

Transcript: IIASA-ÖAW Joint Public Lecture, 12 April 2021

This document contains the transcript of the keynote speech given by Sir Peter Gluckman, Chair of the International Network for Government Science Advice; President-Elect of the International Science Council; former Chief Science Advisor to the Prime Minister of New Zealand, at the occasion of the first 2021 joint public lecture between IIASA and the Austrian Academy of Sciences.

COVID-19 recovery: Towards a Just and Sustainable Society

Thank you for the opportunity again to join, with IIASA and the Austrian Academy of Sciences. I'm missing my visit to Laxenburg and to Vienna. I have so many friends and colleagues there, within the scientific community. I'm going to share my screen and hope that the technology allows us to at least do that.

The Genesis of this lecture, as Albert suggested, is in the work that the International Science Council and IIASA have collaborated on over the past 12 months to explore how science can better inform pathways to a more sustainable post COVID world. The current continuing existential crisis of COVID is an important lesson for the real and impending other existential crises, of climate change, biodiversity loss, of resource exhaustion, of the loss of social cohesion and of impending human tragedies due to conflict and poverty. All issue that we face and cannot ignore.

The partnership between IIASA and ISC has involved many experts across both disciplines and the globe to explore the opportunities that exist, if we're willing to recognize that a return to business as usual is unacceptable. But to avoid that unacceptable outcome will require a truly much more cohesive effort between policymakers, natural scientists, social scientists, the private sector, and civil society. And the challenge is how to achieve that cohesive effort in the face of many centrifugal forces, is of growing in manifestations between those who see the inflexion point of COVID is creating a real opportunity for transformation and those who just want to go back to business as usual.

But before I progressed to discuss this in detail, let me say a few words about the International Science Council, of which I'm now President-Elect. The Council was formed in 2018 by the merger of the International Council for Science (ICSU) and the International Social Science Council. But it's now much more than the sum of its two precursors. It's evolving to be a much more outward looking organization, committed to its role as a global voice of science, combining the natural health data and social sciences to its membership of national academies, unions, social science associations, and other scientific bodies. It heads the major group advising the United Nations on science and technology, and both IIASA, and the Austrian Academy of Sciences are well engaged members of the Council.

COVID highlights our challenge. On one hand, science has become much more critical to both national and global site decision making than ever before. But on the other, it highlighted other multiple problems of the science, policy, politics interfaces at both the national and multilateral levels. It demonstrates the challenge of nationalism in the face of a global crisis and highlights the consequences of denial of evidence-informed assessment of high impact risks. Despite scientific warnings, most countries, and indeed the international community were not well prepared for the inevitability of a viral pandemic. We've seen anti-scientism moves from a marginalized activity to one embedded in partisan politics and hyper fueled by the digital media and the disinformation engines it creates. Anti-vaccine, climate change denial, anti-scientism, nationalism and individualism all compete against the need for a collective approach evidenced-informed understandings and actions on the existential threats we face.

This project, which Albert introduced, had an enormous number of people involved in contributing to it, and let me also add my acknowledgment of those of Albert to those who've contributed. It's been an enormous effort, particularly by the authors of the three reports and two summary statements shown on the slide, supported by many experts. It's had a most active and involved Advisory Board, chaired by Mary Robinson, and I particularly want to acknowledge the leadership teams at both IIASA and at ISC for driving this project forward. I'm caught in a dilemma. I could spend the next 30 minutes just listing the broad range of recommendations and conclusions from these three reports or focus on a few issues that I think merit particular consideration. I've chosen to do the latter and primarily address the issues of the changing nature of science, the use of evidence and risk assessment, and public policy, and importantly, given that we're in Vienna at least virtually, the diplomatic considerations.

With this audience I need say nothing about the urgency and timeliness of using the inflexion point created by COVID to accelerate thinking and action on progress towards sustainability. Early in the pandemic, the mantra "build back better" was used frequently, but as the pandemic extends into its second, and by no means last year, the enthusiasm for change is at risk of being replaced by a wish to return to business as usual. The pressures for transformation were there before the virus appeared: rapid technological change, demographic change, progressive environmental degradation, rising concerns about mental health, and threats to social cohesion, growing inequalities, persistent inequities, a fractured multilateral system, the need to rethink what human development, and the changing relationship between citizens and their governments. COVID highlights all these breeches, it shows how vulnerable we are, between the explosive crisis of this pandemic and the equally rapid crisis of climate change. Every asset that we value, be it human, social, cultural, ecological or biological, is at risk.

Every domain of science contributes to our understanding. The real challenge is how to convert those understandings to meaningful change toward the favorable state of outcomes, better than those we currently face. The synthesis report and the associated papers reflect on a range of transformations that we believe are within reach. The primary challenge is how to take what we now know to further in the path with the collective action that is needed, how do we move nations to understand that collective actions will actually promote their interests far more effectively than nationalistic and individual action. This may sound utopian,

but in my view it's a fundamental challenge of the 21st century. So with that background, let me use some of the experiences with COVID over the past year to fuel discussion and put the IIASA-ISC project conclusions in context.

Surely the core obligation of all governments is to protect the assets of the organisation they are responsible for. In the case of governments, this includes human, social, cultural, environmental and economic assets. The Sendai Process and the Associated Framework Agreement emphasized the need for the government to have proper risk assessment processes across the many domains of risk from natural hazards to biological risk. Yet few countries do it systematically, and even where it is done, a large number of cognitive biases leads to risks often being diminished or ignored by the political process. COVID highlights this. Pandemic warnings had been loud and clear from the expert community. Yet how few countries, outside those that had experienced SARS, had taken heed, and were prepared.

The proper use of science is critical in decision making, but that's easy to say. It has many nuances. And what does it really mean? Most countries do not have effective and structured ways of bringing science into public policy. Most had to resort to ad hoc processes to deal with the pandemic. It's been disappointing that as yet, the lesson from COVID are not extending the broader aspects of scientific input into policy making. But ultimately policy is never made on scientific advice alone. Quite properly, policy making must consider other values based factors. Science communities must avoid hubris, and there's a delicate balance between brokerage, that is the transformation of what we know and what we don't know and into policy, and the need for advocacy. And when an advocacy approach is taken by the scientific community, it must be based on robust evidence and analysis, not simply on our biases and an agenda.

And we have another challenge. How often in the pandemic did we hear the politicians cynically proclaim we are just following the science? Often they were using that statement to justify decisions which were clearly political and ultimately such misuse of science will undermine trust in it. Political self-interest is the enemy of addressing the global commons. We saw that in play out in many ways during the pandemic. Firstly, in the early days of the pandemic and how major actors acted, and how the WHO operated and made its decisions. Now we're seeing it play out in quite egregious decisions being made over vaccine distribution. The multilateral system is not healthy and I will refer to expand on this later in this talk.

But science must also evolve to be more trusted, more systems focused and trans-disciplinary. It must always work to be trustworthy. Dis-information and anti-scientism can severely undermine progress. Both were emerging long before COVID as real threats, whether by state or non-state actors. COVID has sadly catalyzed this linkage between science and political ideology and severely compromised progress on tackling the pandemic so as to impact on political and public decision making.

If I remove COVID from the title of the slide, and replace it with climate change or biodiversity loss or indeed any other aspect of the sustainability agenda, the list of challenges I have just mentioned does not change, nor don't do the actors and the recommendations of the joint IIASA-ISC project again emphasize these same issues.

We have a complex interplay between actors and addressing sustainability. Many people, including many scientists and government, still silo their activities and thinking. Marine environment, SDG 14, is still thought about almost entirely separately from say, SDG 3 human health. And it's that silo thinking that bedevils progress. Perhaps it's inevitable, given the complexity of the SDGs, which at least represented some attempt to get beyond siloed thinking by being holistic in their ambitions, that there be siloed thinking. But with 169 targets, some of which are very precise, and yet others rather utopian and many in conflict with each other, that perhaps overwhelming for policymakers. And this complexity of understanding has perhaps impeded progress. System thinking as provided by IIASA, and much of their work, and by ISC in the SDG interactions work, they've done previously, is critical. That's not surprising that the global Sustainable Development Report of 2019, the World in 2050 report to which IIASA has contributed so much and the synthesis report from the current project have all converged, and point to the need for a much more integrated approach.

One of the things, however, that we do not do well in the policy community or in the science community is properly discuss tradeoffs. Advocates for a particular action, often think only about a singular action. But the consequences of any action nearly always have broader consequences. Addressing climate change requires tradeoffs, and the way live are lived, economies flourish, and land is used. And actions are needed by every level of society, from individuals to governments. If we want their full understandings, an engagement, then them understanding the system and understanding the tradeoffs involved is critical. Getting action is far more than just simply finding a scientific or technical solution. Concepts such as co-design and post normal science, are critical. Behavioral sciences, the study of values, understanding of biases and decision making processes will be critical on the path ahead, whether we're dealing with communities or whether we're dealing with governments.

I was pleased to see the OECD recently point to the importance of transdisciplinarity both in policy and in research. Transdisciplinarity is quite distinct from multidisciplinary and interdisciplinarity, although sometimes we use these words badly. With transdisciplinarity, we talk about 2 core characteristics, framing the question from the outset from multiple perspectives, and secondly, ensuring stakeholder engagement from the outset. Promoting transdisciplinarity in academia and in research is a challenge which must be addressed. In most institutions, the organisation of academia is discipline-based and research funding focuses on disciplinary excellence, not impact. Academic promotion is too often focused on bibliometrics, which in turn overwhelmingly favors disciplinary depth and not transdisciplinarity or impactful work. Finding ways to get beyond the 20th century science system is difficult, but we need transdisciplinary approaches to address the wicked problems. But such developments must not be at the expense or undermining disciplinary depth and excellence, which is also needed. Solutions to so many of the issues on the agenda require mission focused activity by science technologists across multiple disciplines working together. So that's the 21st century science system must support depth and detail at a disciplinary level, but also transdisciplinary integration of knowledge in ways that can impact the broader issues.

Similarly, policy making every country is remarkably siloed and getting integrated thinking into public policy is a challenge in virtually every jurisdiction. Decisions and actions that will promote sustainability are made by

governments, local authorities, businesses and individuals. But time preferences push decision making towards the short term rather than the long term, and this is particularly the case for politicians. Just today, well, yesterday in New Zealand terms, my team published a report on why policymakers resist preparing for high impact risks, the risks that we're actually addressing when we think about the sustainability agenda. Fundamentally, we all have a set of biases and allow us collectively to underestimate futurists. Beyond these biases, there are real incentives in every political system that compound such resistance. Few countries use risk assessment well and systematically, and there's increasing commentary, including my own, on the role of accountability avoidance, of cognitive biases, and rational ignorance that lead to both policy and political resistance to evidence informed risk analysis. We saw this in COVID and we're seeing this in climate change.

The IIASA-ISC reports strongly make points about science advice, which will be central to the overcoming some of these human and institutional issues. Few countries have systems that ensure the appropriate insertion of science into policy in the right time. Of course, science alone does not make policy. Ultimately, policy making is about making choices between different options, which are including the option of doing nothing. And those choices affect different stakeholders in different ways, with both predictable and unpredictable spillover effects. But what science can do is inform what the evidence base is, what the options are and what are the implications of each option. It's for the policy community in the political reality to consider the broader implications of each option, which range from affordability to diplomatic considerations as well as public opinion.

Science advice has multiple components to it and requires an ecosystem. First off, knowledge generators such as universities and research centers. Secondly, it requires pluralistic evidence instances, and academies, national academies, can be well positioned to lead on this. But thirdly, that's the challenge of knowledge brokerage. That is, the business of transmitting that evidence synthesis to the policy maker and the needs of the policy maker to the scientific community. This is a distinct set of skills from that of evidence synthesis. It requires an understanding of both the cultures and languages of science and of policy, and the skills of acting as a broker.

The Anglophone countries, such as my own, use the concept of an adviser to Prime Minister, ministers and senior officials to ensure brokerage. Much of that interaction is informal, to make sure the policy maker and the politician understand what the science is saying. This is not the process of a formal report alone. It's a form of diplomacy and relies on trust. There are obviously several other ways of ensuring both evidence synthesis and brokerage. But whatever the system that's developed, all countries need scientific advisory systems that function well, and as we have seen in COVID, many were caught short and have had to put in place ad hoc solutions. One of the big questions is, will the opportunity be taken to learn from these experiences and turn these ad hoc mechanisms into more permanent structures? Sadly, I see little evidence of this happening.

If we look honestly at either COVID or climate change, the multilateral system has been less than fully effective. It's extraordinary that, given the most immediate risk to humanity of the last 80 years has been upon us for the last year, neither United Nations General Assembly nor the Security Council have met at least

once to discuss the pandemic and work to stop geostrategic and nationalistic interference and achieving optimal outcomes. And when we look at every aspect of the sustainability agenda, the politics of the global responses to climate change, marine degradation, biodiversity loss and the many other dimensions where we need global cooperation, it's clear that the citizens of the world are being let down by the current multilateral processes. Is this the time to seriously rethink the multilateral system, as difficult as it may be, given we are in a very unstable multipolar world?

The UN itself has no effective system of scientific input into its decision making through its central agencies. Although some of the UN family of agencies, particularly the technical agencies, have effective processes. But the mechanisms are very weak in the policy oriented agencies. Groups such as the 10 member group to the Technology Facilitation Mechanism and the expert group that prepared the Global Sustainability Development Report have had but variable inputs. The experimental and very transient Science Advisory Board to the Secretary General failed for many reasons. It was not funded, and reported in Paris not New York, and had no effective mandate and no funder.

If science is critical to every issue the UN must consider, we need a new solution. My preference would be a formal engagement of the UN major group on new science and technology to be converted into a brokerage system between the UN and the science community. But the key decisions made in the multilateral sphere are not made by scientists, they are made by diplomats. The importance of a closer relationship between science and diplomacy is clear. The term science diplomacy is often used without clarity as to what it means. It is much more than scientific cooperation across jurisdictional borders. It's about employing science to promote diplomatic goal. And just as policymakers have not understood the importance of science in every dimension that they face, so too generally diplomats have failed to understand how critical science advice and input is into enhancing their role. The message we are discussing here involved recognizing that to address the issues of the global commons requires nation states to understand that avoiding a change in the commons is in fact a form of enlightened self-interest for every country.

I am pleased, however, to say that the increasing number of foreign ministries recognize the importance of science advice being embedded within their own organisation. The United Kingdom, Japan, Netherlands and the United States are among countries that now have science advisers within their foreign ministries, not just to promote the innovation economy, but to engage the very issues we are discussing.

Some years ago, an informal grouping, the Foreign Ministers, Science and Technology Advisory Network was formed under INGSA, the International Network for Governments Science Advice, which I chair. It now has some over 30 or more countries involved, including Austria. It's been highly active over COVID and such informal networks will become critically important, especially with such a fractured formal a multilateral system.

We face a number of potential existential threats, many encompassed within the reports being discussed today. To address each one of these, we need more effective partnerships between science, society, national and international policy communities, risk assessment and management, more anticipatory policy making,

transdisciplinary science, systems focus science are all needed and all need more engagement by the diplomatic community.

I've not had time to consider the broader economic, social, and other dimensions covered in these reports, which raise important issues. They required both the science community and the policy community to reflect on why progress has been slow. My attempt has been to highlight where some of the deeper roadblocks lie and how they might be removed. I hope that the deeper thinking and analysis that informed the series of reports can help lead to change. The role of IIASA and system thinking and analysis is critical. As President-Elect of the ISC, I can confirm that the global scientific community is committed to ensuring our central role in addressing these issues and to promoting the engagement of the science community globally and nationally with both the diplomatic and policy communities. Thank you very much.