Technologies Program for the [treatment of waste-water](#) and our [environmental study of Doha Corniche](#).
- We have partnered with [TotalEnergies](#) locally (and [SEABOOST](#) internationally) to work on a series on interconnected projects to [restore Qatar's coral reef](#).
- Together with [Qatar Electricity and Water Company](#), we have established our [Water Technology Unit](#) that focuses on desalination and water treatment in the region.
- We have partnered with [Qatar Research, Development and Innovation Council \(QRDI\)](#), to promote various programs, policies and activities that will contribute to the development of the overall national research, development and innovation ecosystem.
- Our MOU with [Iberdrola Innovation Middle East](#) – the number one producer of wind power - is establishing applied research and development co-operation in the field of sustainable development.

17.2 OUTREACH

Our many partnerships to enhance public engagement, outreach and increase awareness of the SDGs span government, academia, industry and NGOs.

- We run [summer camps](#) for high school students in partnership with the [Ministry of Education and Higher Education](#).
- We run competitions to encourage engagement with the sustainable development goals – such as the [Gasna](#) competition in collaboration with Exxon Mobil, and the [Artificial Intelligence Competition](#) with [Hamad bin Khalifa University](#) (HBKU), [Qatar Computing Research Institute](#) (QCRI) and [Huawei-Qatar](#).
- Our [Global Space Sustainability Challenge](#) – which challenges participants to find innovative solutions that address pressing challenges that threaten sustainability on our planet- is in partnership with [Metavisionaries](#), [ICE Cubes](#), [Space Applications Services](#), [International Space University](#) and [Club of the Future by Blue Origin](#), and is sponsored by [Qatar General Electricity & Water Corporation \(Kahramaa\)](#).
- Our mobile laboratory – the [STEM bus](#) – brings STEM to school children, and is the result of our partnership with [Qatar Petrochemical Company \(QAPCO\)](#) and [Dolphin Energy Company](#).
- We hold regular [blood donations campaigns](#) with [Hamad Medical Corporation](#) and work with [Qatar Charity](#) on projects and campaigns, including the [Humanitarian Work Forum](#), and other humanitarian campaigns.
- We run [the Traffic Safety Ambassadors](#) Program in co-ordination with the Ministry of Interior, the National Committee for Traffic Safety, and QAPCO.
- We work in partnership with the Ministry of Municipality and Environment (now the Ministry of Environment and Climate Change) on many outreach campaigns, including our '[Environmentally Friendly Ramadan Tents](#)' project, and [camping in Qatar](#) project – both of which seek to implement research-based policy and increase awareness in the community.

17.3 STUDENTS AND LEARNING

We are providing our students with diverse learning opportunities that will give them the skills and knowledge to advance the SDGs. We have collaborated with a range of public and private organizations to bring the best learning experiences to our students.

17.3.1 Medical Student Exchange and Internship

- We entered into agreement with the [Royal College of Surgeons Ireland](#) to offer a dual PhD program where candidates from both sides will spend half of their PhD degrees at each campus – providing students the chance to widen their horizons and experience research by some of the best research groups.
- We have [partnered](#) with [Potel Et Chabot](#) and Saint Clair to provide internship opportunities for our students.
- We initiated the [Medical Students Exchange Program](#) in co-ordination with the [International Federation of Medical Students Associations](#)

17.3.2 Innovative Educational Experiences

- We have launched three new cultural Massive Open Online Courses (MOOCs) on [edX](#). The courses - Arabic for Non-Arab Speakers, The Human Being in Islam and Qatari History and Heritage - will give people all over the world access to the cultural heritage of Qatar.
- We have also made history by becoming the first university to enter the metaverse. We have partnered with [Metavisionaries](#) - which will bring together educators, space scientists, and industry experts to deliver interdisciplinary curricula and prepare students for the future of work.
- Our MOU with [Iberdrola Innovation Middle East](#) – the number one producer of wind power energy includes training students and co-funding of graduate MSc and PhD research students.
- Our [partnership with Boeing](#) brings several initiatives that benefit academic programs and support both university and high school students.
- We are [working with the United Nations Office on Drugs and Crime’s \(UNODC\) Education for Justice \(E4J\)](#) initiative to Arabic speaking countries.

17.4 OPERATIONS AND COLLABORATIONS

Partnerships, Agreements, and Memoranda of Understanding

Partnerships are the key to tackling the SDGs. We have 231 active MOUs in a range of fields. We have entered into partnerships, and we collaborate with different sectors to actively advance the SDGs. A sample of these collaborations and their objectives are presented below:

17.4.1 Financial Aid Agreements

To widen access to education for the most marginalised, we have [signed agreements](#) with **Qatar Charity, Education Above All Foundation (Al Fakhoora Programme), the Social Development Center (Nama), Jassim and Hamad Bin Jassim Charitable Foundation, Seashore Group and Aff Charity** to provide financial aid to our students.

17.4.2 Vegetable Pilot Plant

We have partnered with the Japanese firm [Chiyoda Corporation](#) to construct the first on campus Factory Vegetable Pilot Plant - to provide sustainable, affordable, more environmentally friendly leafy vegetables in Qatar.

17.4.3 QU Sports

Together with the [Qatar Olympic Committee](#), our university will establish the Qatar University Sports Federation. Due to our partnership in bidding with [HBKU](#), the 2022 [Congress of World Association of Sport Management \(WASM\)](#) will be held in Qatar.

17.4.4 Health Matters

We have signed an MOU with the [Primary Health Care Corporation](#) to provide faculty, staff and students (residing in student housing), with free health services.

17.4.5 Marine Life

We have partnered with **Ministry of Municipality and Environment** on [licensing the use of our marine clutch technology](#) across Qatar. We have also partnered with the Brazilian Company **Blue Reef** to export our 'Mushroom Forest Artificial Reef' – a coral reef restoration technology which will be used to restore marine resources in Brazil.

A LOOK TO THE FUTURE

As an institution, we are taking further steps to continue building on what we have achieved in working towards the SDGs. We hope to drive awareness of and engagement with the SDGs in our university community, nationally and regionally. These further steps include:

1. University Mission, Vision, and Strategic Plan

We are currently developing a new strategic plan for 2023-2028, with new mission and vision statements and new strategic objectives. The plan explicitly expresses our commitment to the promotion of sustainable development through addressing the SDGs. It also includes the developing measurement tools for meeting the goals.

2. Learning and Students

Academic program development and performance improvement, under way in the fields of Mass Communication, International Affairs, and core program, stress the importance of courses in research methodology and practicum hands-on courses in order to enhance autonomous, lifelong learning as a requirement for sustainable development.

3. Research Priorities

We continue to address the Qatar Vision 2030 research priorities that will reinforce and enhance sustainable development in the country. These include work on innovative biotechnology, advanced materials, alternative energy sources (e.g. biofuel, solar, and wind), disease control, environmental protection, and conflict resolution.

4. Leadership

We will continue and expand our role as the leading national university that prides itself on the quality and job market effectiveness of its graduates, quality and quantity of research output, and engagement with the community and its public and private institutions.

5. Cultural Engagement

We will use our continuing education programs, active research and publications, and presentations and events to promote and spread our culture of excellence, diversity, tolerance, equality, and innovation locally, regionally, and globally.

6. A Future of Sustainable Development

We at Qatar University believe that sustainability is the guiding light to a prosperous tomorrow. We see ourselves as the model for sustainable consumption. Thus, we aim to reach a 50 percent zero waste by 2025, with the management component favouring prevention, repair, and reuse over recycling, landfilling, and incineration. Furthermore, we aim to create a circular economy action plan that involves establishing a governance and monitoring structure to develop a waste measurement and prevention system, initiating a communication strategy addressed to students and employees, and fostering a culture of innovation and social transformation.