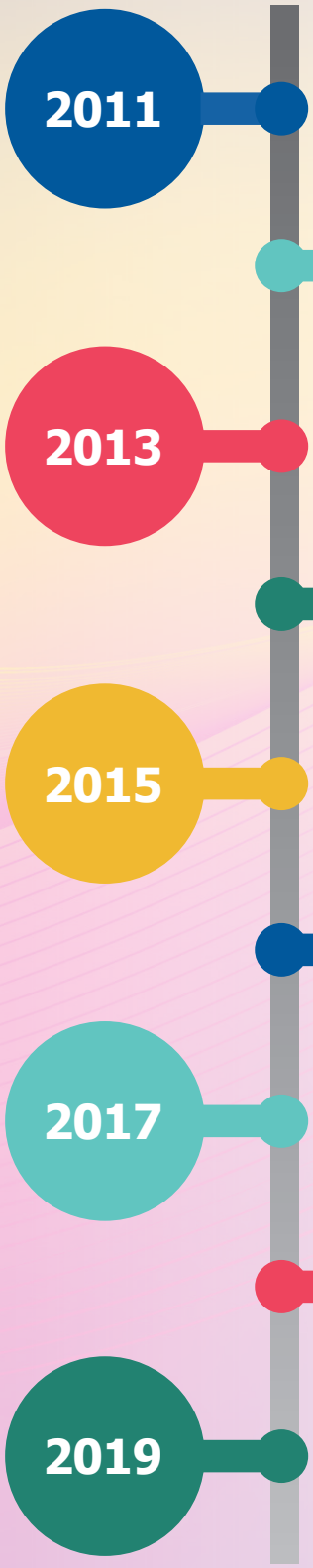
Reducing footprints, enhancing resilience

Systems science for transformations to sustainability

IIASA Strategy 2021–2030

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

SELECTED IIASA ACHIEVEMENTS SINCE 2011



2011

IIASA co-develops and hosts the Representative Concentration Pathways database, equipping the climate change research community with common greenhouse gas emissions data.

2012

IIASA and partners identify 14 measures to reduce short lived climate forcers, providing scientific evidence for the Climate and Clean Air Coalition and its 69 state partners.

2013

IIASA and partners launch a revamped Geo Wiki to harness the power of citizen science to collect and verify land cover data, thereby dramatically improving the quality of the data.

2014

The European Commission agrees a proposal for new climate and energy targets for 2030 informed by IIASA modeling results.

2015

The Sustainable Development Goals are formally adopted, with IIASA science underpinning goals on tackling climate change and ensuring access to sustainable energy for all.

2016

Research from IIASA and partners helps shape revisions of the EU Renewable Energy Directive, which introduced biofuel sustainability criteria.

2017

A decade of IIASA demographic research demonstrating why education should be the priority investment for development budgets informs the German Federal Ministry for Development's decision to allocate 25% of its entire funding for education.

2018

The Zambezi River Basin Commission develops a strategic plan for water, energy, and food management based on findings from an IIASA-led study.

2019

The Chinese Government officially adopts an IIASA model to strengthen air quality management in the country.

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First published in June 2020
Adopted by IIASA Council on 9 June 2020

ZVR 524808900

MISSION

Established in 1972, the initial mission of IIASA was to build bridges across the Cold War divide and confront growing global and international problems through scientific cooperation. The institute was tasked with supporting research addressing problems of modern societies arising from scientific and technological development, and to undertake its own studies into both methodological and applied research in the related fields of systems analysis, cybernetics, operations research, and management techniques.

Today, while keeping a focus on the increasingly complex problems created by rapid scientific and technological development in an inter-connected world, the institute's perspective has evolved from a focus on systems analysis to a broader systems science approach to build bridges between countries and stakeholders in the pursuit of sustainable development.

IIASA vision 2021–2030

To be the primary destination for integrated systems solutions and policy insights to current, emerging, and novel global sustainability challenges, threats, and opportunities.

"Systems analysis and thinking provides systemic solutions and policy options for resolving complex issues. Systems approaches increase the likelihood of sound policy interventions and minimize the risk of unanticipated consequences and policy surprises. Even in the face of adversity and uncertainty, systems thinking can provide informative roadmaps for innovative and creative outcomes that best serve societal aspirations."

Albert van Jaarsveld, IIASA Director General and Chief Executive Officer

The global challenges of today

The next decade is critical for our planet and humanity. It will be characterized by unprecedented economic, environmental, and social change, as well as increased complexity across a more interconnected world that creates its own vulnerabilities, opportunities, and threats, which are often unleashed by technological advances. Governments, who committed to a visionary sustainable development agenda (Agenda 2030) that spans social, environmental, and economic goals, recognize these developments. It includes objectives interlinked with other far-sighted international agreements, including limiting human-induced climate change as set out in the Paris Agreement; and substantially reducing the risk from disasters and enhancing preparedness as described in the Sendai Framework. In addition, the Global Assessment on Biodiversity and Ecosystem Services emphasized the threats posed by increasing human ecosystem interactions and global connectivity. These include reduced resilience of agricultural systems, which poses global food security risks, the extinction of 1 million species, and increased zoonotic disease exposure (e.g., COVID-19).

A further challenge is to realize the benefits of social and economic development in a just manner for a population headed towards the 10 billion mark by 2050, while remaining or retreating to a safe operating space for a sustainable future. The evidence of rising global human impacts and risks is resulting in anxiety about social equity and concerns around the future security of vulnerable people. Ensuring the health of ecosystems, their services to humanity, and planetary resilience is a pre-condition for providing intra- and intergenerational sustainable development and security. In addition, the coronavirus pandemic, as an illustration of other possible extreme events, adds a new level of complexity to identifying integrated solutions to global sustainability through its multiple consequences on economies and societies, both in the near- and long-term, as a new post-COVID-19 world evolves.

These global challenges are interlinked and actions in one area will have impacts on others. As such, there is a need to address them in an integrated and holistic manner. Systems science provides the scientific community with the skills and tools to engage strongly with these challenges. It is also widely recognized that these enormous challenges can only be overcome with sufficient financial means. The report of the Intergovernmental Committee of Experts on Sustainable Development Financing stresses the need for action on global economic governance, trade, and investment regimes that are fair and supportive of sustainable development, among a host of other measures.

A systems science perspective is urgently needed to systematically and comprehensively reduce human footprints and enhance the resilience of natural and socioeconomic systems in pursuit of a sustainable future. The institute's globally recognized expertise in systems science approaches makes it uniquely positioned to provide research leadership in this regard.

IIASA strengths

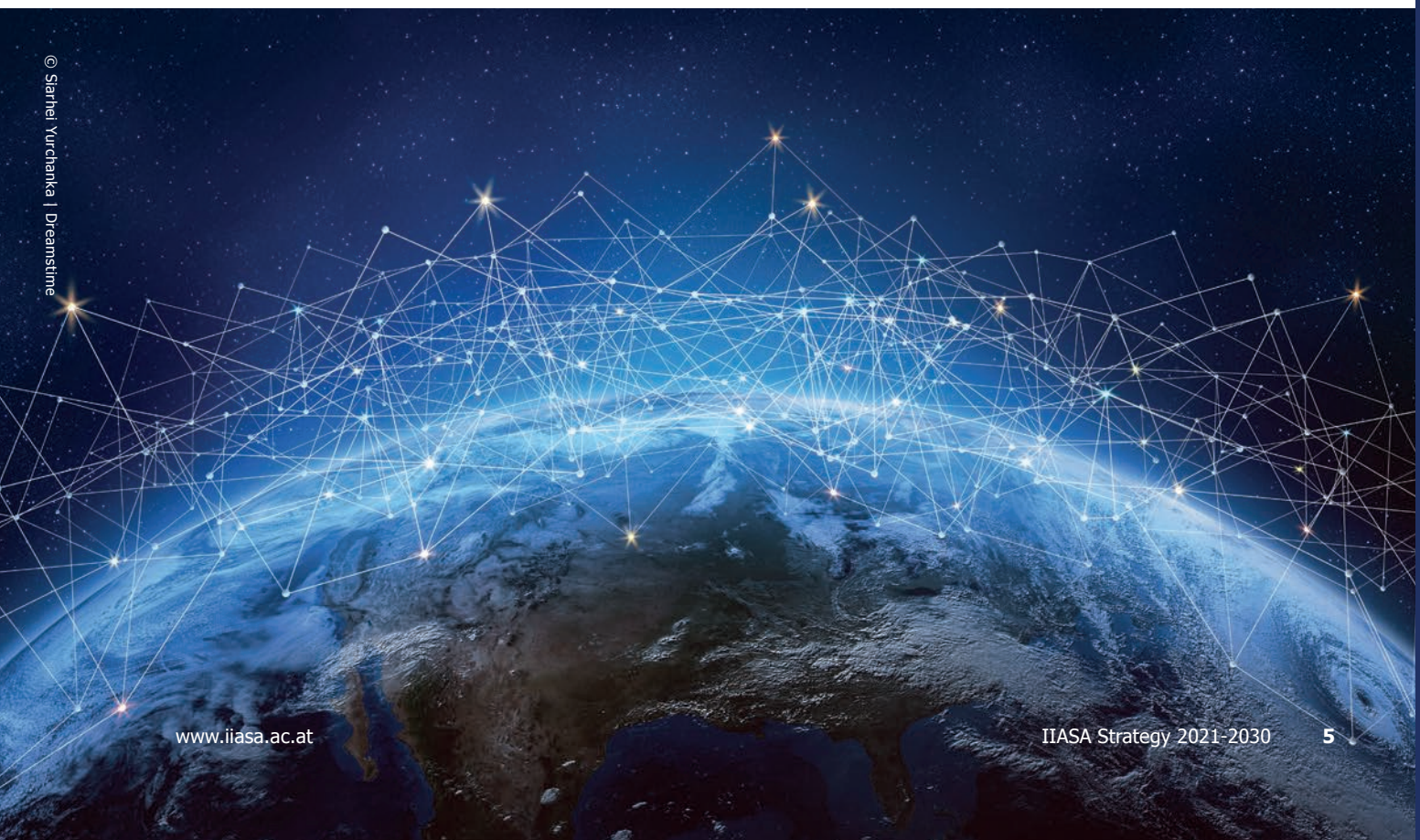
Over the nearly five decades since its establishment, IIASA has come to be recognized as a global leader in the provision of independent, evidence-based, and policy-relevant analyses to major environmental and societal challenges. This was achieved through its sustained interdisciplinary and international research agenda with global reach and impact.

IIASA has the credibility and flexibility to bring together teams of researchers that cover all disciplines, the latest scientific expertise, and local knowledge required to explore pathways to a sustainable future. Its international, yet non-governmental status allows the institute to maintain a balance between close involvement with key initiatives concerning international science and policy, and the necessary independence to set its own research agenda free from political constraints.

The IIASA mission, vision, research environment, and the institute's global leadership in systems analysis, will together enable and strengthen its researchers to deliver impact in the coming decade through:

- **Advanced cutting-edge systems knowledge and scientific innovation** in an increasingly complex and interconnected world faced with enormous and growing uncertainties.
- **Improved policy options for transformations towards sustainability** by injecting science and state-of-the-art systems-based analysis into decision-making processes.
- **Inter- and transdisciplinary collaborations, capacity building, and partnerships** that respond flexibly to emerging challenges and serve as a trusted neutral platform for science, policy, and societal exchange.

The institute's new strategy combines three integrated pillars—research, impact enhancement, and implementation—to deliver on this vision.



PILLAR 1: RESEARCH

IIASA researchers are passionate about delivering scientific excellence and bringing commitment, integrity, and energy to everything they do. IIASA work simulates and makes transparent the increasingly complex interdependencies in our world through scientific innovation, creativity, and experimentation in methods and applications of systems analysis, harnessing technological and social progress, anticipating emerging challenges, and enabling a flexible and rapid response to new policy priorities and demands.

Strategic research objectives

- **To advance systems analysis:** IIASA will remain at the forefront of research in systems analysis methodologies and applications by focusing on understanding and describing the interdependencies and interactions between elements, subsystems, and entire complex systems.
- **To enhance policy impact:** IIASA will reduce complexity and provide analytical tools to capture the most important pressure points that enable the simulation of policy impacts.
- **To exploit the digital revolution:** IIASA will harness the opportunities arising from the digital revolution and advancements in computing capabilities, among others, to enrich integrated systems science research.
- **To anticipate and respond to emerging issues:** IIASA will conduct strategic horizon scanning to track the surrounding dynamic environment to anticipate emerging situations and to respond with agility in its research to rapidly developing and novel risks.
- **To further research excellence:** IIASA will maintain and strengthen its international reputation for science excellence through targeted investments in high priority research areas and by building requisite skill sets.

Research themes

Over the next decade, IIASA research will focus on transformational changes towards sustainable social-economic-environmental systems. Research shows that transformations for sustainability are effected through drivers and pressures including profound reforms in institutions and governance, shifting mental maps and societal norms, changing patterns of human behavior, strong data innovations and systems analytic capabilities, as well as widespread societal awareness raising and mobilization. Therefore, in the coming years, IIASA research will focus on the following key drivers:

- Governance and institutions
- Technology and innovation
- Economy and society
- Population and behavior

Understanding the pressures on achieving global sustainability challenges requires integrated analyses of the often-incompatible sectors of production and consumption with biodiversity and ecosystem services, and also of people's increasing demands for greater equity and resilience. The new IIASA research strategy will therefore build and combine research expertise across these key drivers and pressures to take a systemic approach to global sustainability challenges. Research collaborations will be incentivized across seven themes to facilitate the development of systemic approaches to resolving sustainability issues (Figure 1).

Figure 1: Key societal driving forces and pressures that impact sustainability transformations.

Underpinning the research will be methodological advances and innovations in systems methods and approaches to: better account for system interactions, non-linearities, and bifurcations; address inherent uncertainties and risks; bridge spatial and temporal scales; represent heterogeneities and bounded rationality in agent choices and behaviors; and recognize the multiple objectives and perspectives of decision makers. Processing and analyzing new sources of data will also require further development of techniques from the emerging field of data science and machine learning. Agile fusion of quantitative and qualitative approaches, as well as participatory processes, including citizen science, will ensure societal policy relevance. A flexible multi-model approach that involves traditional IIASA systems models, stylized models for hypothesis testing, medium-complexity models for exploring the richness of systems dynamics, and micro-level detailed simulators to explore and explain emergent phenomena and conduct policy assessments, will be deployed.

1. Governance and institutions

Global governance systems appear inappropriate for addressing the grand challenges of the Anthropocene, which require unprecedented changes in terms of scale, scope, and speed in all system attributes (e.g., social behavior; regulatory, legislative, and bureaucratic regimes; financial institutions and incentives; and technological or biophysical systems). It is apparent that our present governance structures of overlapping and nested institutions, rules, conventions, processes, and mechanisms by which decisions are made and implemented are inadequate to drive the required transformations.

This realization is prompting the global scientific community to engage in a major rethink of its scientific approaches, its methods of science communication and engagement, and its perceived role in society – giving rise to the new domain of 'transformative science'.

OVER THE NEXT DECADE IIASA WILL:

- Mainstream governance considerations into its core global and universal research areas and develop a systems perspective on the design of inclusive and transformative governance regimes.
- Apply its systems methodologies to co-design policy options and catalyze change processes in current governance systems to address global and universal transformation agendas.
- Advance game-theoretical approaches to model the emergence of cooperation on common goods and open-access resources in realistic settings.
- Combine its expertise on qualitative systems analysis with emerging opportunities (around earth observation, financial transactions, smart phones, social media, sensors, crowdsourcing, and citizen science) to innovate on its science-policy-society engagement.

2. Technology and innovation

New technologies, including digitalization, are already having major impacts across various sectors of the economy around the globe. They are not only impacting equity, work, production, leisure, behavior, education, and governance, but are also increasing societal divides. Understanding how new technologies intersect with and are used by society, and the consequent implications of this, is critical to harnessing technologies for the benefit of societies and the wellbeing of citizens. The key challenge is how policies can better harness the potential benefits of technology and innovation in the transformation to a sustainable future.

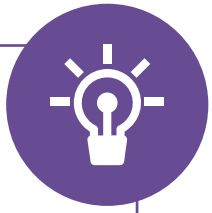
OVER THE NEXT DECADE IIASA WILL:

- Focus on understanding how digitalization impacts science and societies by comparing technology and behavioral change dynamics (e.g., automation on employment and decarbonization on carbon-dependent sectors).
- Research technological innovation and diffusion mechanisms that harness technologies for inclusive development while mitigating or avoiding associated risks (e.g., technological lock-in and path dependencies).
- Identify the social and behavioral innovation and changes that are needed for the transformation to sustainable production and consumption through scenario back-casting exercises.
- Further research innovation systems approaches related to the transfer of technology and their application in the domains of behavioral/social innovations.
- Develop policies and innovation roadmaps for those technological, social, and institutional innovations identified as key for achieving sustainability transformations in a holistic integrated fashion, and for accelerating the uptake of key innovations for the Sustainable Development Goals (SDGs).

3. Economy and society

How societies organize their economic activities is of paramount importance for achieving the transformation to sustainability. The socioeconomic system is directly implicated in sustaining a global grand challenge in the form of pervasive and growing societal inequities, persistent poverty, and decreased societal resilience. In addition, the way societies design and incentivize their economic activities has strong implications for the transformation toward dematerialized production and consumption patterns, as well as the sustainable use of land, water, and natural resources.

The economy is deeply embedded in both social and biophysical systems, and hence cannot be analyzed in isolation. This requires a systems analysis approach and interdisciplinary research designs, comprising a range of diverse scientific approaches and methodologies to describe, understand, and explain social, economic, political, and ecological developments. Given the current grand societal challenges that are driven by current dominant economic frameworks, it is crucial to develop new solutions for these challenges and demonstrate the potential of systems thinking in precipitating alternative socioeconomic perspectives and solutions.



OVER THE NEXT DECADE IIASA WILL:

- Further develop pluralistic and systemic approaches to facilitate the analysis of economic and societal issues related to human development, inequality, sustainability, as well as economic development and forecasting (e.g., agent-based models).
- Employ a flexible multi-model approach that involves stylized models for hypothesis testing, medium-complexity models for exploring the richness of system dynamics, micro-level detailed simulators to explore and explain emergent phenomena, and to conduct policy assessment.
- Continue to advance the use of heterogeneity in systems analysis for socioeconomic systems. Many dimensions such as regional and population sub-group specificities will be explicitly accounted for by downscaling socioeconomic scenarios into a sub-national level and finer spatial units.

4. Population and behavior

Socioeconomic and technological development over the past decades have contributed substantially to improving human wellbeing and living standards. However, the benefits from such progress are not distributed evenly across countries, regions and communities, and population subgroups. Such inequalities impede growth, human development, and consequently, the achievement of sustainable development. Furthermore, many of the new challenges we face today are the consequences of past improvements in the human condition. Not only did socioeconomic development lead to declining birth rates and increasing longevity resulting in population aging, it also led to lifestyle and dietary changes resulting in a mortality shift due to chronic, non-communicable, degenerative diseases. Changes in lifestyle and consumption patterns also impact the environment and the global climate system, while climate change in turn affects human wellbeing.

Changes in the economy and societal structures also requires individual behavioral

change, which offers considerable potential for moving towards sustainability in ways that may forego the need for expensive, large-scale development of new technologies (e.g., COVID-19 pandemic). Arguably, the greatest challenge facing such a transition is understanding how to elicit the necessary wide-scale and persistent behavioral change. This will require a greater integration of social and natural sciences.

OVER THE NEXT DECADE IIASA WILL:

- Advance the theoretical, methodological, and empirical knowledge of multi-dimensional population projections coupled with expert-based surveys of future socioeconomic and population scenarios, as well as greater consideration of heterogeneity to systematically research inequality issues.
- Develop innovative approaches and perspectives to understand and study population phenomena such as population aging, human wellbeing, and migration drivers and patterns that allows for improved integration of people into broader socioeconomic and environmental models.
- Enhance systems models through explicit representation of individual behaviors and their interactions in the context of diverse social norms and values (driving technology and infrastructure choices).

5. Equity and resilience

Human beings are both the cause of dramatic global change and are being severely impacted by it. This leads to existential and systemic risks that are likely to cascade across interconnected socioeconomic systems and impose intolerable burdens that are usually borne disproportionately by vulnerable people. These risks may arise from climate extremes, forced migrations, food and water shortages, pandemics, ocean and air pollution, biodiversity loss, and disruptions in financial systems. Projections suggest that these risks will increase substantially, resulting in an anticipated decline in societal resilience.

Against this background, it is essential to understand how underlying demographic and socioeconomic pressures, individual and collective actions (i.e., values, behaviors, norms, and cultures), and the diversity of communities (e.g., rural and urban) affect possible interventions to enhance resilience, equity, and the sustainability of human societies. It is also widely recognized that the polarization of societies frequently results in policy stalemates, a phenomenon that can only be overcome by improved cohesion across socioeconomic and governance systems.

OVER THE NEXT DECADE IIASA WILL:

- Strengthen its research expertise in social, economic, and behavioral sciences to foster transformations towards educated and engaged citizens, as well as inclusive, resilient, and just societies.
- Further develop quantitative assessment methods for emerging systemic risks and disaster resilience, and improve qualitative research methods for analyzing and supporting decision making and governance processes.
- Assess the potential impacts from, and ethics around, upcoming technological changes, digitalization, and automatization on community resilience, equity, and human wellbeing.
- Explore the power of network and complexity science, as well as data science and machine learning, to understand the determinants of resilience.

6. Production and consumption

Current consumption and production patterns are both unsustainable and highly inequitable. The challenge for societies is to transform current production and consumption patterns to create an economy that decouples economic development and human wellbeing from environmental degradation, but also reduces our total consumption of materials and energy. This requires a fundamental refocus on demand management. Trends, such as digitalization, can contribute in either direction, by making production, transportation, and trade systems more efficient or by causing increased material demand. It is critical to improve understanding of consumption and production patterns at the micro level, understanding of end-use demand, and how they merge into global demands at the macro-level. Integrated tools are needed to foster a circular economy less intent on consumption.

OVER THE NEXT DECADE IIASA WILL:

- Conduct research to further develop wellbeing indicators related to services (rather than products and goods), demand reduction, and sufficiency.
- Focus on developing pathways for achieving inclusive prosperity and a decent standard of living for all in a resource-constrained world, and informing transformations towards new economic paradigms for sustainable consumption and production patterns with an emphasis on managing demand-side services with upstream implications for material, energy, and other resource needs as a way to achieve sustainability.
- Enhance the policy realism of systems models through the identification of smart policy designs that consider social heterogeneity and distributional impacts at different scales (subnational, national, regional, and global).

7. Biodiversity and ecosystem services

Driven by a changing climate and global human demands for food, fiber, and forest products, current patterns of land and water management are resulting in severe land

degradation, a decrease in the quality and quantity of water, groundwater depletion, destruction of terrestrial and marine ecosystems, and biodiversity loss. It is also contributing a quarter of total anthropogenic greenhouse gas emissions. Over the last 40 years, there has been a 60% decline in mammal, bird, fish, reptile, and amphibian populations, and one million animal and plant species face extinction. At the same time, more than 800 million people still suffer from undernourishment and lack access to clean water. The UN estimates that food production will need to increase by 50% to meet the demands of projected population growth by 2050, which will also increase the global demand for water by more than 50%. Developing sustainable pathways to land, water, food, and biodiversity management across all sectors and policy levels represent unprecedented challenges.

OVER THE NEXT DECADE IIASA WILL:

- Continue to develop and improve the integrated modeling framework for land, water, and biodiversity systems to address growing human needs, to address challenges related to the SDGs across scales, to support sustainability transformations, and promote thriving natural landscapes.
- Conduct fundamental ecological research to develop methodologies of systems analysis for biodiversity, for example, exploring local or large-scale patterns in diversity over time, and as a function of direct and indirect drivers of change.
- Develop agile and innovative approaches (e.g., Earth Observation, machine learning, AI, Big Data) to complement existing frameworks of data generation and integrated modeling.
- Develop models that support decisions under uncertainty in natural and socioeconomic conditions.

PILLAR 2: ENHANCING IMPACT

Building on the research excellence at IIASA as well as recognizing the very difficult challenges that the institute is addressing, it is important to ensure that this work speaks to the science-policy interface and contributes to the building of bridges across groups of countries and regions, across disciplines and stakeholders, and across inter-connected issues. IIASA will therefore strengthen its approach to and use of the following three vehicles to enhance the impact of its research and activities.

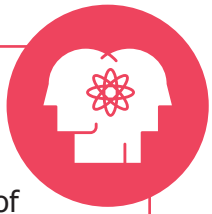
Science diplomacy

IIASA builds trust and helps divergent views jointly confront problems of global interest.

STRATEGIC OBJECTIVE

Provide long-term scientific support and infrastructure as a neutral science-based broker on emerging global and regional challenges that can only be addressed through cooperation and collaborative work.

Over the years, IIASA has provided long-term scientific support and infrastructure as a neutral scientific broker and bridge builder on emerging global challenges and threats. Today, the institute's mission as a bridge builder is as urgent, or perhaps even more urgent. In today's complex and volatile world, using science to understand and foresee the multidimensional nature of emerging challenges and threats, to build trust, and to help divergent views jointly confront problems of global interests, remains a valid mission for IIASA over the next decade. Through its systems analysis approach, IIASA will provide a hub where science can assess the multidimensional nature of these challenges and threats that cut across national, sectoral, and ideological boundaries, and bring these to bear for improved policy insights and multilateral cooperation.



Over the next decade, IIASA will:

- Continue to reinforce the practice of combining specific knowledge domains, research platforms, and activities, and developing relationships of trust with partners in policy and practice towards complex problem solving.
- Strengthen its capacity and infrastructure to act as a neutral platform for convening scientists, policymakers, and decision makers to examine, discuss, and establish common ground on controversial and urgent issues of global interest that benefit from the interplay between science, society, and policy, and reflect the interests of IIASA member countries.
- Strengthen its capacity to monitor and identify global threats that could create divisions in areas where science and IIASA's systems analysis can act as the facilitator for finding common ground and urgent multinational and cooperative solutions.

Strengthening partnerships

IIASA values collaboration: The institute works with a wide range of stakeholders, its member countries, and leading scientific organizations all over the world to achieve outstanding results.

STRATEGIC OBJECTIVE

Increase the quality and reach of scientific partnerships across the globe.

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"By attracting the best scientists from around the world, IIASA is transforming our understanding of our changing world. By bringing the world's most promising young scientists to spend a summer at IIASA, the institute ensures the next generation of scientists is even better equipped to solve the world's problems."

Thomas Schelling
(Nobel Prize, Economics, 2005)

The ability of IIASA to deliver on its mission is dependent on deep partnerships with its national member organizations and a global network of researchers and policymakers. Today, IIASA has over 20 member countries representing more than 70% of the world's economy, and over 60% of the world's population. Each country with IIASA membership has a National Member Organization (NMO) that acts as a bridge to link their research and policy communities to IIASA.

Through its partnerships with its NMOs and the broader scientific and policy communities, IIASA has played a pivotal role in several large-scale initiatives that are supporting global transformations towards sustainability. A worldwide network of collaborators contributes to the institute's solutions by collecting, processing, and evaluating local and regional data that are integrated into IIASA research. Unleashing the power of this network not only strengthens IIASA, but is fundamental to carrying out its mission.

Over the next decade, IIASA will:

- Work with NMOs to collectively identify large-scale strategic initiatives of interest to multiple countries, focusing on critical themes or ecoregions to find enduring solutions with high policy impact. These initiatives should benefit from the application of systems science methods and multilateral approaches.
- Intensify its relationship with IIASA alumni, researchers, and collaborators across the world, and foster deeper engagement with these ambassadors of IIASA.
- Contribute to strengthening bilateral, multilateral, and international relations through the lens of sustainable development at a time when it is most needed, through its science diplomacy and scientific input.

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BUILDING CAPACITY

IIASA values knowledge transfer and training the next generation of systems analysts.

STRATEGIC OBJECTIVE

Build capacity in systems thinking and analysis by educating and training a new generation of scientists, professionals, and leaders, as well as making IIASA research, data, models, and analytical tools openly available to the research community.

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Training in systems sciences

While research is the institute's major focus, a central element of its mission continues to be the education and training of the next generation of scientists, professionals, and leaders in systems thinking and analysis. Through a reinvigorated Capacity Development and Training Unit, IIASA will explore wider engagement with learners and training partners, using the latest technologies and online platforms to facilitate the process. Such capacity creation activities should significantly equip member countries in particular, with the skills needed to aid decision making in their own contexts, and attracting and training new research talent.

Open science

IIASA produces world-class science that is regularly published in high-impact publications and made freely-accessible via the IIASA publications repository. IIASA scientists will be encouraged and supported to further advance open access by making IIASA research, data, models, and analytical tools openly available and accessible, in a responsible manner, to all.

Over the next decade, IIASA will:

- Continue to strategically develop its flagship training platforms, such as the Young Scientists Summer Program (YSSP) and postdoctoral programs, and support regional or national academic training initiatives.
- Maintain and evolve persistent partnerships for mutual benefits with universities, national and international agencies and educational programs to effectively deliver tools, methods, and systems analysis skills to its member countries and the world at large.
- Promote in-house and in-country training events for scientists and policymakers.
- Build robust processes to place its data and models in an open access mode, thereby enhancing the capacity of IIASA research users to benefit from the institute's system analytical tools.

PILLAR 3: IMPLEMENTATION

IIASA will implement the above strategy by adopting a two-pronged approach.

Providing an environment for research excellence

IIASA values its people. The institute is committed to an inclusive, respectful, and safe workplace centered on engaged and motivated staff.

STRATEGIC OBJECTIVE

Enhance the working environment to continue to attract and retain the best talent, enhance diversity and career development, and support all staff to reach their full potential.

The institute's success depends on its people, as they are key drivers of innovation and excellence. IIASA is committed to providing a working environment where staff are respected and supported to reach their full potential. To this end, IIASA has developed a new People Strategy centered on a shared set of well-defined core values, ASPIRE: Accountability, Social equity, People centered, Integrity, Respect, Excellence.

Over the next decade, IIASA will:

- Fully embed and implement its People Strategy with its goals of enhancing diversity; attracting, retaining and managing the best talent; enhancing career development; reinforcing performance management; and providing inspirational and effective leadership at all levels.
- Develop a dynamic recruitment and human resources policy to attract exceptional professionals who are open to collaboration, and capable of attaining high levels of scientific creativity, productivity, and leadership in their respective areas.
- Introduce periodic staff satisfaction surveys to gather insights into what is important for staff.

Implementing best practice, fit-for-purpose operations and support services

IIASA values efficiency: The institute is goal-oriented, committed to best practice standards, and always seeks to use resources judiciously.

STRATEGIC OBJECTIVE

Provide best-practice support services for research and comply with the principles of good institutional governance.

The institute's operations exist to support its staff, research, and external partners in delivering on its vision. While IIASA is committed to responding operationally to changing conditions in a nimble manner, it also ensures compliance with the law and follows best administrative practices.

Communication and knowledge dissemination

To deepen its engagement with a multiplicity of audiences and stakeholders, IIASA will integrate its communication and knowledge dissemination capacity and enhance its strategic approach to communications considering the goals of this strategy and the wider diversity of perspectives, choices, and behaviors, across regions, peoples, and time. The institute will amplify the use of new tools and concepts based in social media, storytelling, data visualization, creative design, and narratives, to more effectively advocate, communicate, and disseminate its work, thus maximizing its relevance, accessibility, and impact.

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"The world is being asked to transform completely and flawlessly towards a socioeconomic system that is globally sustainable almost overnight. IIASA has a clear head start in terms of tools, methods, and models to make the implications of such systemic transformations transparent, both under alternative scenarios, and on the multiple dimensions of sustainability. This strategy aims to position IIASA to conscientiously contribute to this effort as widely and deeply as possible."

Leena Srivastava, IIASA Deputy Director General for Science.

Funding

Today, a little over 50% of IIASA funding comes from external sources with the balance provided through the generous support of NMOs. The funding strategy has always been carefully crafted to ensure a close alignment to the institute's scientific priorities and a guarantee of independence. The new strategy respects these principles and will endeavor to maintain the balance between core funds provided from NMO contributions and external project funding to maintain the strategic balance between innovative, forward-looking, possibly exploratory research, and more immediately useful policy oriented research. For this purpose, IIASA will develop and explore new membership contribution strategies, introduce regional memberships, as well as improve the mechanism for the prioritization of research activities and the support provided to new proposal development

Management information system

IIASA has an extensive management information system (MIS) that enables fully digitalized personnel, procurement, and project management across the institute. Going forward, IIASA will explore and implement alternative enterprise resource planning systems to be more in line with global best practices and to respond to the increasingly complex external requirements around all systems.

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IIASA Strategy 2021–2030

The International Institute for Applied Systems Analysis (IIASA) is an international scientific institute whose findings provide valuable options to policymakers to shape the future of our changing world. The IIASA Strategy positions the institute to be the primary destination for integrated systems solutions and policy insights to current, emerging, and novel global sustainability challenges and threats.

IIASA is funded and supported by its National Member Organizations which represent the scholarly community in the following countries (01 January 2020).

AUSTRIA The Austrian Academy of Sciences
BRAZIL The Brazilian Federal Agency for Support and Evaluation of Graduate Education (CAPES)
CHINA The National Natural Science Foundation of China (NSFC)
EGYPT Academy of Scientific Research and Technology (ASRT)
FINLAND The Finnish Committee for IIASA
GERMANY Association for the Advancement of IIASA
INDIA The Technology Information, Forecasting and Assessment Council (TIFAC)
INDONESIA Indonesian National Committee for IIASA
IRAN Iran National Science Foundation (INSF)
ISRAEL The Israel Committee for IIASA
JAPAN The Japan Committee for IIASA
KOREA, REPUBLIC OF National Research Foundation of Korea (NRF)
MALAYSIA (*Observer*) Academy of Sciences Malaysia (ASM)
MEXICO Mexican National Committee for IIASA
NORWAY The Research Council of Norway (RCN)
RUSSIA The Russian Academy of Sciences (RAS)
SLOVAK REPUBLIC Ministry of Education, Science, Research, and Sport
SOUTH AFRICA The National Research Foundation (NRF)
SWEDEN The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS)
UKRAINE The Ukrainian Academy of Sciences
UNITED KINGDOM Research Councils of the UK
USA The National Academy of Sciences (NAS)
VIETNAM Vietnam Academy of Science and Technology (VAST)

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