

**ĐẠI HỌC QUỐC GIA  
THÀNH PHỐ HỒ CHÍ MINH**

**CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM  
Độc lập – Tự do – Hạnh phúc**

Số: 257/ĐHQG-KHCN  
V/v Đề xuất dự án với IIASA  
giai đoạn 2018-2019

Thành phố Hồ Chí Minh, ngày 22 tháng 02 năm 2017

TRƯỞNG ĐHKH TỰ NHIÊN	
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		P. KHCN	TLA

gửi: Các đơn vị thành viên và trực thuộc ĐHQG-HCM.

Đại học Quốc gia Thành phố Hồ Chí Minh (ĐHQG-HCM) nhận được công văn số 232/VHL-HTQT về việc kêu gọi đề xuất dự án với Viện Phân tích Hệ thống Ứng dụng quốc tế (IIASA) giai đoạn 2018-2019 của Viện Hàn lâm Khoa học và Công nghệ Việt Nam (VAST). Trong khuôn khổ hợp tác giữa Việt Nam và IIASA, giai đoạn 2016-2018 sẽ có tối đa 03 dự án chung sẽ được VAST và IIASA đưa vào thực hiện. Vì vậy, Viện Hàn lâm Khoa học và Công nghệ Việt Nam kêu gọi các đơn vị đề xuất dự án để đưa vào hợp tác nghiên cứu chung với IIASA (*công văn đính kèm*)

ĐHQG-HCM đề nghị Quý đơn vị thông báo đến các cán bộ khoa học quan tâm. Mọi thông tin tham khảo, xin truy cập website <http://www.iiasa.ac.at>.

Dự án đề xuất xin vui lòng gửi về Viện Hàn lâm Khoa học và Công nghệ Việt Nam trước ngày 01 tháng 5 năm 2017 theo địa chỉ:

Viện Hàn lâm Khoa học & Công nghệ Việt Nam.

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Trân trọng./.

**Nơi nhận:**

- Như trên;
- Lưu: VT, Ban KH&CN.

**TL. GIÁM ĐỐC  
KT. TRƯỞNG BAN KH&CN  
PHÓ TRƯỞNG BAN**



Từ Diệp Công Thành



VIỆN HÀN LÂM KHOA HỌC  
VÀ CÔNG NGHỆ VIỆT NAM

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM  
Độc lập - Tự do - Hạnh phúc

Số: 332 /VHL-HTQT

Hà Nội, ngày 21 tháng 12 năm 2017

V/v Kêu gọi đề xuất dự án với  
giai đoạn 2018-2019

ĐẠI HỌC QUỐC GIA TP.HCM	
Số: 342	
ĐẾN Ngày: 21/02/17	
Chuyển:	

Kính gửi: Đại học Quốc gia TP Hồ Chí Minh

Với tư cách đại diện của Việt Nam tham gia thành viên của Viện Phân tích Hệ thống Ứng dụng quốc tế (IIASA), Viện Hàn lâm Khoa học và Công nghệ Việt Nam đã đàm phán và ký bản Thỏa thuận hợp tác với IIASA. Theo đó, trong giai đoạn 2016-2018, tối đa 03 dự án nghiên cứu sẽ được VAST và IIASA đưa vào thực hiện.

Viện Hàn lâm Khoa học và Công nghệ Việt Nam thông báo để Quý cơ quan biết và thông tin tới các cán bộ quan tâm theo dõi, gửi đề xuất dự án hợp tác với IIASA giai đoạn 2018-2019.

Đề xuất dự án hợp tác xin gửi về Viện Hàn lâm Khoa học và Công nghệ Việt Nam trước ngày 01 tháng 5 năm 2017 để tổng hợp và đàm phán với IIASA. Mọi thông tin tham khảo, xin truy cập website: <http://www.iiasa.ac.at>.

Trân trọng cảm ơn sự hợp tác của quý Cơ quan./.

Nơi nhận:

- Như trên;
- Lưu: VT, HTQT.

TL. CHỦ TỊCH  
TRƯỞNG BAN HỢP TÁC QUỐC TẾ



Khắc Bản





## Activities with Member Countries

# Vietnam

Vietnam joined IIASA in 2013 with the Vietnam Academy of Science and Technology (VAST) representing Vietnam's scholarly community as the IIASA National Member Organization. Recently IIASA researchers have explored developing climate-resilient agricultural systems in Vietnam and Southeast Asia; provided input to the development of Vietnam's national policy to tackle air pollution; and calculated projections for Vietnam's future population and human capital. Three doctoral students from Vietnam have developed their international and interdisciplinary research skills by taking part in IIASA's Young Scientists Summer Program since 2011.

However, there is significant potential to strengthen collaboration to benefit both Vietnam and IIASA. Activities could include joint IIASA-Vietnamese research in areas ranging from air pollution to tropical deforestation to integrated water management along with joint academic training opportunities for young Vietnamese scientists.

### Highlights of Interactions Between IIASA and Vietnam (since 2011)

<b>National Member Organization</b>	Vietnam Academy of Science and Technology (VAST)
<b>Membership start date</b>	2013
<b>Key research partners</b>	<ul style="list-style-type: none"> <li>■ Vietnam Academy of Science and Technology (VAST)</li> <li>■ Ministry of Natural Resources and Environment</li> <li>■ Hue University</li> <li>■ FPT University</li> </ul>
<b>Areas of research collaboration</b>	<ul style="list-style-type: none"> <li>■ Biomass for energy in Southeast Asia and Vietnam</li> <li>■ Understanding and improving air quality in Southeast Asia and Vietnam</li> <li>■ Developing climate-resilient agriculture and food systems in Vietnam</li> <li>■ Projecting demographic change in Vietnam</li> <li>■ ASEAN seminar on applied systems analysis</li> <li>■ Global Energy Assessment</li> <li>■ Research Methods</li> </ul>
<b>Capacity building</b>	3 doctoral students from Vietnam have participated in IIASA's Young Scientists Summer Program
<b>Publication output</b>	21 publications have resulted from IIASA-Vietnamese collaborations
<b>Other interactions</b>	<p>19 researchers, advisors, and diplomats from Vietnam have visited IIASA, while IIASA scientists have visited Vietnam 6 times since 2008.</p> <p>On average between 1 and 2 Vietnamese nationals have been employed by IIASA every year.</p>

## Activities with Member Countries: Vietnam

IIASA Info Sheet 2015/7  
December 2015

The electronic version of this document is available at [www.iiasa.ac.at/vietnam](http://www.iiasa.ac.at/vietnam)

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IIASA Info Sheets provide succinct summaries of 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 Vietnam.  
It includes highlights with links to further information but is  
not meant to be a comprehensive report on all interactions.

Feedback and updates are encouraged and should be sent to Iain Stewart.

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## IIASA's National Member Organization in Vietnam

The Vietnam Academy of Science and Technology (VAST) became the twenty-first IIASA National Member Organization in November 2013.

The Council Member for Vietnam is Dr. Ninh Khac Ban, Director of the International Cooperation Department at the Vietnam Academy of Science and Technology.

The NMO Secretary for Vietnam is Mrs. Tran Thi Ngoc Hue, from the International Cooperation Department of the Vietnam Academy of Science and Technology.

*The Vietnam Academy of Science and Technology represents Vietnam and its scholarly community on IIASA's governing Council*

Web: [www.vast.ac.vn/en/](http://www.vast.ac.vn/en/)

Email: [hue.tranngoc@gmail.com](mailto:hue.tranngoc@gmail.com)



## Research Partners in Vietnam

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

- Vietnam Academy of Science and Technology (VAST)
- Ministry of Natural Resources and Environment, Vietnam
- Hue University
- FPT University

*IIASA is developing collaborations with Vietnam and has recently worked with four organizations in Vietnam via formal and informal connections*

Many of today's most pressing challenges do not stop at international borders. IIASA's research areas such as climate change, water scarcity, and poverty are affected by multiple factors across the globe. In turn these global problems have impacts on nations, regions, and continents. Finding long-lasting solutions to these challenges requires scientific expertise that is free from the interests of a single nation. IIASA's National Member Organizations recognize this need and that their investment in IIASA is a contribution to a global public good. And the benefit of this contribution is paid back to global researchers, policymakers, and citizens in multiple ways as the following examples show:

1. IIASA supports the climate change research community by hosting the Representative Concentration Pathways (RCP) database. The database provides data on greenhouse gas emissions for four different future scenarios that underpin the analysis of thousands of climate change researchers. IIASA also calculated the data for one of the scenarios, all of which have been developed for the world's most comprehensive analysis of climate change—the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report.
2. IIASA's research provides scientific guidance to the Convention on Long-range Transboundary Air Pollution of the United Nations Economic Commission for Europe. This international environmental treaty between 33 countries has slashed air pollution in Europe, improving people's health and countries' crop production. IIASA's GAINS model guided negotiators and policymakers as they worked on the treaty to identify the most cost-effective approach to cleaning Europe's air. The negotiators chose the GAINS model not only because of its accuracy and usability but also because it had been developed by an international team with funding from multiple countries, which assured them that the model was nationally unbiased.

**IIASA's Global Contribution**

## Recent Research Collaborations

*Using systems analysis to reap multiple benefits from Vietnam's forest resources*

### **Biomass for energy in Southeast Asia and Vietnam**

Increasing the production and utilization of biomass for energy offers countries such as Vietnam the opportunity to enhance energy security and combat climate change by reducing the country's reliance on fossil fuels at the same time as enhancing the economic development of rural communities. IIASA scientists have recently advised researchers in Vietnam along with Cambodia, Lao PDR, Myanmar, and Thailand on:

- Future trends in bioenergy and its standardization in Asia and Europe to help inform the development of national and regional strategies to enhance sustainable biomass for energy production and utilization in the ACMECS (Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy) region.
- Tools (including the crowdsourcing tool Geowiki, developed by IIASA researchers) to improve how to estimate the extent of biomass in Vietnam and so help monitor forest carbon stocks.

These activities are in the context of IIASA's Tropical Futures Initiative, which with partners from Brazil and Indonesia is researching policies that both conserve tropical forest resources and create opportunities for the sustainable development of such resources.

### **Understanding and improving air quality in Southeast Asia and Vietnam**

*IIASA's GAINS model helps countries identify the most efficient and effective measures to tackle a country's air pollution*

Vietnam's Ministry of Natural Resources and Environment is developing a National Action Plan on the management of air quality from 2020 to 2025, and has consulted with a range of air pollution experts including IIASA. The IIASA GAINS model is a scientific tool that has helped policymakers and researchers across the globe to select a smart mix of measures to simultaneously cut multiple air pollutants and greenhouse gas emissions. Experience from Europe, whose policymakers use GAINS, show this multiple pollutant approach is the most cost-effective.

Over the past decade, IIASA has worked closely with international partners in China and India among others to implement the GAINS model for Asia. In addition, a city-scale implementation of the GAINS model has been developed by researchers from IIASA and international partners to help urban planners assess practical policy options for controlling urban air pollution that simultaneously maximize reductions in greenhouse gas emissions. GAINS-City has been implemented for Beijing and Tianjin but has relevance for urbanizing societies throughout Southeast Asia and the world.

#### **Selected publications resulting from IIASA-Vietnamese collaborations**

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

- Nguyen B (2015). Integrated Assessment Model on global-scale emissions of air pollutants. In: Nguyen HA Le ThinT & (Eds) TV Do (eds), *Advanced Computational Methods for Knowledge Engineering*. Springer International Publishing, Switzerland pp. 345-354.
- Ovalle-Rivera O, Läderach P, Bunn C, Obersteiner M & Schroth G (2015). Projected shifts in *Coffea arabica* suitability among major global producing regions due to climate change. *PLoS ONE*, 10 (4), art. no. e0124155.
- Luckmann J, Ihle R, Kleinwechter U & Grethe H (2014). World market integration of Vietnamese rice markets during the 2008 food price crisis. *Food Security*, 7 (1), pp. 143-157.
- Kharrazi A, Kraines S, Hoang L & Yarime M (2014). Advancing quantification methods of sustainability: A critical examination energy, exergy, ecological footprint, and ecological information-based approaches. *Ecological Indicators*, 37(A):81-89.
- Nguyen B (2014). Policy by policy analytical approach to develop GAINS-City data marts based on regional federated data warehousing framework. In: Do TV & others (Eds) (eds), *Advanced Computational Methods for Knowledge Engineering*. Springer International, Cham, Switzerland pp. 243-253.



### *Developing climate-resilient agriculture and food systems in Vietnam*

Developing and quantifying socioeconomic scenarios of alternative futures for Southeast Asia can help policymakers explore the potential effects of uncertain climatic, socioeconomic and environmental challenges. In turn this helps the policymakers develop policies that will improve food security, livelihoods, and resilience for a range of different future situations. With this in mind, IIASA took part in the CGIAR research program on Climate Change, Agriculture and Food Security which (1) developed regional scenarios in consultation with stakeholders in Cambodia, Laos, and Vietnam, (2) quantified and modeled the scenarios using IIASA's GLOBIOM model among others, and (3) applied the scenarios to diverse policy processes in Cambodia and Vietnam.

*IIASA and international partners developed regional scenarios for Southeast Asia to guide decision makers in Cambodia, Laos, and Vietnam aiming to improve food security, livelihoods, and resilience.*

Other research by IIASA and international partners on agriculture in Vietnam includes:

- The impact of climate change on the suitability of growing and subsequent production of Arabica coffee in Vietnam and the other main coffee producers.
- An analysis of policy interventions by the Vietnamese government in the world markets for rice during the 2008 food price crisis.

### *Projecting demographic change in Vietnam*

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's demography, the IPCC in 2011 adopted IIASA's population projections as its source data in all modeling for the Fifth Assessment Report; and UNESCO has adopted IIASA demographic methods as part of its literacy forecasting.

*IIASA demographers are providing independent analysis and projections of Vietnam's future population*

The institute's 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 with *Oxford University Press*. Findings for Vietnam show how different policies over the next few decades could lead to the country's 2010 population of 87.8 million increasing to almost 113 million by 2060 or slightly rising to around 94 million.

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's 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 is also exploring closer collaboration with countries in the Middle East including Iran and Israel.

**Research to support science diplomacy**

## IIASA's 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. IIASA models, tools, and data include:

- Reducing air pollutants and greenhouse gas emissions simultaneously (GAINS model).
- Planning a sustainable energy system (MESSAGE model, Global Energy Assessment Scenario Database).
- Reducing energy poverty (Energy Access Interactive Tool [ENACT]).
- Improving food security through identifying yield gaps (GAEZ model) and assessing competition for land use between agriculture, bioenergy, and forestry (GLOBIOM model).
- Financial disaster risk management (CATSIM model).
- Projecting future population (Demographic multistate modeling).

### ***ASEAN seminar on applied systems analysis***

*ASEAN nations explore the regional value of systems analysis*

IIASA and its National Member Organizations in Indonesia, Malaysia, and Vietnam hosted a session on applied systems analysis as part of the ninth ASEAN Science and Technology Week (ASTW) in Indonesia in 2014. The session introduced applied systems analysis and its role in supporting policy making for complex challenges, shared Indonesia's experience in applying systems analysis to address national challenges, and shared experience and challenges faced by ASEAN and neighboring countries that would require systems approaches to address. Participants included HE I Gusti Agung Wesaka Puja, Director General for ASEAN Cooperation, Ministry of Foreign Affairs, Indonesia, and Professor Duong Ngoc Hai, Vice President, Vietnam Academy of Science and Technology.

### ***Global Energy Assessment***

*Vietnamese deputy Prime Minister helps launch the Global Energy Assessment*

The Global Energy Assessment (GEA), published in 2012, defines a new global energy policy agenda—one that transforms the way society thinks about, uses, and delivers energy. Coordinated by IIASA and 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.

The Deputy Prime Minister of Vietnam, Nguyen Thien Nhan, joined IIASA Director General Pavel Kabat in the launch of the Global Energy Assessment at the Rio + 20 Conference in Brazil on 19 June 2012.

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 (SE4ALL) initiative on energy access, energy efficiency, and renewable energy.

### ***Research Methods***

*International collaborations including researchers from Vietnam and IIASA are developing new methods to enable better predictions of how ecosystem processes and biodiversity patterns respond to human activities*

IIASA is advancing research methods to help meet the demands of ecosystems research. Specifically, new tools are being developed to describe ecological and evolutionary transitions in realistically complex systems. These methodological innovations will enable better predictions of how ecosystem processes and biodiversity patterns respond to anthropogenic environmental impacts.

Over the last four years, researchers from FPT University in Hanoi and IIASA among others have been developing eco-evolutionary models to analyze how aquatic insects in rivers adapt to changes in their environment such as water quality or stream flow.

## Capacity Building

### *Young Scientists Summer Program*

The Young Scientists Summer Program (YSSP) develops the research skills and networks of talented PhD students. Program participants conduct independent research within the Institute's research programs under the guidance of IIASA scientific staff. Since 2008 the following 3 students from Vietnam have participated:

**Thi Luu** (YSSP '14 & Kiel University, Germany), a Vietnamese national, empirically analyzed the structure of the Spanish credit network, the temporal changes in it, and the systemic risk of overlapping portfolios.

**Lan Hoang** (YSSP '12 & University of Leeds, UK), a Vietnamese national, used various research methods to improve the robustness and resilience of water resources planning in the UK.

**Tuyen Nguyen** (YSSP '11 & Pusan National University, South Korea), a Vietnamese national, analyzed the response of certain aquatic insects to man-made disturbances in their ecosystems using an individual-based eco-evolutionary model.

*Since 2008, three Vietnamese students have developed research skills and networks by taking part in IIASA's Young Scientists Summer Program*

## Prospects for Future IIASA-Vietnamese Activities

Vietnam is confronted by a range of complex challenges to which systems analysis can help identify long-lasting solutions. At the ASEAN workshop on applied systems analysis, Professor Duong Ngoc Hai, Vice President, VAST highlighted challenges including increasing air pollution, deforestation, and risks of natural disasters and forest fires, along with the need to develop a sustainable energy system and to improve water resource management. With this in mind IIASA and VAST have agreed that IIASA Director General Pavel Kabat will lead a delegation of researchers to Vietnam in May 2016 to explore further areas of research collaboration that will benefit Vietnam, IIASA, and its other member countries.

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

Potential activities include:

- **Taking part in international and regional assessments in areas of Vietnamese strategic interest:** IIASA recently conducted the Global Energy Assessment which brought together over 500 specialists to transform the way society thinks about, uses, and delivers energy. IIASA is embarking on several new assessments, at the request of multiple member countries that will focus on issues of strategic interest to Vietnam. These include (1) a holistic, integrative assessment of plausible futures for global water challenges, and (2) the development of sustainable land use options to address tropical deforestation.
- **Enhancing Vietnamese expertise in applying system analysis to national problems:** Developing bespoke Vietnamese versions of IIASA's global models would allow researchers and policymakers to look at complex global problems and their impact on Vietnam 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.

- **Partnering with IIASA on global research projects:** IIASA is negotiating with the Global Environment Facility (GEF) on a major international research project to develop integrated approaches to simultaneously tackle energy, water, food, and ecosystem security and then apply these to selected regions of the world. The Mekong River is a key transboundary waterway being considered as a case study both in this project and in a new IIASA partnership 'The World in 2050' that is developing equitable pathways to sustainable development. Case studies on the Mekong would build on the goals of the Mekong Delta Plan in which IIASA Director General and CEO played a strategic advisory role. These research projects also show how collaborations between IIASA and Institutions in its member countries can attract international research funding that benefits all parties. Indeed, IIASA's high-quality research and international research network makes it highly competitive in its applications for international research funds. Between 2006 and 2013, IIASA almost doubled its income by winning research grants that amounted to €62.5 million. This was part of a total funding portfolio of €308 million of the external projects in which IIASA was and is involved.
- **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's 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. Recently, IIASA has launched a new international project to analyze the prospects for economic integration between Europe and the countries of the former USSR.
- **Academic training opportunities for young Vietnamese scientists:** IIASA's capacity building activities equip young researchers with new system analytical skills and international research expertise, which can help to develop the research base for systems analysis in Vietnam. There is potential to enhance participation by young Vietnamese doctoral and post-doctoral students in IIASA's programs. However, this requires an increase in the number of Vietnamese applicants for these competitive programs, which in turn requires an increase in awareness of these programs among young Vietnamese researchers and their supervisors.

Scientific exchange between IIASA and Vietnam also takes place in a number of other ways:

1. Lectures and presentations by IIASA researchers in Vietnam. Recent examples include:
  - Ping Yowargana on "Geo-Wiki: Introduction of crowdsourcing tools for global biomass observation" at the GFOI Vietnam Biomass Estimation Workshop in Hanoi in 2015.
  - Amanda Palazzo on "IIASA's GLOBIOM model" at the CCAFS, FAO and UNEP-WCMC Workshop 'Scenarios for Future Food Security, Environment and Livelihoods in Southeast Asia' in Halong in 2013.
  - Binh Nguyen gives lectures in computer science at Hue University.
2. Vietnamese researchers or officials attending events at IIASA:
  - 19 researchers, advisors and diplomats from Vietnam have visited IIASA including:
    - A delegation led by Deputy Prime Minister HE Mr Nguyen Thien Nhan and including Minister of Science and Technology, HE Mr Nguyen Quan and Vietnam's Ambassador to Austria HE Mr Nguyen Thiep on 30 November 2011.
    - A delegation by the Southwestern Region Steering Committee of Vietnam attended a workshop at IIASA in August 2014 to explore areas of future collaboration. Delegates included: Ambassador HE Nguyen Thiep; Mr. Nguyen Phong Quang, Deputy Director of the South-Western Region Steering Committee of Vietnam; and Mr. Tran Chi Dzung, The Secretary of Provincial Party Committee of Tra Vinh province.
3. IIASA scientists have visited Vietnam 6 times since 2011 including a visit by IIASA Director General, Professor Dr Pavel Kabat and his special Advisor, Professor Chin-min Lee in 2013.
4. 3 doctoral students from Vietnam have participated in IIASA's Young Scientists Summer Program
5. 21 publications have resulted from IIASA-Vietnamese collaborations (see appendix 1)
6. On average 2 Vietnamese nationals have been employed by IIASA every year including research scholars Binh Nguyen in the Air Quality and Greenhouse Gases Program (2008 to date), Tuyen Nguyen in the Evolution and Ecology Program (2011-2012), and Long Hoang Phi in the Water Program (2012).

Appendices:

The details behind the above facts can be found in the following appendices to the country sheet. The appendices are either attached or available on request from Sanja Drinkovic (drinkovs@iiasa.ac.at):

- Employees with Vietnamese nationality at IIASA (2011-2015)
- Vietnamese visitors to IIASA (2011-2015)
- Conference participants from Vietnam to IIASA (2011-2015)
- Travel by IIASA scientists to Vietnam (2011-2015)
- Publications relevant to IIASA-Vietnamese Collaborations (2011-2015)

**IIASA-Vietnamese scientific exchange through people**

## 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's research areas are energy & climate change; food & water; and poverty & equity.

IIASA is at the center of a global research network of around 2,500 scholars and over 600 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:

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

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