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## HIGHER EDUCATION

Fueled by increased demand, the Egyptian higher education system has expanded rapidly in the past few decades. The university and technical college systems face challenges such as underfunding and misalignment with the needs of potential employers. Public universities are often overcrowded, resulting in diminished teacher effectiveness and poor returns on education. Disadvantaged students also often lack opportunities to study at the best public and private universities. Despite being one of the world's largest exporters of skilled labor, Egypt faces a shortage of appropriately skilled technical and professional workers, making it more difficult for the private sector to deploy technologically advanced processes, products, and services.

Through the establishment of three Centers of Excellence, USAID and its partner, the Egyptian Ministry of Higher Education and Scientific Research, will increase the capacity of Egypt's higher education institutions to drive innovation, share best practices, and create linkages between research and the public and private sectors in the areas of agriculture, water, and energy.

Launched in 2015, the U.S.-Egypt Higher Education Initiative (HEI) provides scholarships to hundreds of talented women and men from underserved communities throughout Egypt to study at premier Egyptian and American universities in fields crucial to Egypt's sustained economic growth and development. This has resulted in a cadre of young professionals committed to Egypt's long-term development goals.

Through the U.S.-Egypt Science and Technology Joint Fund, USAID is building the capacity of Egyptian science and technology institutions, including universities and institutes of higher education, to address development challenges and promote economic growth through applied scientific research and technology commercialization.

USAID is also partnering with Egyptian public universities to establish centers for career development to provide career guidance, employment skills, and technical training to Egyptian students – a key linkage uniting higher education and economic growth initiatives.

PHOTO: USAID/JON ERB

## ACTIVITIES

**CENTERS OF EXCELLENCE:** Self-reliance requires the sustained, collective efforts of the education community working in partnership with the private sector and policymakers. Through the establishment of three Centers of Excellence, USAID and its partner, the Egyptian Ministry of Higher Education and Scientific Research, will increase the capacity of Egypt's higher education institutions to drive innovation, share best practices, and create linkages between research and the public and private sectors in the areas of agriculture, water, and energy. Each center will support research that is vital to Egypt's economic growth and job creation, create scholarship opportunities for students to pursue studies in related fields both in Egypt and the U.S., use high-caliber research to inform government policy to stimulate economic growth, and develop curricula that includes new courses and degree programs that address challenges identified by private sector partners. Implementing Partners: Cornell University, Massachusetts Institute of Technology, the American University in Cairo; Lead Egyptian Universities: Cairo University, Ain Shams University, Alexandria University; Life of Project: February 2019-February 2024; Total Estimated Cost: \$90 million (approximately \$30 million in each of three projects); Governorates: Nationwide impact with activity centered in Alexandria, Assiut, Aswan, Cairo, Dakahlia, Qalyubia, and Suez Canal

**UNIVERSITY CENTERS FOR CAREER DEVELOPMENT:** In coordination with the Ministry of Higher Education and Scientific Research, this activity is establishing 20 sustainable career development centers at universities across Egypt. These new centers will serve over 70% of all public university students in Egypt, providing them with career mentoring, specialized employability skills training, networking, and career opportunities. Implementing Partner: American University in Cairo; Life of Project: September 2017 – September 2021; Total Estimated Cost: \$20.8 million; Governorates: Alexandria, Aswan, Beni Suf, Cairo, Damietta, Dakahlia, Giza, Menoufia, Minya, Sharqia, Sohag

**U.S.-EGYPT SCIENCE AND TECHNOLOGY JOINT FUND:** The U.S.-Egypt Science and Technology Joint Fund promotes collaboration between U.S. and Egyptian scientists to address development challenges and promote economic growth, particularly in applied research and technology commercialization. This program works in areas such as public health, food security, energy, and water security. Implementing Partner: U.S. National Academy of Sciences; Life of Project: November 2014 – November 2019; Total Estimated Cost: \$12 million; Governorates: Nationwide

**U.S.-EGYPT HIGHER EDUCATION INITIATIVE (HEI):** Conducted at a national level in partnership with the Ministry of Higher Education and Scientific Research, this initiative provides scholarships to hundreds of talented women and men from underserved communities throughout Egypt to study at premier Egyptian and American universities in fields critical to Egypt's sustained economic growth and development. It includes scholarships for Egyptian professionals to pursue career-related, post-graduate degree programs or professional training courses in the United States or at the American University in Cairo; scholarships for women to pursue Master's degrees in Business Administration in the U.S.; and Fulbright scholarships to pursue master's degrees in the United States in fields of study critical to Egypt's economic development. At the undergraduate level, HEI includes scholarships at public and private universities in Egypt and scholarships in the United States for women studying in science, technology, engineering, or math fields – these students also receive career counseling, English language training, access to internship opportunities, opportunities to participate in community service projects, and the option to participate in study abroad programs in the United States. Since its inception, 686 women and men have received HEI scholarships; included in the total are 35 scholarships awarded to Egyptians with disabilities. Implementing Partners: Institute of International Education, AMIDEAST, Ministry of Higher Education and Scientific Research, and U.S. Department of State's Bureau of Educational and Cultural Affairs; Life of Projects: May 2010 – September 2024; Total Estimated Cost: \$143 million; Governorates: Nationwide



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## PROJECT FACT SHEET

# CENTER OF EXCELLENCE FOR AGRICULTURE

Agriculture requires the sustained, collective efforts of the education and research communities working in partnership with the private sector and policymakers. The Center of Excellence for Agriculture will capitalize on Egypt's strengths in agriculture to inform national agricultural policy formation and develop innovative applied research solutions to challenges related to agricultural economics, animal husbandry, and veterinary science, among others. Internationally recognized leaders in agricultural research implement the Center of Excellence for Agriculture, including Cornell University and Center host Cairo University.

Through the establishment of the Center, USAID, in cooperation with the Egyptian Ministry of Higher Education and Scientific Research, will strengthen the capacity of Cairo University's Faculty of Agriculture to create linkages between research and public and private sector needs. It will also support research that is vital to Egypt's economic growth and job creation; create scholarship opportunities for students to pursue studies in agriculture-related fields; and support development of curricula that includes new courses, degree programs, and teaching methods.

Implementing Partners: Cornell University and Cairo University (with Ain Shams University, Assiut University, Benha University, and Suez Canal University in Egypt and Michigan State University, Purdue University, and the University of California, Davis in the U.S.); Life of Project: February 2019 – February 2024; Total Estimated Cost: \$30 million; Governorates: Nationwide

PHOTO: USAID/JULIE FOSSLER

## MAIN ACTIVITIES

- Create lasting partnerships and linkages among Egyptian and American universities and bring together Egyptian and American agricultural experts from academia, the government, and the private sector to exchange innovative ideas, share best practices in education, and collaborate on cutting-edge research
- Update university curricula and teaching methods to align Egyptian university education with the needs of industry and government; strengthen the capacity of Egyptian universities to produce high-quality, applied research that is responsive to Egypt's needs in its agricultural sector
- Facilitate joint research projects and visiting scholar residencies for Egyptian and American faculty as well as applied research opportunities for undergraduate and graduate students
- Establish undergraduate- and graduate-level degrees and scholarship programs that emphasize market-driven course content, student-centered learning, and cross-border exchanges. Scholarships will focus on women, financially disadvantaged students, and students with disabilities
- Foster innovations in lab-to-market technologies for agriculture that may be suitable for commercialization

## EXPECTED RESULTS

- Provide academic training that aligns with the current needs of the Egyptian agricultural commercial and public sectors, allowing workforce-ready students to make immediate impacts in the Egyptian agricultural economy and improve private- and public-sector performance
- Increase the quality and quantity of applied research projects that transform agricultural businesses and livelihoods in Egypt, support entrepreneurial thinking, and foster the potential for wider international application
- Increase the government's capacity for effective policy-making informed by high caliber and collaborative research





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## PROJECT FACT SHEET

# CENTER OF EXCELLENCE FOR ENERGY

Energy self-reliance requires the sustained, collective efforts of the education community working in partnership with the private sector and policymakers. The Center of Excellence for Energy will inform national energy policy formation, link research into renewable energy solutions with entrepreneurs, promote energy efficiency, and develop innovative applied research solutions utilizing both conventional and alternative energy sources. Internationally recognized leaders in engineering, conventional energy technology, and research on alternative energy sources implement the Center of Excellence for Agriculture, including the Massachusetts Institute of Technology and Center host Ain Shams University.

Through the establishment of the Center of Excellence for Energy, USAID, in cooperation with the Egyptian Ministry of Higher Education and Scientific Research, will help Ain Shams University to produce high quality applied research in energy, deliver world-class training in engineering, and create a dynamic energy innovation ecosystem focused on meeting local challenges and contributing to economic growth. The Center of Excellence for Energy will support research that is vital to Egypt's economic growth and job creation, create scholarship opportunities for students to pursue studies in energy-related fields both in Egypt and the U.S., and develop energy engineering curricula that includes new courses and degree programs that address challenges identified by private sector partners.

Implementing Partners: Massachusetts Institute of Technology and Ain Shams University (with Aswan University and Mansoura University); Life of Project: February 2019 – February 2024; Total Estimated Cost: \$30 million; Governorates: Nationwide

PHOTO: USAID/JULIE FOSSLER

## MAIN ACTIVITIES

- Convene Egyptian and American energy experts from academia and the public and private sectors to share best practices and breakthroughs in research; organize symposia to share energy research being conducted in Egypt and the United States
- Shape energy engineering curricula through updating teaching methods, offering experiential learning opportunities, and developing new courses and degree programs that align university education with the needs of industry and the Egyptian government
- Facilitate joint research projects and visiting scholar programs for Egyptian and American faculty, as well as applied research opportunities for undergraduate and graduate students
- Establish scholarship programs and internship opportunities that deepen cross-border learning and private sector expertise. Scholarships will focus on women, financially disadvantaged students, and students with disabilities
- Build local capacity to pursue market-driven applied research projects that address Egypt's needs in the energy sector
- Promote an inclusive educational culture to solve local and global energy challenges
- Foster innovations and technologies that may be suitable for commercialization

## EXPECTED RESULTS

- Introduce the latest concepts in engineering education that align with the current needs of Egypt's commercial and public sectors and that catalyze the expertise of industry, academia, and public sector networks
- Support market-driven, applied research in conventional and alternative energy technology and engineering
- Inspire Egyptian students and faculty to discover entrepreneurial solutions to Egypt's energy sector challenges
- Increase effective government policy-making in the energy sector that is informed by high-caliber, collaborative research



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## PROJECT FACT SHEET

# CENTER OF EXCELLENCE FOR WATER

Ensuring sustainable and resilient water resources requires the sustained, collective efforts of the education community working in partnership with the private sector and policymakers. The Center of Excellence for Water will inform national and local water policy formation, promote water use efficiency, and develop innovative applied research solutions to issues such as irrigation, agricultural and industrial water use, groundwater management, desalination, water infrastructure and governance, wastewater management, and urban water planning. Alexandria University, a recognized leader in water research, will host the Center of Excellence for Water while overall the activity will be implemented by The American University in Cairo, renowned for its highly productive higher education partnerships between Egypt and the U.S.

Through the Center of Excellence for Water, USAID, in cooperation with the Egyptian Ministry of Higher Education and Scientific Research, will help build the capacity and sustainability of water research and innovation at Alexandria University and other partner universities in Egypt. It will also create linkages between academic researchers and the public and private sectors to encourage practical, timely research.

Implementing Partners: The American University in Cairo and Alexandria University (with Ain Shams University, Aswan University, Beni Suef University, and Zagazig University in Egypt and Temple University, Utah State University, University of California, Santa Cruz, and Washington State University in the U.S.); Life of Project: February 2019 – February 2024; Total Estimated Cost: \$30 million; Governorates: Nationwide

PHOTO: MOHAMED ABDELWAHAB FOR USAID

## MAIN ACTIVITIES

- Convene Egyptian and American water experts from academia and the public and private sectors to share best practices and breakthroughs in research; organize symposia to share water research being conducted in Egypt and the United States
- Support research projects and expand curricula related to the water sector through new and enhanced course offerings, as well as certificate and degree programs that utilize state-of-the-art pedagogical methods and topics
- Offer scholarship and exchange programs for Egyptian students at The American University in Cairo or U.S. partner universities and provide internship opportunities in American and Egyptian industries. Scholarships will focus on women, financially disadvantaged students, and students with disabilities
- Develop training opportunities for Egyptian faculty at The American University in Cairo or in the United States; support training of Egyptian faculty by visiting American scholars
- Expand connections between the private sector and universities from diverse regions of the United States and Egypt to increase sustainability in water research, address Egypt's water needs, and foster innovations and technologies in the water sector that may be suitable for commercialization

## EXPECTED RESULTS

- Provide academic training in hydrology and water-related fields that aligns with the current needs of Egypt's commercial and public sectors and that leads to lower unemployment and improved private- and public-sector performance
- Support applied research projects that address local challenges in the water sector in Egypt; the quantity and quality of these projects will increase and entrepreneurial approaches to issues in the water sector will be encouraged and may offer potential for wider international applications
- Increase effective government policy-making regarding water infrastructure, water resilience, and governance over water systems informed by high-caliber, collaborative research





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## PROJECT FACT SHEET

# U.S.-EGYPT HIGHER EDUCATION INITIATIVE

Launched in 2015, the U.S.-Egypt Higher Education Initiative (HEI) provides scholarships to hundreds of talented women and men from underserved communities throughout Egypt to study at premier Egyptian and American universities in fields critical to Egypt's sustained economic growth and development. This has resulted in a cadre of young professionals committed to Egypt's long-term development goals, including self-reliance. Since the inception of this program, 686 men and women have received scholarships for undergraduate and graduate degrees. This program is conducted at a national level in partnership with the Ministry of Higher Education and Scientific Research.

## LOCAL SCHOLARSHIPS FOR PUBLIC UNIVERSITIES

Under the U.S.-Egypt Higher Education Initiative, 584 Egyptians selected from across Egypt have received full scholarships through the Local Scholarships for Public Universities activity to attend top universities in Egypt, including Ain Shams University, Assiut University, Alexandria University, Cairo University, and Mansoura University. Scholarship recipients receive career counseling to ensure success in their fields of study, as well as English language training, access to internship opportunities, opportunities to participate in community service projects, and the option to participate in study abroad programs in the United States. To date, 80 scholarship recipients have elected to study abroad. Students have developed and implemented 469 community service projects. Approximately 100 scholarship recipients have completed internships through this project.

Included in the total are 35 scholarships awarded to Egyptians with disabilities to pursue studies in various fields, some of which have previously been inaccessible to persons with disabilities. Separately, this project is establishing disability centers at the five partner universities. These centers will serve and empower students with disabilities in all faculties in their respective universities. They will help establish and advocate for university-wide policies, procedures, and activities to ensure equal access to higher education that align with Egyptian legislation mandating that educational institutions provide equal opportunities for students with disabilities.

PHOTO: USAID/JULIE FOSSLER

Implementing Partner: AMIDEAST; Life of Project: April 2015 – September 2024; Total Estimated Cost: \$32 million; Governorates: Alexandria, Assiut, Cairo, Dakahlia

## **LOCAL SCHOLARSHIPS FOR PRIVATE UNIVERSITIES**

Under the U.S.-Egypt Higher Education Initiative, 210 scholarships will be awarded to Egyptian public school graduates to pursue undergraduate studies programs in three private universities in Egypt: the American University in Cairo; the Arab Academy for Science, Technology and Maritime Transport; and the British University of Egypt. Scholarship recipients receive career counseling to ensure success in their fields of study as well as English language training, access to internship opportunities, opportunities to participate in community service projects, and the option to participate in study abroad programs in the United States. To date, 130 students have completed their first academic year at the American University in Cairo; the Arab Academy for Science, Technology and Maritime Transport; and the British University of Egypt.

Another component of the Local Scholarships for Private Universities program is the science, technology, engineering, and mathematics undergraduate scholarships, funding the study of 62 women pursuing science, technology, engineering, and mathematics degrees in the United States. These talented, high achieving Egyptian women selected from underserved populations across Egypt will contribute to Egypt's long-term economic growth and development.

Implementing Partner: Institute of International Education; Life of Project: April 2015 – November 2022; Total Estimated Cost: \$25 million; Governorates: Nationwide

## **LEADERSHIP OPPORTUNITIES TRANSFORMING UNIVERSITY STUDENTS**

Under the U.S.-Egypt Higher Education Initiative, the Leadership Opportunities Transforming University Students (LOTUS) scholarship offers full scholarships for outstanding Egyptian students with high financial need to study at five private universities in Egypt: Ahram Canadian University; the Arab Academy for Science, Technology and Maritime Transport; the British University in Egypt; Future University; and Pharos University in Alexandria. Scholarship recipients are pursuing studies in fields important to Egypt's development, such as nursing, engineering, computer science, dentistry, and mass communication. Scholarship recipients receive career counseling to ensure success in their fields of study as well as English language training, access to internships, opportunities to participate in community service projects, and the option to participate in study abroad programs in the U.S. Through this activity, 250 students were awarded scholarships and to date, 191 have graduated. Among those who have graduated, 72 percent are employed, 12 percent are serving in the military, and 14 percent are pursuing graduate degrees abroad.

Implementing Partner: Institute of International Education; Life of Project: May 2010 – September 2020; Total Estimated Cost: \$23.7 million; Governorates: Nationwide

## **GRADUATE SCHOLARSHIPS FOR PROFESSIONALS**

Under the U.S.-Egypt Higher Education Initiative, this government-to-government program provides up to 675 scholarship opportunities for Egyptian professionals to pursue career-related, post-graduate degree programs or professional training courses in the United States or at the American University in Cairo. Scholarship recipients subsequently integrate their newly acquired leadership skills and lessons from their academic study into standard business practices upon their return to the Egyptian workforce. The program also supports the Ministry of Higher Education and Scientific Research by introducing scholarships for women and people with disabilities, and by targeting cross-cultural learning to promote

socio-economic progress. To date, 139 professionals from the Government of Egypt have been awarded scholarships to attend graduate level courses in the United States or at the American University in Cairo.

Implementing Partner: Ministry of Higher Education and Scientific Research Central Department of Missions; Life of Project: January 2017 – September 2022; Total Estimated Cost: \$30 million; Governorates: Nationwide

## **FULBRIGHT SCHOLARSHIPS**

Under the auspices of U.S.-Egypt Higher Education Initiative, 335 high-achieving, economically disadvantaged students from across Egypt will receive a Fulbright scholarship to pursue a master's degree in the United States in fields of study critical to the economic development of Egypt. These scholarships will help recipients acquire leadership and employment skills and gain a firsthand understanding of American society. Scholars will return to Egypt to join the public and private sectors, and will be equipped to assume leadership roles and engage in civic participation in their communities. To date, the U.S.-Egypt Higher Education Initiative has provided 107 Egyptian students an opportunity to study in the United States under the Fulbright scholarships activity.

Implementing Partner: U.S. Department of State's Bureau of Educational and Cultural Affairs; Life of Project: 2014 – 2021 (managed by the U.S. Embassy in Cairo); Total Estimated Cost: \$32 million; Governorates: Nationwide



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## PROJECT FACT SHEET

# UNIVERSITY CENTERS FOR CAREER DEVELOPMENT

In coordination with the Ministry of Higher Education and Scientific Research, USAID and the American University in Cairo are establishing 20 sustainable career development centers at 12 universities across Egypt. These centers will serve over 70 percent of all public university students in Egypt, providing them with career mentoring, employability skills training, English language training, networking, and career opportunities.

Implementing Partner: American University in Cairo; Life of Project: September 2017 – September 2021; Total Estimated Cost: \$20.8 million; Governorates: Alexandria, Aswan, Beni Suef, Cairo, Damietta, Dakahlia, Giza, Menoufia, Minya, Sharqia, Sohag

## MAIN ACTIVITIES

- Establish 20 self-sustaining career centers at universities throughout Egypt
- Meet the needs of students and alumni by providing specialized training and career mentoring as well as linking students to networking and employment opportunities
- Develop students' and graduates' job seeking skills and strengthen their ability to obtain employment
- Nurture sustainable relationships between universities and external stakeholders in industry, business, the non-profit sector, and civil society
- Establish systems for analyzing labor market needs and program monitoring that tracks employment outcomes among program beneficiaries

## RESULTS

- Launched seven of twelve anticipated Career Centers and provided training for at least 1,600 Egyptian students in employability skills and English language, which will enhance their ability to find employment upon graduation.





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## PROJECT FACT SHEET

# U.S.-EGYPT SCIENCE & TECHNOLOGY JOINT FUND

Egypt is one of only four countries in the world that has a funded bilateral science and technology cooperation agreement with the United States. The U.S.-Egypt Science and Technology Joint Fund promotes collaboration between American and Egyptian scientists to address development challenges and promote economic growth, particularly in applied scientific research and technology commercialization. This program works in areas such as public health, food security, energy, and water security. Results of the Joint Fund include high-impact scientific research, training for the next generation of female scientists and youth, and expanded collaboration between American and Egyptian public and private sector institutions.

Since its inception in 1995, the Joint Fund has supported 537 two- to three-year basic and applied collaborative research projects from 168 U.S. institutions and 67 Egyptian institutions. In addition to sharing expertise, these scientists created life-saving new influenza vaccines and innovative textiles containing insect repellents. Scientists registered thirteen patents and published more than 564 research papers that laid the groundwork for further study. A U.S. and Egyptian Joint Board governs this fund and meets on an annual basis.

Implementing Partner: U.S. National Academy of Sciences; Life of Project: November 2014 – November 2020; Total Estimated Cost: \$12 million; Governorates: Nationwide

## MAIN ACTIVITIES

- Link and engage a community of scientists whose work addresses Egypt's development challenges and contributes to its economic prosperity.
- Identify research that can be brought to market as new processes and products, with a focus on modernizing Egypt's economy and creating jobs for youth.
- Encourage broader participation and new partners from the American and Egyptian scientific communities.



## RESULTS TO DATE

- In 2018, the Board approved grants for 15 collaborative research projects totaling \$5 million. These projects are in areas critical to both Egypt and the U.S. such as (1) developing novel tools for diagnosing tick transmitted diseases; (2) the development of vaccine strains from the avian influenza virus that led to the control of avian influenza viruses in Egypt; (3) the creation of textiles containing antimicrobial and insect repellent; (4) designing a new method for processing rice straw using steam explosion technology; and (5) building composite materials for the automotive and airline industries.
- During the 2019 application cycle, 14 joint projects were awarded funding totaling more than \$4.5 million. Projects will investigate topics in the fields of smart agriculture, wastewater management and reuse, energy storage, infectious disease, and desalination technology, among several others.