



Activities with Member Countries

Iran

While collaborations between researchers in Iran and at IIASA date back to 2006, Iran officially became a member of IIASA in 2016 through the Iran National Science Foundation (INSF). Even though Iran is a new member of IIASA, researchers from IIASA and Iran have started collaborating on projects focused on exploring Iran's water management issues; investigating renewable energy sources; increasing Iran's resilience to natural disasters, and increasing air quality. Beyond continuing these new research collaborations, there is significant opportunity to grow the relationship between IIASA and Iran's scholarly community. Opportunities for additional collaborations include developing bespoke Iranian versions of IIASA global models, conducting international assessments in areas of Iranian strategic interest, partnering with Iranian institutions to win international research grants, and contributing to Iranian science diplomacy. Additionally, capacity building through greater scientific exchange via researching at or visiting IIASA, or taking part in IIASA programs for young scientists, will also be a priority for the partnership. This IIASA Info Sheet provides a summary of this emerging relationship since 2008.

Highlights of Interactions Between IIASA and Iran (since 2008)

National Member Organization	Iran National Science Foundation
Membership start date	2016
Selected research partners	<ul style="list-style-type: none"> ■ Islamic Azad University (IAU) ■ National Institute for Genetic Engineering and Biotechnology (NIGEB) ■ Ramin Agricultural and Natural Resources University ■ Research Institute of Forests and Rangelands ■ Shiraz University ■ International Institute of Earthquake Engineering and Seismology (IIEES) ■ Sharif University of Technology ■ Sharif Energy Research Institute (SERI) ■ Statistical Centre of Iran (SCI) ■ University of Tehran ■ Zanjan University
Areas of research collaboration	<ul style="list-style-type: none"> ■ Water Management ■ Changing Energy Landscape ■ Increasing Resilience on Earthquakes ■ Improving Air Quality in Iran ■ Projecting Changing Population and Human Capital in Iran ■ Analyzing Ecological and Evolutionary Dynamics
Capacity building	8 doctoral students from Iran have participated in the IIASA young scientists summer program since 2006
Publication output	19 publications have resulted from collaborations between IIASA and researchers at Iran institutions since 2008
Other interactions	<ul style="list-style-type: none"> ■ 6 Iranians have participated in IIASA events since 2008 ■ 12 researchers, advisors, and diplomats from Iran have visited IIASA since 2008, while IIASA scientists have visited Iran 14 times

Activities with Member Countries: Iran

IIASA Info Sheet 2019/7
May 2019

The electronic version of this document is available at www.iiasa.ac.at/iran

© 2019 IIASA
ZVR 524808900

Prepared by
External Relations, Communications, and Library Department
IIASA, Schlossplatz 1, A-2361 Laxenburg, Austria
E-mail: externalrelations@iiasa.ac.at

IIASA Info Sheets provide succinct summaries about IIASA activities. They do not necessarily reflect the views of IIASA staff, visitors, or National Member Organizations.

This Info Sheet summarizes IIASA's recent interactions with Iran. It includes highlights with links to further information, but it is not a comprehensive report on all interactions.

Feedback and updates are encouraged and should be sent to the External Relations Department.

IIASA National Member Organization in Iran

The Iran National Science Foundation is the National Member Organization representing Iran membership of IIASA.

Dr. Eaman Eftekhary, Director, Iran National Science Foundation (INSF) and Professor, School of Mathematics, Institute for Research in Fundamental Sciences (IPM) is the council member for Iran.

The NMO Secretary for Iran is **Dr. Mohsen Ghafory-Ashtiany**, Professor, International Institute of Earthquake Engineering and Seismology (IIEES).

Iran National Science Foundation (INSF) represents Iran and its scholarly community on the IIASA governing Council



*Web: <http://en.insf.org/>
E-mail: ashtiany@iiees.ac.ir*

Research Partners in Iran

IIASA works with research funders, academic institutions, policymakers and individual researchers in Iran. The following list includes the names of the organizations or the individual's affiliated institutions that have all recently collaborated with IIASA.

- Agricultural Research, Education and Extension Organization (AREEO)
- Caspian Sea Research Institute in Ecology
- International Institute of Earthquake Engineering and Seismology (IIEES)
- Institute of Applied Scientific Higher Education Jihad-e-Agriculture
- Iranian Ministry of Health
- Islamic Azad University (IAU)
- National Institute for Genetic Engineering and Biotechnology (NIGEB)
- Ramin Agricultural and Natural Resources University
- Sepehr Higher Education Institute
- Sharif University of Technology
- Shiraz University
- Statistical Centre of Iran (SCI)
- University of Tehran
- Zanjan University

IIASA is developing collaborations with Iran and has started working with 14 organizations in Iran via formal and informal connections

Recent Research Collaborations

Water Management in Iran

Collaborations between Iranian and IIASA researchers have investigated different water management approaches and how stakeholder perceptions may influence their acceptance

Iran faces significant water issues, due to low rainfall and its desert environment, which will likely be exacerbated by Iran's population growth and global climate change. Agriculture is the main user of water, but only 10% of Iranian land receives enough rainfall for agriculture. Thus, Iran's water issues are closely related to food security challenges as well.

IIASA has significant expertise in this area and has collaborated on projects focused on the area. For example, researchers from IIASA and Wageningen University in the Netherlands examined the water management plan for Iran's Urmia Lake, the world's second largest hypersaline lake, and found that the management plan will not be sufficient to protect the lake under moderate or intense climate change scenarios.

Additionally, IIASA and partners recently launched the Water Futures and Solutions (WFaS) initiative — an interdisciplinary and international scientific project to explore complex water challenges and identify integrated solutions. The initiative uniquely combines scenario-based water analysis, multi-model ensemble analysis, and stakeholder consultation.

Recent IIASA-Iranian collaborations in this area include:

- A collaborative study involving researchers from Ramin Agricultural and Natural Resources University and Shiraz University examined the human, social, financial, and natural capital effects caused by droughts. The researchers found that droughts cause interrelated and multiple negative effects that can decrease resilience to drought and that some government interventions can have unintended negative consequences. The researchers suggested that interventions should take a proactive risk management approach. This paper was published in *International Journal of Mass Emergencies and Disasters* in 2013.
- An international collaboration including researchers from IIASA and Ramin Agricultural and Natural Resources University investigated the drivers and impediments to water conservation in the agricultural settings. The researchers interviewed over 350 farmers and found that the concept of water conservation behavior being rewarding is tied to the willingness to engage in the activity. Based on their findings, the researchers suggested that water management policies should include self-rewarding concepts to encourage water conservation. This paper was published in *Land Use Policy* in 2015.

Selected publications resulting from IIASA-Iranian collaborations

IIASA work is underpinned by high-quality science, which is regularly published in high impact publications. A selection of current publications is presented here and a full list can be found in appendix 5

Sadeghi M, Hochrainer-Stigler S, and Ghafory-Ashtiani M (2015) Evaluation of earthquake mitigation measures to reduce economic and human losses: a case study to residential property owners in the metropolitan area of Shiraz, Iran. *Natural Hazards*, 78 (3). pp. 1811-1826.

Sadeghi M, Ghafory-Ashtiani M, Pakdel-Lahiji N (2015). Developing seismic vulnerability curves for typical Iranian buildings. *Journal of Risk and Reliability*, 229(6), 627-640.

Yazdanpanah M, Komendantova N, Ardestani RS (2015) Governance of energy transition in Iran: Investigating public acceptance and willingness to use renewable energy sources through socio-psychological model. *Renewable and Sustainable Energy Reviews*, 45, pp. 565-573.

Yazdanpanah M, Monfared N, and Hochrainer-Stigler S (2013) Inter-related effects due to droughts for rural populations: A qualitative field study for farmers in Iran. *International Journal of Mass Emergencies and Disasters (IJMED)*, 31 (2). pp. 106-129.

Lutz W, Crespo Cuaresma J, Abbasi-Shavazi MJ (2010). Demography, education, and democracy: Global trends and the case of Iran. *Population and Development Review*, 36(2), 253-281.

- A collaborative research study with IIASA, Ramin Agricultural and Natural Resources University, Shiraz University, Agricultural Research and Education Organization (AREEO), and Zanjan University proposed a new index for measuring farmer's satisfaction with crop insurance. To test the index, the researchers surveyed over 300 farmers from the Fars Province in Iran. The researchers found that the price of the crop insurance was an important factor, but that perceived quality was an important factor in satisfaction as well. This research was published in *International Journal of Disaster Risk Reduction* in 2013.

Caspian Sea Issues

The Caspian Sea, the world's largest inland body of water and a major source of oil and gas, is bordered by Azerbaijan, Iran, Kazakhstan, Russia, and Turkmenistan. It is a potential site of conflict due to growing competition for its resources and because its international legal status and maritime boundaries remain undefined. Between 2006 and 2008, IIASA researchers organized a series of dialog sessions among representatives of the five littoral states of the Caspian Sea. The purpose of the conferences were twofold: (1) to provide a forum for the Caspian states to talk informally about issues of common interest that they rarely discuss due to preoccupation with the contentious issues of maritime boundaries and security, and (2) to prepare the terrain for productive discussions on these issues. Researchers from IIASA and other organizations presented the latest scientific advances on pollution, fish stocks, and water related to the Caspian Sea. The first Caspian Dialogue was held in Istanbul in 2006, the second in Baku in 2007, and the third in Aktau, Kazakhstan in 2008. All five of the Caspian countries participated.

Pavel Kabat on "Benefit of System Science: The Case of Global Energy & Water Security" at the 7th Annual Conference of the International Society for Integrated Disaster Risk Management (IDRiM) in Isfahan in 2016.

Simon Langen on "Water Program at IIASA" at IDRiM in Isfahan in 2016.

Luis Gomez-Echeverri on "The SDGs and the Paris Agreement: Toward a Joint Energy Agenda" at the 11th Iran International Energy Conference in Tehran in 2016.

Keywan Riahi on "IIASA and the Energy Program" at the Iran-IIASA Scoping Workshop in the Areas of Energy, Greenhouse Gases and Air Pollution in Tehran in 2016

Junko Mochizuki on "Review of serious gaming applications in humanitarian operations and disaster risk management: state-of-the-art and future directions for research" at IDRiM in Isfahan in 2016.

Stefan Hochrainer-Stigler on "Risk Layering Framework for Managing Risks" at the International Annual Conference on Seismology and Earthquake Engineering in Tehran in 2015.

Nadejda Komendantova-Amann on "Willingness to use solar energy in the Middle East and North African Region" at the 2nd International Conference and Exhibition on Solar Energy (ICESE) in Tehran in 2015.

Selected presentations in Iran

Changing Energy Landscape

Iran is an energy-rich country that possesses the fourth largest oil reserves and the second largest natural gas reserves in the world. Recently, there has been an increasing demand for electricity and Iran has become focused on being more energy efficient. Moreover, the Iranian energy sector has been highly centralized within the government, but that could change now that several international sanctions barring foreign investment in the country have been lifted due to the Joint Comprehensive Plan of Action (JCPOA).

Even though Iran's energy sector is dominated by oil and gas, the Iranian government has expressed an interest in diversifying their energy sector. They are encouraging renewable energy, including solar and wind, and have set a renewable energy target of 5GW by 2020.

IIASA has substantial expertise in understanding global energy systems and their connections with economic, environmental, and societal systems. IIASA coordinated the Global Energy Assessment (GEA), published in 2012, that defines a new global energy policy agenda—one

Iranian-IIASA researchers are investigating global energy systems and how best to incorporate renewable energy sources

that transforms the way society thinks about, uses, and delivers energy. Involving over 500 specialists from a range of disciplines, industry groups, and policy areas, GEA research aims to facilitate equitable and sustainable energy services for all, in particular for around three billion people who currently lack access to clean, modern energy. Outcomes from the GEA include the adoption of GEA's findings as the three key objectives of the UN Secretary-General's Sustainable Energy For All (SEforALL) initiative on energy access, energy efficiency, and renewable energy, which in turn have informed the targets of the Sustainable Development Goal on energy.

Current IIASA-Iranian collaborations in this area include:

- Senior energy experts from IIASA and the University of Tehran collaborated on a report, published by the InterAcademy Council and commissioned by the governments of Brazil and China, identifying and detailing the scientific consensus framework for directing global energy development. *Lighting the way: Toward a sustainable energy future* laid out the science, technology, and policy roadmap for developing energy resources to drive economic growth in both developed and developing countries while also securing climate protection and global development goals.
- An international collaboration involving researchers from IIASA, Ramin Agricultural and Natural Resources University, and Sepehr Higher Education Institute investigated the perceived benefits of renewable energy sources. The researchers sampled over 250 students from different Iranian universities and found that cognitive perceptions are significant factors when determining the use and acceptance of renewable energy sources. This research was published in the *Renewable and Sustainable Energy Reviews* in 2015.
- Additionally, in April 2016, IIASA and the Sharif Energy Research Institute of Sharif University of Technology held a scoping workshop to discuss future collaborations in the areas of energy, greenhouse gases, and air pollution.

Increasing Resilience on Earthquakes

IIASA risk and resilience team in collaboration with Iranian researchers have evaluated the risks posed to Iran by earthquakes

Iran is an earthquake-prone country where 90% of the country is covered by major fault lines. Iran has been exposed to numerous earthquakes, which have resulted in significant loss of life and property. Since 1900 over 125,000 people have died due to earthquakes in Iran.

IIASA risk experts analyze how to increase resilience against a range of hazards, including earthquakes. Recent Iranian-IIASA collaborations in this area include:

- Researchers at IIASA, the International Institute of Earthquake Engineering and Seismology (IIEES), and the Islamic Azad University modeled the risks and losses to property owners in Shiraz in the event of an earthquake. This study informed an analysis of possible insurance schemes to protect property owners and encourage them to take proactive risk reduction measures to minimize future losses. This research was published in *Natural Hazards* in 2015.
- Researchers from IIASA and Islamic Azad University developed vulnerability curves, which are used to evaluate structural losses before an earthquake happens, for 42 Iranian building types. This research could help reduce potential losses in future earthquakes and was published in the *Journal of Risk and Reliability* in 2015.

Improving Air Quality in Iran

IIASA-developed models could help identify effective ways to tackle Iran's air pollution

According to the World Health Organization, 4 out of the 10 most-polluted cities in the world are in Iran. The Iranian Government has a stated goal of reducing pollution and has implemented several policies to reduce air pollution in Iran.

IIASA has significant expertise in this area, IIASA developed the Greenhouse Gas and Air Pollution Interactions and Synergies (GAINS) model, which is a scientific tool that explores cost-effective emission control strategies that simultaneously tackle air quality and greenhouse gases to maximize benefits. This model, which covers 43 countries in Europe including the European part of Russia, has helped policymakers and researchers across the globe to identify these measures.

IIASA has worked closely with international collaborators to implement the GAINS model for Asia and India. These versions of GAINS have underpinned various studies, including (1) an analysis of the effect of investments in clean air on human wellbeing in India (see box: IIASA models, tools, and data); (2) how to improve the ozone in South Asia; and (3) the first estimates of anthropogenic volatile organic compound (VOC) emissions in India.

A potential area for collaboration involving IIASA and Iranian researchers would be to implement the GAINS model for the Middle East, including a country specific model for Iran.

Projecting Changing Population and Human Capital in Iran

Iran has seen dramatic demographic changes over the past decades. The Iranian population significantly increased—nearly doubling—in the second half of the 20th century, but since then has started to stabilize. In fact, Iran experienced one of the most rapid fertility declines going from a total fertility rate of 7 in the early 1980s to 1.9 in 2006.

IIASA demographers study and project the changing composition of population for all countries of the world. They produce one of the few independent alternatives to the demographic projections of the UN Population Division. As a testament to the quality of IIASA demography, the Intergovernmental Panel on Climate Change (IPCC) in 2011 adopted IIASA population projections as its source data in all modeling for the Fifth Assessment Report; and UNESCO has adopted IIASA's demographic methods as part of its literacy forecasting.

The institute interdisciplinary setting has encouraged its demographers to research beyond the traditional boundaries of demography and to explore how changes in society, economy, and the natural environment influence the health and mortality, migratory patterns, and reproductive behavior of human society.

A recent innovative example of this broader approach has been the development of research methods to project population by level of education. This equips researchers with the tools to explore the implications of different education policies on a country's future fertility, life expectancy, migration, and population level as well as economic growth and ability to adapt to climate change. In 2014, IIASA published the first projections of educational attainment by age and sex for 195 countries in the Oxford University Press volume *World Population and Human Capital in the Twenty-First Century*. Findings for Iran show how different policies over the next few decades could lead to the country's 2010 population of 80 million reaching almost 90 to 111 million by 2060 depending on which policies are adopted. Additionally, in 2016, *Who Survives? Education decides the future of humanity*, a book summarizes scientific research conducted at IIASA was published detailing the importance of education for societal and economic development. The researchers found that education is often more important than income when looking at health, resilience, and wellbeing.

Current IIASA-Iranian population studies include:

- Researchers from IIASA and the University of Tehran studied the recent demographic changes in Iran. They found that Iran has experienced the world's most rapid fertility decline at the same time as significant increases in female education. The researchers concluded that the increase in female education combined with the fertility decline could lead to significant steps towards democratic rights. The paper was published in *Population and Development Review* in 2010.
- Collaborations with researchers at the National Institute of Population Research at the University of Tehran are exploring fertility and education.

IIASA demographers can provide independent projections of the future Iranian population including population drivers such as education

Joint Iranian-IIASA studies are looking at the ecology and evolution of sturgeon stocks in the Caspian Sea

Analyzing Ecological and Evolutionary Dynamics

Iran is home to many plants and animals. Unfortunately, a number of mammal and bird species in Iran are endangered, including the Iranian cheetah, which is critically endangered. Increased development as well as natural factors such as droughts have had negative effects on habitats and threaten the survival of Iranian wildlife. The Iranian Government is working with multiple stakeholders to ensure the protection of Iran's native species and their ecosystems.

Developing new methods and pioneering their applications, IIASA analyzes and forecasts how ecological and evolutionary dynamics shape populations, communities, and ecosystems, and how behavioral dynamics and adaptations determine the fate of groups of interacting agents.

Recent IIASA-Iranian collaborations include:

- Researchers from the Caspian Sea Research Institute in Ecology and IIASA researchers discussed the ecology and evolution of sturgeon stocks in the Caspian Sea.
- IIASA researchers and an Iranian researcher working at the Helmholtz Center for Polar and Marine Research have collaborated on projects looking at trait-based community dynamics of a North-Sea ecosystem.

IIASA models, tools, and data

Through intense data gathering, computer modeling, and other advanced research methods, IIASA provides a country's researchers and their policymakers with the essential numbers and tools to select the most effective policies. For example:

- Global food demand could increase by more than 59% by the year 2050, according to an unprecedented comparison of 10 agricultural economic models by researchers from ABARES, IIASA and 8 other countries. The study found that demand is likely to increase by 59-98% between 2005 and 2050, more than the 54% projected by the UN Food and Agricultural Organization's most recent analysis. The study compared food demand projections for 2050, based on different population and wealth projections, as well as for different regions and products. It found that uncertainties related to population, income, and consumption, often factors which are set as assumptions in agricultural models, are even greater than uncertainties related to climate change. For example, when considering a world with higher population and lower economic growth, consumption per capita drops on average by 9% for crops and 18% for livestock. The maximum effect of climate change on calorie availability is -6% at the global level. (Source: Valin H, Sands RD, van der Mensbrugge D, Nelson GC, Ahammad H, Blanc E, Boudirsky B, Fujimori S, Hasegawa T, Havlik P, Heyhoe E, Kyle P et al. (2014) The future of food demand: Understanding differences in global economic models, *Agricultural Economics*, 45(1):51-67).

Many of the research projects summarized in this Info Sheet draw on analyses from IIASA models, tools, and data including:

- Planning a sustainable energy system (MESSAGE model, Global Energy Assessment Scenario Database).
- Improving food security through identifying yield gaps (GAEZ model), assessing competition for land use between agriculture, bioenergy, and forestry (GLOBIOM model), and looking at social, economic, and environmental earth systems (FeliX).
- Financial disaster risk management (CATSIM model).
- Projecting future population (Demographic multistate modeling).
- Reducing energy poverty (Energy Access Interactive Tool [ENACT]).

Capacity Building

Young Scientists Summer Programs

The Young Scientists Summer Program (YSSP) develops the research skills and networks of talented PhD students. Program participants conduct independent research within the institute research programs under the guidance of IIASA scientific staff. Funding is provided through IIASA National Member Organizations (NMO). The YSSP has attracted over 1,800 participants from over 80 countries since it was established in 1977.

Since 2006, eight young Iranian researchers have developed research skills and networks by taking part in the IIASA Young Scientists Summer Program

In 2012 IIASA launched its first regional YSSP called the Southern African Young Scientists Summer Program (SA-YSSP) aimed primarily at PhD students based in southern hemisphere. The Program was organized jointly by the South African National Research Foundation, the South African Department of Science and Technology, the University of the Free State in Bloemfontein, South Africa, and IIASA.

Since 2006, the following eight Iranian students have participated in these programs:

Navid Rekabsaz (YSSP '16 & Vienna University of Technology) investigated detecting systemic risk in the financial system by using sentiment analysis. (Co-funded by Austrian NMO and self)

Faridoddin Karimi (YSSP '14 & University of Helsinki), an Iranian national, developed a framework to analyze the role of socio-cultural factors in risk perceptions concerning carbon capture and storage. (Funded by Finnish NMO)

Mehdi Sadeghi (YSSP '13 & Islamic Azad University) developed an earthquake model-based risk assessment and risk reduction strategy. (Funded by the IIASA Annual Fund)

Naghmeh Pakdellahiji (YSSP '13 & Islamic Azad University) studied how to design an effective earthquake insurance plan for Shiraz metropolitan area in the south of Iran. (Self-funded)

Ali Kharazi (YSSP '12 & University of Tokyo), an Iranian national, explored whether and why the sustainability of economic networks tends to be more dependent upon the resilience or the efficiency of the network. (Co-funded by German NMO and self)

Hamed Ghoddsi (YSSP '10 & Vienna Graduate School of Finance), an Iranian national, explored extending IIASA's energy model, MESSAGE, to incorporate the effect of financial constraints on future energy supply and demand. (Self-funded)

IIASA was established in 1972 to use scientific cooperation to build bridges across the Cold War divide and research growing global problems on a truly international scale. Today the soft power of science diplomacy continues to help IIASA member countries through using scientific cooperation to improve international relations, and through international teams jointly researching controversial issues to find consensus such as through integrative assessments of the future for the Arctic or of the economic integration of Eurasia.

In addition, IIASA also maintains its original bridge-building objective through attracting member countries that represent a range of geo-political interests (see full list of members: Back page). For instance, both Russia and the US are members; as are Brazil, China, India, and South Africa. Several key factors also unite all IIASA member countries: their interest in systems analysis, scientific and academic infrastructure, economic stability and the geopolitical role in future global transitions. With this in mind, IIASA negotiated membership with Iran and Israel.

Research to support science diplomacy

Kiarash Nasseradi (YSSP '06 & International Institute of Earthquake Engineering and Seismology) assessed suitable and cost effective methods for managing or reducing the higher-order economic impacts of earthquakes on oil-related industrial facilities. (Funded by IIASA)

Soleiman Mohammadi Limaei (YSSP '06 & Swedish University of Agricultural Sciences), an Iranian national, worked on optimal harvest decisions in uneven-aged forests under risk and the application of game theory for the timber and product markets. (Funded by Swedish NMO)

IIASA working with business

Business can benefit from science through the analysis and knowledge it provides. In turn, science can benefit from business through its experience on the ground and in implementation. IIASA also recognizes that closer collaboration between business and its researchers can increase the impact of the Institute's work. Not surprisingly, IIASA is seeing a growing number of contracts with commercial partners, including:

- The global insurer, **Zurich Insurance Group**, began working with IIASA in 2013 to identify and address research gaps on flood resilience and community based disaster risk reduction, demonstrate the benefits of pre-event risk reduction over post-event disaster relief, and to improve public dialogue around disaster resilience.
- The German carmaker, **Daimler AG**, has collaborated with IIASA researchers to assess biofuel potential from marginal and degraded lands in India and Brazil.
- The Brazilian energy company, **Petrobrás**, was one of nineteen sponsors of IIASA's Global Energy Assessment.
- The research institute of the Japanese carmaker, **Toyota**, has an ongoing collaboration with IIASA to research measures to reduce ozone emissions in Asia.
- The multinational consumer goods company, **Unilever**, funded IIASA's agricultural experts from 2008-10 to analyze yields and land suitability of key agricultural crops under a changing climate.

In addition, IIASA works with the Austrian industrial company, **OMV** via IIASA Deputy Director General serving on OMV's Advisory Group on Sustainability and being Chair of the Advisory Board of OMV Future Energy Fund from 2006-11.

Prospects for Future Iranian-IIASA Activities

This Info Sheet summarizes recent research collaborations between IIASA and Iran. Since Iran recently joined IIASA, there is significant opportunities for strengthening the Iranian-IIASA relationship through developing a range of new joint activities including:

Enhancing the Iranian-IIASA relationship offers benefits for Iranian research, government policy, and international relations

- **Enhancing Iranian expertise in applying system analysis to national problems:** Developing bespoke Iranian versions of IIASA's global models would allow researchers and policymakers to look at complex global problems and their impact on Iran in a holistic and integrated way. For example, the Dutch government worked with IIASA to develop a Dutch version of the IIASA GAINS model. The new model helps ministries to identify cost-effective measures to improve air quality and reduce greenhouse gas emissions in the Netherlands at the same time as complying with the country's obligations under European air quality agreements.
- **Conducting international assessments in areas of Iranian strategic interest:** In 2012, IIASA completed the Global Energy Assessment which brought together over 500 specialists to transform the way society thinks about, uses, and delivers energy. IIASA has proposed several new assessments, at the request of its member countries that will focus on issues of strategic interest to Iran.
- **New partnerships between IIASA and Iranian institutions to win grants from international research funders:** IIASA high-quality research and international research network makes it highly competitive in its applications for international research funds. Between 2012 and 2017, this additional funding reached €52 million. This was part of a total funding portfolio of €265 million, the total awarded to external projects featuring collaboration between IIASA and member countries.
- **Using international scientific cooperation to support diplomacy:** IIASA was established in 1972 to use scientific cooperation to build bridges across the Cold War divide and research growing global problems on a truly international scale. Today the soft power of science diplomacy continues to help IIASA member countries through using scientific cooperation to improve international relations, and through international teams jointly researching controversial issues to find consensus, free from the constraints of national self-interest (see box: Research to support science diplomacy: page 11). Recently, IIASA has launched a new global project to evaluate issues arising at the nexus of food, water, energy and climate change.
- **Academic training opportunities for young Iranian scientists:** There is significant potential to enhance participation by young Iranian researchers in IIASA's programs to develop international and interdisciplinary research skills (see page 9: Capacity Building).

About IIASA

Founded in 1972, the International Institute for Applied Systems Analysis (IIASA) conducts policy-oriented research into problems of a global nature that are too large or too complex to be solved by a single country or academic discipline. IIASA research is across and at the intersection of natural, human, social, knowledge and technology systems to support the development of integrated solutions to global sustainability challenges.

IIASA is at the center of a global research network of around 3,500 scholars and over 830 partner institutions in over 65 countries. It is funded and supported by its National Member Organizations which represent the scholarly community in the following countries:

Austria, Brazil, China, Egypt, Finland, Germany, India, Indonesia, Iran, Israel, Japan, Mexico, Malaysia, Norway, Republic of Korea, Russia, South Africa, Sweden, Ukraine, United Kingdom, United States of America, Vietnam.

More information about IIASA

IIASA, Schlossplatz 1, A-2361 Laxenburg, Austria

Phone: +43 2236 807 0

Fax: +43 2236 71313

E-mail: info@iiasa.ac.at

Web: www.iiasa.ac.at



twitter.com/iiasavienna



facebook.com/iiasa



blog.iiasa.ac.at



linkedin.com/company/iiasa-vienna



youtube.com/iiasalive



flickr.com/photos/iiasa



International Institute for
Applied Systems Analysis
www.iiasa.ac.at