

SCIENCE DIPLOMACY *and* SUSTAINABILITY

Selected Essays by
Zakri Abdul Hamid

Fifth Holder of the Tun Hussein Onn Chair (ISIS)



Science Diplomacy and Sustainability

Zakri Abdul Hamid

Published by:



© 2024 Institute of Strategic and International Studies (ISIS)
Malaysia
1 Persiaran Sultan Salahuddin
P. O. Box 12424
50778 Kuala Lumpur

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Perpustakaan Negara Malaysia Cataloging-in-Publication Data

Science Diplomacy and Sustainability
by Zakri Abdul Hamid
ISBN 978-967-19810-1-6

Cover image: The author was announced as one of the three winners of the Midori Prize for Biodiversity 2018. The Midori Prize is a prestigious biennial international awards event co-hosted by AEON Environmental Foundation (AEF) and the Secretariat of the Convention on Biological Diversity. *Top insert:* With Science Diplomacy thought Leaders, Her Excellency Irina Bokova, Former Director-General, United Nations Educational, Scientific and Cultural Organization (UNESCO), and Professor Paul Arthur Berkman, Harvard University and Founder, Science Diplomacy Center, USA. *Bottom insert:* As a member of the UN Secretary-General Ban Ki-moon's Scientific Advisory Board.

Printed by:

Print Expert Sdn. Bhd.
C-13-G, Bangi Gateway
Persiaran Pekeliling, Seksyen 15
43650 Bandar Baru Bangi, Selangor

FOREWORD

It gives me profound pleasure to welcome you to increase your understanding of the domains of science diplomacy and sustainability, and of their realities in the pursuit of sustainable development for present and future generations.

With humanity facing increasingly tougher global challenges today, science diplomacy has become the crucial tool for tackling and addressing them. The scientific community needs to develop the capacity to bring relevant scientific knowledge to society and decision-makers for the purposes of new governance of planet Earth, and thus make us become a more resilient society.

I would like to congratulate Prof. Tan Sri Zakri, the Fifth Holder of the Tun Hussein Onn Chair (THOC) in International Studies at ISIS, Malaysia, for his incessant efforts and contributions to bring about public awareness of science diplomacy, and also help to metamorphosize it into reality that many are now beginning to see.

This book, a sequel volume containing opinions from 2020 to the present, provides an excellent read, and serves as a remarkable expounder on the genesis of science diplomacy and its impacts in action on global crises such as climate change, biodiversity loss and pollution.

In line with ISIS Malaysia's active engagement in Track Two diplomacy, I am very pleased for ISIS to extend its assistance in the publication of this book.

I trust the book will serve as an important research tool and knowledge for society, help to advance further the domains of science diplomacy and sustainability, and promote the exchange of views and opinions at both the national and international levels.

Professor Dr. Mohd. Faiz Abdullah
Chairman
Institute of Strategic and International Studies (ISIS) Malaysia

20 February 2024

PREFACE

I have been a student of science diplomacy and sustainability for more than three decades since the days I was co-opted as a member of the Malaysian delegation negotiating the United Nations Biodiversity Treaty – better known as the Convention on Biological Diversity (CBD) – from 1990 to 1992. The treaty was signed by UN member states during the Earth Summit in 1992 at Rio de Janeiro, Brazil.

Coming from academia, I was one of the delegation’s science advisers, the others being sourced from public research institutes and non-government organisations that have an interest and specialties related to biodiversity. Heads of delegations were assigned to senior officials of the Foreign Ministry, normally of ambassadorial level. Other members of a typical delegation would include senior and/or middle-level officials of the lead ministry, officials from other relevant ministries, representatives of state governments and experts from the Attorney-General’s Office to provide legal advice. Prior to attending these multilateral negotiations, adequate preparations would be organised at home in the form of inter-ministerial consultations, convening workshops and seminars on issues of importance to the country.

Environmental diplomacy emerged into the limelight with the convening of the UN Conference on Human Environment in Stockholm in 1972, the first world conference to make environment a major issue. The Stockholm Declaration marked the start of a dialogue between industrialized and developing countries on the link between economic growth, the pollution of the air, water, and oceans and the wellbeing of people around the world.

The next milestone was the Brundtland Report – “Our Common Future” released in 1987 by the World Commission on Environment and Development (WCED) that introduced the concept of sustainable development and described how it could be achieved. The WCED explored the causes of environmental degradation, tried to understand the interlinkages between social equity, economic growth, and environmental problems, and formulated policy solutions that integrated all three areas. The Report laid the foundations of the Earth Summit in 1992.

Fast forward to the present time. Fifty years after Stockholm, with treaties on climate change and biodiversity respectively well in place, the world is still facing a triple planetary crisis of global warming, biodiversity loss and pollution. As recently declared by the UN, “an unhealthy planet threatens human health, prosperity, equality and peace – as the world has seen only too clearly in COVID-19. It also threatens the achievement of the Sustainable Development Goals.”

UN Secretary-General Antonio Guterres has described the triple planetary crisis as “our number one existential threat “that needs “an urgent, all-out effort to turn things around.”

Definitely, the UN and world governments would take the necessary steps to arrest these potentially catastrophic events, as evident in the 2015 Climate Summit in Paris and the 2022 endorsement of the post-2020 Kunming-Montreal Global Biodiversity Framework in Montreal in December 2022.

Nonetheless, no one is a bystander. But, for the layman to understand the issues, the message must be made simple and be accessible to the public. This was my intention when I approached the New Straits Times 10 years ago to publish a regular column in the esteemed national newspaper. It also coincided with my appointment as the science adviser to the prime minister, in addition to years of experience as a professor at Universiti Kebangsaan Malaysia, eight years of helming the Institute of Advanced Studies at the United Nations University in Tokyo, and 30 years of direct and indirect involvements in environmental governance at the national and international levels.

The topics covered in this book range from the roles of science, technology and innovation in sustainable development to the governance of challenges such as climate change, biodiversity loss and plastic pollution operating at the national, regional and global levels. While I generally take a global approach in analysing the issues, it is not uncommon for me to look at them from the perspective of the developing countries such as Malaysia, where the need for socio-economic development is as important as Nature conservation.

International scientific collaboration is very much needed in solving today’s global challenges, be it climate change, food security or poverty alleviation. No one country will be able to solve these problems on its own. Hence the rationale for science diplomacy – the need for countries to congregate and develop practical solutions for the betterment of the human race.

I hope that this sequel volume containing opinions from 2020 to the present will provide some insights into the challenges of sustainable development, the hot-button issues facing the global community and how each of us could reflect on the steps that we could take in helping solve the problems.

Zakri Abdul Hamid
Fifth Holder of the Tun Hussein Onn Chair (THOC)
in International Studies at ISIS

20 February 2024

ACKNOWLEDGEMENT

I am especially indebted to the Menteri Besar of Johor, YAB Dato' Onn Hafiz bin Dato' Ghazi for taking time to officiate the two public lectures by the fifth holder of the Tun Hussein Onn Chair (THOC). I would like to put on record my gratitude to Datin Paduka Dr. Faridah Abdullah, Chairman, Yayasan Mohd Noah, who has been giving me her unwavering support during my affiliation with ISIS as the fifth holder of THOC.

I would like to thank the Chairman of ISIS, Malaysia, Prof. Dr. Mohd. Faiz for his words of welcome and for facilitating the cost of publishing this book, along with the consistent support of Sohana Enver Azyze, Senior Director (Administration), in my capacity as the Fifth Holder of the Tun Hussein Onn Chair (THOC) in International Studies at ISIS, Malaysia.

I am indebted to the New Straits Times for allowing me to re-publish my columns that appeared in the newspaper from 2020 to 2023. I am also indebted to WIEF Foundation and IDFR for the selected articles.

Drafts of my columns were greatly enhanced by the 'Midas Touch' of a dear and long-time friend from Toronto, Canada, Terry Collins – a science writer and media consultant who has extensive experience supporting the United Nations, universities, and public institutions worldwide.

In finalizing the draft of this publication, I was greatly assisted by close friend and colleague, Prof. Dr. Mohamad Osman, Senior Fellow of Atri Advisory (AA) and Deputy Director of IISDS, who put in tremendous effort in organising the materials and designing the cover of the book. Two other AA colleagues who have given their time to this book project are M. Azmil, M. Iqbal and Seri Salina.

I would like to acknowledge Rusdi Rahim, President and CEO of the Malaysian Industry-Government Group for High Technology (MIGHT); Datuk Dr. Mohd. Yusoff Sulaiman, former President and CEO of MIGHT, Mohd. Zakwan Mohd. Zabidi, Senior Vice President and Aneera Pishal for their kind assistance and help.

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Launching Ceremony

Foreign Minister launches International Institute of Science Diplomacy and Sustainability (IISDS)



Foreign Minister Datuk Seri Dr. Zambrzy (fourth from left), Distinguished Professor Tan Sri Dr. Zakri Abdul Hamid, Founding Director of IISDS (fourth from right) and Professor Dr. Mohd. Faiz Abdullah, Chairman of ISIS (right) during the IISDS Launching Ceremony at Le Quadri Hotel, UCSI University, Kuala Lumpur

Foreign Minister Datuk Seri Dr Zambrzy Abdul Kadir has launched UCSI University's International Institute of Science Diplomacy and Sustainability (IISDS).

Led by Distinguished Professor Tan Sri Dr. Zakri Abdul Hamid, the Institute will serve as a think tank that connects the scientific community with policymakers in the ASEAN region and beyond.

UCSI's new institute will focus on environmental diplomacy, global health, food security, as well as international trade and finance.

Its mission is to train a new cadre of young diplomats, government officials and corporate leaders in the art of science diplomacy, and eventually for them to apply this knowledge in international relations such as in multilateral negotiations of treaties which have oversight on global issues.

"I sincerely believe that the establishment of IISDS will be at the forefront of

promoting scientific dialogues and stimulating discussions among experts, scholars and policymakers," said Datuk Zambrzy.

Datuk Zambrzy added that the establishment of IISDS is a timely measure as it is important to address the predicaments that the world is currently facing collectively and urgently.

He also offered the cooperation from Institute of Diplomacy and Foreign Relations (IDFR) and looked forward to future collaborations with IISDS.

Prof. Zakri said that the art of science diplomacy between political leaders, policymakers and scientists has the potential to result in reasonable solutions as he believes that sustainability challenges require multilateral cooperation.

"No country will be able to solve these problems on its own. The tools, techniques and tactics of foreign policy need to adapt to a world of increasing scientific and technical complexity," he said.

The launch of the UCSI International Institute of Science Diplomacy & Sustainability is not just an event; it is a testament to our commitment to shaping a sustainable future through diplomacy and scientific advancement. Together, we have embarked on a journey that has the potential to redefine our world.

In commemorating the fresh start of the new Institute, IISDS hosted and presented two key events.

The first event was the High-Level Dialogue (HLD) on “Achieving the Sustainable Development Goals through Science Diplomacy”. The panelists are global thought leaders in their own right, drawn from international organizations, governments, academia and the private sector, and included Her Excellency Madam Irina Bokova, former Director-General, UNESCO; His

Excellency Dr Yongyuth Yuthavong, former Deputy Prime Minister of Thailand; Prof. Paul Berkman, Harvard University and Founder, Science Diplomacy Center, USA; and Academician Dato' Lee Yee Cheong, Emeritus Chairman, International South-South Centre on Science, Technology, and Innovation (ISTIC) and former President of the World Federation of Engineering Organizations (WFEO). The HLD was graciously moderated by Dr. Alizan Mahadi of UNDP, Kuala Lumpur.

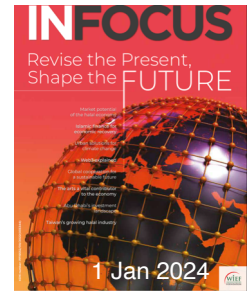
The second event was the Astro Awani Interview, which highlighted the thoughts and insights of Her Excellency Madam Irina, Prof. Paul Berkman, and Prof. Zakri on the growing need for science diplomacy, and timely and appropriate measure for Malaysia to develop such a centre to lead the way forward.



The High-Level Dialogue on “Achieving the Sustainable Development Goals through Science Diplomacy”.

Astro Awani Interview highlighting the thoughts and insights on the growing need for science diplomacy,





Global Cooperation for a Sustainable Future



In promoting a multilateral approach, one must take note that we need a level playing field and that is quite impossible to achieve.

Key challenges in promoting a multilateral approach to global governance for sustainability, and ways to effectively address these challenges:

The global community was aware of the need to be equitable and fair as far back as 1992, when the Earth Summit was held in Rio de Janeiro. The principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) – a landmark principle of international environmental law – reflects equity concerns in a world marked by high inequalities in levels of human development and environmental resilience. It addresses the different capabilities and differing responsibilities of individual countries in addressing global challenges such as climate change and biodiversity loss.

In promoting a multilateral approach, one must take note that we need a level playing field and that is quite impossible to achieve. Take the case of climate change. Human activities from the burning of fossil fuels such as coal, oil and gas release greenhouse gases (GHG) such as CO₂, which has caused the temperature of Earth's atmosphere to rise to levels that cannot be explained by natural causes, scientists say.

Historically, global warming started in industrialised countries, known as Global North, since the dawn of industrialisation. The major carbon emitters have been the developed countries, only recently joined by countries like China and India. Smaller developing countries in



The global community was aware of the need to be equitable and fair as far back as 1992, when the Earth Summit was held in Rio de Janeiro.

the Global South contributing the least GHG, bear the brunt of the impacts of climate change. According to International Rescue Committee, these include Somalia which experienced drought and extreme food insecurity, Congo, Yemen, Chad and South Sudan.

Combating climate change is not a cheap affair. A report commissioned by Britain and Egypt released at COP27 of the UNFCCC said that developing countries alone need a combined USD1 trillion a year in external funding to meet the goals set out in their Nationally Determined Contributions (NDCs). This funding is over and above their countries' own expenditure and is needed for things like cutting emissions, dealing with disasters and restoring nature.

Malaysia's share of global GHG is a mere 0.80 per cent, compared to the United

States at 14 per cent, China at 32 per cent and India at eight per cent. Malaysia's December 2021 flood, partly attributed to climate change, resulted in damages amounting to USD1.3 billion, 50 dead and 40,000 people displaced. In Pakistan, the massive floods of 2022 affected at least 33 million people and killed 1,739 and caused USD14.9 billion of damage and USD15.2 billion of economic losses. The causes of the floods were monsoon rains and melting glaciers arising from a severe heat wave, both of which are linked to climate change.

Africa is responsible for only three per cent of the emissions that humans have ever put into the atmosphere, but the continent is suffering from multi-year droughts that affect food production and well-being of wildlife. It's quite standard practice during COP meetings for developing countries to request the developed countries to pay for consequences of their emissions. Africa alone reckons that they need USD277 billion annually to meet their NDCs. In 2019 and 2020, they received less than USD30 billion annually. Where will the funds come from? This has remained unanswered.

Countries can effectively collaborate to address global sustainability challenges like climate change and biodiversity conservation, only if:

First and foremost, we must build understanding and knowledge about the importance of climate change and biodiversity conservation. This shouldn't be confined to just academic knowledge but must emphasise negative impacts of these twin problems to every man on the street.

For example, consider the incidence of the 2021 big flood in Malaysia – victims or the public, must be told that the floods were triggered by global warming and each citizen must reflect on what we can do to mitigate and adapt to climate change by initiating some actions. These actions can be as simple as separating one's domestic waste into organic and non-organic, being efficient in our electricity usage and to use water in a judicious manner. One must also be

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Sustainability is not just about the environment but also job creation, income generation, economic prosperity and a healthy state of existence.

taught to respect the environment such as the role of tree planting in increasing our carbon sink.

This civic consciousness could then be articulated with policymakers and political leaders at national level so that relevant laws can be revised, or new ones enacted, to ensure we walk the talk on sustainability.

Eventually, we should be talking to our neighbours – in this case, members of ASEAN, so that we strengthen our common positions, build new ones and develop programmes

as well as strategies to promote sustainable development in the region. International organisations like WIEF Foundation should be leveraged to advance the cause on sustainability, in particular on climate change, conservation and sustainable use of biodiversity.

Sustainability is not just about the environment but also job creation, income generation, economic prosperity and a healthy state of existence.

Strategies recommended to foster greater international cooperation on sustainability issues while accommodating different national contexts:

To begin with, there's already a high degree of understanding of sustainability issues at the international level. The milestone event could be the 1972 UN Conference on Human Development in Stockholm. It was the first major conference to make the environment a major issue. It also gave birth to United Nations Environment Programme. 20 years later, the UN convened the Earth Summit in Rio de Janeiro to discuss the linked problems of environmental degradation and sustainable development. It was attended by 180 heads of governments and launched Agenda 21, a blueprint to implement sustainable development in the 21st century at all levels – local, national, regional and global. Two international treaties were signed in Rio, namely the UNFCCC and the UN Convention on Biological Diversity.

UNFCCC's Kyoto Protocol, adopted in 1997, commit industrialised countries to limit and

reduce GHG emissions in accordance with agreed individual targets and places a heavier burden on them under the CBDR-RC principle.

In 2015, UN member states adopted the Paris Agreement which aspire to keep the rise in mean global temperature to well below two degrees Celsius above pre-industrial levels, and preferably limit the increase to 1.5 degrees Celsius, acknowledging that this would substantially reduce the effects of climate change. In the same year, world leaders meeting in New York agreed to adopt the 2030 Development Agenda with its 17 SDGs calling an end to poverty, protect the planet and ensure that by 2030 all people enjoy peace and prosperity.

After more than 30 years of trying to halt biodiversity loss, in 2022, the international community achieved a landmark decision by agreeing to the Kunming-Montreal Global Biodiversity Framework in Montreal. It sets out an ambitious pathway to reach the global vision of a world living in harmony with nature by 2050 and to ensure that biodiversity loss is halted.

From the foregoing, it's obvious that the international community has spent considerable time and effort to plan, initiate and carry out numerous programmes to improve the human condition as well as to protect the planet for future generations. However, the outcomes are still sketchy in many places. The science of climate change and biodiversity is very sure of our predicament. For instance, the Intergovernmental Panel on Climate Change has recently warned that the world is likely to surpass its most ambitious climate target, limiting warming to 1.5 degrees Celsius above preindustrial temperatures, by early 2030s. Beyond that threshold, scientists have found climate disasters will become so extreme that people will not be able to adapt.

In 2019, the Intergovernmental Platform on Biodiversity and Ecosystem Services declared that up to one million species of animals and plants are under threat of extinction due to unsustainable human activities.

Since the challenges are multidisciplinary and multisectoral in nature, international collaboration – multilateralism – is the only way forward. Each national leader must demonstrate their political will to strengthen this cooperation. Each must also commit to set their house in order – policies and programmes at

local and national levels with accompanying national budgets. Furthermore, leaders of industrialised countries must commit new and additional funding to assist developing countries in mitigating as well as adapting to climate change and to steadfastly halt biodiversity loss.

Envisioning the role of regional and global partnerships in strengthening international cooperation on sustainability issues:

As someone who worked in the UN for several years, I can speak with some confidence that the current structure is quite adept in managing sustainability issues faced by the global community today. Its two main organs, UNDP and UNEP, are coordinating well. The establishment of the UN Environment Assembly in 2012 signals a new era of putting the environment on the same par as peace, poverty, health and security.

Also, there are many on-going international cooperation on sustainable issues. The plethora of UN conferences described earlier is one of them which eventually translate into various cooperative programmes between UN agencies and governments at national or regional levels. At regional level, the 2015 ASEAN Charter sets out that ASEAN is committed to ensuring 'sustainable development for the benefit of present and future generations and to place the well-being, livelihood and welfare of the peoples at the centre of ASEAN community building process'.

There's also ASEAN Community Vision 2025 which emphasises a regional focus on environmental protection for now and the future, adapting and responding to climate change, as well as green technology and development. However, despite these lofty declarations, the most recent review of progress by the UN suggested that none of ASEAN member states are on track to meet any of the 17 SDGs by 2030.

Last Words

No one nation, however powerful and rich, can solve the problems of climate change, biodiversity loss or microplastic pollution on its own. They need an international collaborative structure. Furthermore, the issues are underpinned by science. Scientific advancement is part of the problem, but it is also part of the answer. The scientific community hold the

knowledge, but to make that knowledge relevant and useful, it must be articulated effectively to policymakers and political leaders.

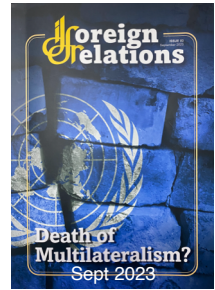
This is a new realm of pursuit known as 'science-policy nexus'. It is to promote a two-way dialogue between scientists and politicians with the hope that the latter can be equipped with science-based advice and eventually be able to formulate better policies as well as legislation. The international cooperation that ensues is embodied in 'science diplomacy', an area that promotes dialogue and interaction among multilateral stakeholders, in particular, countries.

Centres of excellence in science diplomacy are actively being created in the Global North. None has been established in developing

countries. In an unprecedented move, the International Institute of Science Diplomacy and Sustainability was recently officiated at UCSI University by Malaysia's Minister of Foreign Affairs in Kuala Lumpur.

Science, technology and innovation can play a pivotal role in achieving the 17 SDGs. This is also an area where North-South cooperation can be fully utilised. It need not be a one-way street. Technology-rich countries can lend their expertise and skills to countries of Global South. However, gene-rich developing countries, many of whom are mega-diverse in biodiversity, can offer raw materials which can be developed jointly through R&D to produce new products for the world market.





Science Diplomacy and Multilateral Negotiations



In promoting a multilateral approach, one must take note that we need a level playing field and that is quite impossible to achieve.

Introduction

Science diplomacy is the relationship between two or more countries in addressing common problems predicated on scientific knowledge. It is also a good compliment to sustain good relations between two countries in times of strained public diplomatic relations.

An excellent example: at the height of the Cold War between the Soviet Union and the U.S. (1947-1991) “scientific and technical people-to-people exchanges” continued to be promoted to encourage communication and dialogue. The exchanges had a positive impact on bilateral relations and wider implications on world politics.

Personal contacts between the scientists fostered mutual trust and better understanding, thus eventually encouraging political leaders on both sides to improve relations and sustained a peaceful coexistence amidst the threat of nuclear warfare.

The 21st century presents the world with a myriad of interconnected challenges of sustainable development which could only be solved through a comprehensive effort in multilateralism. These challenges include climate change, biodiversity loss and plastic



Eight years after the watershed Paris Climate Agreement of 2015, national governments have not done enough to address a problem creating untold harm to lives, livelihoods and natural systems.

pollution. The approach to overcome them must be underpinned by science, technology, and innovation. Science has the answer, but it is through a healthy exchange between the scientific community and the policymakers and politicians – the science-policy nexus - that a consensus be built to take the necessary set of actions.

Two recent landmark events are testimonies to the impacts of science diplomacy. The first is the 2015 Paris climate change agreement, in which nearly 200 countries agreed that humans must slow climate change, a view held by virtually all world scientists. It has taken a long time for governments to catch up with the science

and to act on their understanding.

The second triumph of science diplomacy is last year's – Kunming-Montreal Global Biodiversity Framework (GBF) agreement adopted by 196 Parties to the UN Convention on Biological Diversity (CBD) to halt biodiversity loss by 2030.

Since it came into being three decades ago, the CBD has never been able to halt biodiversity loss. Only sustained effort by the

scientists, including a warning that up to one million species of plants and animals are under threat of extinction, compelled the political leaders to agree to set aside 30% of our Earth as protected areas by 2030.

Science In International Relations

In the 19th century, renowned French chemist and microbiologist Louis Pasteur famously said that "Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world." The wisdom of that remark has proven itself often in the many decades since.

Successfully advancing research depends on sharing ideas and knowledge with colleagues worldwide. And the benefits of such cooperation can draw together even the staunchest of enemies.

Cold War hostilities were put aside, for example, when American Albert B. Sabin helped pioneer the use of a live-virus, oral polio vaccine in the Union of Soviet Socialist Republics, leading to the vaccine's adoption worldwide. Since then, the scourge of polio, so dreaded in my childhood years, has all but disappeared from the planet (though not eradicated; occasional outbreaks remind us of the need to be vigilant).

★

Science advice is not only pivotal for policymaking but critical for building diplomatic relations as cross-border and multi-disciplinary challenges can only be solved with collaboration ...


We have also seen tremendous international coalitions formed around the world's common interest in polar science. The Polar Regions have in many respects been good models for international scientific cooperation. This started with the two so-called Polar Years of 1882-83 and again in 1932-33, during which many nations collaborated in simultaneous scientific measurements at remote polar sites. These

investigations focused primarily on the Earth's climate and its magnetism.

A sequel to the International Polar Years was the International Geophysical Year (IGY) in 1957-58, which focused on Antarctica and outer space. Despite the Cold War there was good cooperation in Antarctica, which continued well after the IGY. In the Arctic, scientific cooperation proved to be quite difficult, however, because of the military confrontation between the Soviet Union and the United States.

Some 15 years ago, the American Association for the Advancement of Science (AAAS) opened a Centre for Science Diplomacy, and two years later teamed with the United Kingdom's Royal Society on a joint report, which described three forms of science diplomacy: scientific collaborations that improve international relations; using evidence and scientific expertise to help formulate foreign policy and, diplomacy that promotes and supports international scientific cooperation.

In addition, a global network of Foreign Ministries Science and Technology Advisers was initiated in 2016. Its initial meeting involved advisers from Japan, New Zealand, the UK and the US, and diplomats from 12 other nations in Africa, Asia, the


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Americas, and Europe.

The network underlines that science and technology advisers to foreign ministries “are not necessarily experts on all scientific matters, but they understand science and know where to find the most appropriate expert on any given topic. They have the skills to explain evidence required for informed decision-making about foreign affairs, serving as evidence brokers in our increasingly trans-boundary world with constantly emerging complexities. They utilise their roles as evidence brokers to reveal options that contribute to informed decision-making by nations across the international landscape.”

More recently, the network teamed up with the UN Economic and Social Council (ECOSOC)’s Commission for Science and Technology for Development in Geneva. Among the main discussions was the role of science, technology and innovation (STI) in foreign aid. An increasing proportion of foreign aid has a core STI element and research may be specifically funded as a development assistance tool. Indeed, the success of much foreign assistance requires science and technological effort, and donor academic institutions are often involved.

A good example of the role of STI in foreign aid is the Newton Fund established by the UK. Malaysia is among 18 nations chosen to participate in this global initiative (known nationally as the Newton-Ungku

Omar Fund) which builds scientific innovation partnerships to support economic development and social welfare. It also develops research and development innovation capacity for long-term sustainable growth. Its national counterpart is the Malaysian Industry- Government Group on High Technology (MIGHT).

Today, more than 250 joint collaborations are funded in various fields of STI between both countries from programmes and activities such as the Institutional Links, Research and Innovation Bridges and Researcher Links. At least eight technologies and innovations are being co-developed. These products and innovations have significant outcomes in terms of commercialisation and solving global challenges.

Malaysia itself actually put the idea of foreign aid through cooperation into practice 40 years ago when it embarked on the Malaysian Technical Cooperation Programme during the First Commonwealth Heads of Government Meeting in Sydney. The programme emphasises human resource development through training in public administration, good governance, healthcare services, education, sustainable development, agriculture, poverty alleviation, investment promotion, banking and other essential areas.

More than 100 short-term specialised courses are offered by not less than 50 training institutions. More than 20,000 participants from 140 countries have benefited so far.

Clearly, science advice and diplomacy are crucial. Developing cross-disciplinary, multilateral responses to global challenges such as the Sustainable Development Goals depends on the interconnected roles they play.

Role Of Science Advisers

The COVID-19 pandemic created a demand for science advice, with policy and decision-

makers actively reaching out to the scientific community for guidance and solutions. The pandemic highlighted the importance of evidence-based policymaking, and the value of science advice, especially in crises.

In the face of constantly changing situations, with new evidence emerging every second, science advisors must also be flexible and receptive while being able to deliver their advice in a timely manner. Science advice is not only pivotal for policymaking but critical for building diplomatic relations as cross-border and multi-disciplinary challenges can only be solved with collaboration between all stakeholders and sectors of both local and international societies.

The three hallmarks of science advice are credibility, salience and legitimacy. It must be independent and not tied to any political agenda and should never be policy prescriptive, only policy relevant.

As described by Sir Peter Gluckman, president of the International Science Council and founding chair of the International Network for Governmental Science Advice (INGSA), science advice requires a pluralistic synthesis of evidence, prior to knowledge brokerage.

This means that science advisors must be able to not only consider all aspects of science and technology, but also societal cultures and values which relate to public perception, trust, and acceptance, as well as the potential economic implications of any advice in order to ensure that it is both relevant and practical.

They must also play the role of the 'honest broker', which means they must be able to disclose both the knowns and unknowns, including any gaps and shortcomings as well as alternative scenarios and solutions based on the best available information, and they must be able to package and communicate their messages in a manner that could be understood by policymakers and political leaders.

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Malaysia played a prominent role at the Earth Summit. We were one of the leaders of the Global South in a category known as the Group of 77 and China, articulating the needs of and protecting the interest of the developing countries.

The Art And Science Of Science Diplomacy

This topic is best described from my personal experience, which began more than 30 years ago as a member of the Malaysian delegation negotiating the CBD. Trained in the biological sciences and more at ease as a professor in Malaysia than in the plenary hall of the UN Environment Programme headquarters in Nairobi, I was thrown into the world of diplomacy and multilateral negotiations as the delegation's science adviser. There were times, during the early days of my involvement, that I thought of withdrawing due to the wide difference between the lifestyle of an academic and that of a member of a national delegation, the latter's credo being, "my country, right or wrong." But such doubt evaporates when duty calls for King and Country.

There was much excitement and anticipation in the run-up to the Earth Summit (officially named as the United Nations Conference on Environment and Development, held in June 1992 in Rio de Janeiro, Brazil). The world community was at a crossroads: how to balance the imperatives of robust economic growth and the needs of a growing population against the ecological necessity to conserve our

planet's most precious resources – land, air and water.

After two weeks of intense negotiations, Rio delivered and gave added meaning to the phrase, “sustainable development,” first introduced five years earlier by the Brundtland Commission in 1987. The Earth Summit also produced some far-sighted milestones such as the Rio Declaration on Environment and Development, Agenda 21, Forest Principles, and two important legally binding agreements, namely the UN Convention on Biological Diversity and the UN Framework Convention on Climate Change. Rio had its critics, some pointing out that it has not gone far enough in alleviating poverty or conserving biological resources.

Malaysia played a prominent role at the Earth Summit. We were one of the leaders of the Global South in a category known as the Group of 77 and China, articulating the needs of and protecting the interest of the developing countries. Malaysia's prominence was neither coincidental nor unplanned. From 1990 to 1992, a standing committee chaired by the Secretary-General of the Ministry of Foreign Affairs met regularly to prepare the country's stance on various issues to be discussed at the summit. Guided by a strategic document, “The Road to Rio,” the Committee's members included representatives from related ministries, academia, NGOs and the private sector. As we were dealing with multilateral negotiations, the chief spokesperson was regularly in touch with our missions, in particular those in Brussels, Geneva, Nairobi, New York or Rome, ensuring that the country's delegation to various multilateral negotiations were always prepared and armed with the latest developments.

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policymakers into policies, programmes and projects at the international and national levels. This is the raison d'être of science diplomacy and multilateralism.

During this period the tools of the trade came into regular use: aligning with the positions of ASEAN, the G77 and China, and the Like-Minded Megadiverse Developing Countries; appreciating the historical context of climate change and biodiversity loss, appreciating the Principle of Common But Differentiated Responsibilities, and the need for funding, technology transfer and capacity building for countries in the Global South.

Malaysia's Pivotal Role In The Negotiations Of The Cartagena Protocol On Biosafety

Biotechnology has the potential to bring about dramatic changes in our lives by addressing food and health problems as well as poverty. While conventional biotechnology has been with us for a long time, modern biotechnology (including genetic modification) is relatively new, and its judicious application is necessary. Effective protection and management to ensure environmental health is paramount, however, for human well-being. It is in this context that the Cartagena Protocol on

Biosafety (CPB) was created.

The CBP has its roots in the CBD, especially Article 19.3, which obliged Parties to consider appropriate procedures in the field of the safe handling and use of any living modified organism (LMO) that may adversely affect biodiversity.

At the 8th meeting of the CBD process in November 1991, Malaysia tabled a proposal which later became a core element of the CPB: prior informed consent from countries where genetically modified organisms (GMOs) are to be introduced. At that time, there were already several reports that emerged describing plans to conduct tests involving GMOs in developing countries that have little knowledge of this new technology. In a report to Plenary concluding the meeting, the negotiation chair, Viet Koester congratulated Malaysia for having taken this initiative in respect to biosafety, not knowing, of course, its implications for future negotiations.

Climate Change As A Case Study Of Science Multilateralism

In March 2023, the Nobel Peace Prize-winning Intergovernmental Panel on Climate Change (IPCC) tried again to shake the world out of its lethargy with powerful language in its new report.

This latest work summarises six previous reports over the last few years involving 700 expert authors from 95 countries, including Malaysia. It comprised thousands of pages gleaned from publications produced by the scientific community and reviewed and endorsed by expert representatives of governments. The report confirms the indisputable direct role humans play in causing climate change. And the problem is getting worse. Already global temperatures are 1.1°C above pre-industrial levels and experts predict it will reach 1.5°C in the early 2030s.

Eight years after the watershed Paris Climate Agreement of 2015, national

governments have not done enough to address a problem creating untold harm to lives, livelihoods and natural systems. The report cites evidence that “global warming drives extreme and deadly climate disasters like heatwaves, heavy precipitation, droughts and tropical cyclones”.

For example, according to the World Bank, the October 2022 floods in Pakistan resulted in economic losses of US\$15.2 billion, with rehabilitation and reconstruction in a resilient way estimated to require around US\$16.3 billion. The floods killed over 1,700 of the 33 million people affected, and more than 2.2 million houses were damaged or destroyed.

Malaysia is no stranger to devastating floods. The “once in a century” floods of December 2021 left at least 54 dead, displaced 400,000 people, and resulted in an estimated RM6.1 billion in losses.

United Nations Secretary-General Antonio Guterres described the climate crisis as a “ticking time bomb” that requires developed countries to “decarbonise” their economies by 2040 and developing countries by 2050. The report maintains that “the 1.5°C limit is achievable... but it will take a quantum leap in climate action”.

As Malaysian Tan Sri Michelle Yeoh’s Oscar-winning movie title suggests, our world needs climate action “everything, everywhere, all at once”. That means making sure that global use of coal is eliminated, oil declines by up to 90 per cent, and gas by up to 85 per cent by 2050. But, as someone recently remarked, “the lack of progress toward those cuts since the Paris Agreement isn’t stymied by the science but by political and economic considerations”.

Several years ago, James Gustave Speth, a former administrator of the United Nations Development Programme, commented: “I used to think that top environmental problems were biodiversity loss, ecosystem collapse and climate change. “I thought that 30 years of good science could address these problems. I was

wrong. The top environmental problems are selfishness, greed and apathy, and to deal with these we need a cultural and spiritual transformation. And we scientists don't know how to do that."

The challenge was also well summed up by Heidi Steltzer, a US climate researcher who said, "more reports aren't going to do it. We have already done that. Reaching global climate goals may require a transformational vision of science that starts to consider values, like love and hope, because they aren't easily measured.

"Whatever goals the world sets, we don't get there without love," she said. "We can't get to 1.5°C or whatever target we set without love for ourselves, without knowing ourselves and without connecting to, and caring for one another, our planet and the universe."

To complement this we also need hope, that ingredient which can spark societal changes.

I was a victim of the December 2021 floods that struck Bentong. I still recall the anguish and horror watching the water rapidly rise to the ceiling of our house in the middle of the night and inflicting major damage to our property.

Conclusion

My youngest grandson, Leo Mateen, was born at the start of spring this year. I shudder to think that, without a change of course, he is likely to suffer several times as many climate extreme events in his lifetime as I have. We all need to find it in our hearts to love this planet as much as we love our children and their children and act accordingly.





Global challenges: Science diplomacy has never been more important



The IISDS may be the first fully fledged centre in the Global South. Professor Kiyoshi Kurosawa said "this may be one of the earliest efforts to offer such training to nationals of developing countries".

On Aug 29, UCSI University established a new Centre of Excellence — the International Institute of Science Diplomacy and Sustainability (IISDS).

The vision is to position the university as a leader in science diplomacy and sustainability for the betterment of Malaysia's interests and those of Asean's and the Global South's.

Such institutes are normally found in the Global North, where the awareness and preparedness to connect the scientific community with policymakers and politicians are more pronounced.

The IISDS may be the first fully fledged centre in the Global South. In welcoming the initiative, Professor Kiyoshi Kurosawa, the former science adviser to Japanese prime minister Junichiro Koizumi said "this may be one of the earliest efforts to offer such training to nationals of developing countries".

To be sure, the 40-year-old World Academy of Sciences has been conducting science diplomacy courses for several years now, but it is located in a developed country — in Trieste, Italy.

Another milestone on the road to opening this institute was the founding of the International Network for Government Science Advice in 2014 by Sir Peter Gluckman, former science adviser to the prime minister of New Zealand.

The institute was launched by Foreign Minister Datuk Seri Zambry Abdul Kadir, and he endorsed its aspiration to train "young diplomats, government officials, corporate figures and students on the art and science of science diplomacy".



A group photo during the 34th ASEAN Coordinating Council meeting in Jakarta on September 4, 2023. - AFP Pic

Science diplomacy is a medium of international relations using science as a tool to build goodwill among nations. Some experts called it "track-two diplomacy", and its importance can never be underestimated.

Here's an example. During the Cold War (1947-1991), geopolitical tension was at its highest between the Soviet Union and the United States and their respective allies. The conflict was based on the ideological and geopolitical struggle for global influence by the two superpowers.

There was no actual large-scale fighting, but the conflict was manifested in a nuclear arms race, psychological warfare, propaganda campaigns, espionage and embargoes.

What was intriguing was the uninterrupted scientific collaboration and dialogue among scientists from these two countries during

that uneasy period.

Some experts said the ending of the Cold War was partly aided by this scientific cooperation, at the very least, in averting a full-scale nuclear war — a fine example of the role of science diplomacy.

Today, science diplomacy may be less handy in preventing wars between nations. But it may be key to avoiding a war between humans and nature.

As described by United Nations Secretary-General Antonio Guterres, humans are conducting a suicidal war against nature, brought about by an unsustainable way of life.

Years ago, in an address in London, the then British prime minister Gordon Brown said: "Many of the challenges we face today are international and — whether it's tackling climate change or fighting disease — these global problems require global solutions... that is why it is important that we create a new role for science in international policymaking and diplomacy... to place science at the heart of the progressive international agenda."

The task is urgent, the problems overwhelming. Just look at the impact of the floods in Pakistan last year, regarded by Guterres as a "climate catastrophe": 1,730 killed, 33 million displaced and over US\$40 billion in damage.

Our very own "1-in-100-year" floods in December 2021 left 50 dead, required the evacuation of 400,000 people, and resulted in an estimated RM6.1 billion in losses.

Unprecedented volumes of rainfall left areas on the west coast of Peninsular Malaysia under almost four metres of water and turned roads into rivers.

The dynamic interface between science and policy continues. An unfolding "drama of sorts" is taking place right in front of our eyes.

Japan has started releasing treated radioactive water from the damaged Fukushima Daiichi power plant into the Pacific Ocean, 12 years after a nuclear meltdown.

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The government, backed by the UN watchdog, the International Atomic Energy Agency, has declared that the water has negligible radiological impact on people and the environment.

However, not everyone is convinced. There is one radioactive element, tritium, which can't be removed from the contaminated water because there is no technology to do it. Tritium can be found in water all over the world, and many scientists agree that if its level is low, the impact is minimal.

Nevertheless, there are already protests from NGOs in Japan, a ban on Japanese seafood by China, and opposition from South Korea. Before things get worse, it may be prudent for the affected countries to engage in non-emotive dialogue facilitated through a platform of science diplomacy.

Locally, Alliance for Safe Community chairman Tan Sri Lee Lam Thye wants Malaysians to sign a petition to urge the Japanese government to stop the release of treated water from the nuclear power plant.

Lee points out that "Malaysia's geographical location makes it susceptible to the movement of ocean currents, potentially carrying radioactive substances across the Pacific Ocean".

Science diplomacy is not new, but it has never been more important. Many of the defining sustainability challenges of the 21st century — from climate change and food security to poverty reduction and nuclear disarmament, problems embodied in the 17 Sustainable Development Goals — have scientific dimensions.

Not only are the problems multidisciplinary and multisectoral in character, but their solutions lie within the scope of multilateralism.

No one country will be able to solve these problems on its own. The tools, techniques and tactics of foreign policy need to adapt to a world of increasing scientific and technical complexity.

Sustainable aviation fuel — a new source of wealth from Malaysian biodiversity

Sarawak and the country have reached a major milestone as development of SAF from seeds grown and processed locally is underway.

MAY 22 was a momentous day for Malaysian science and technology. On that day an Airbus A220 — a popular narrow-body jet designed for regional and short-haul flights — flew from Kuching to Langkawi loaded with sustainable aviation fuel (SAF).

This was the result of a collaboration between Aerospace Malaysia Innovation Centre, National Aerospace Industry Corporation and the Sarawak government via SEDC Energy.

It was a great honour to be aboard that aircraft, and a lasting source of pride that SAF development in Malaysia has kicked off.

Sarawak and the country have reached a major milestone as development of SAF from seeds grown and processed locally is underway.

Not only did we slightly reduce the country's greenhouse gas emissions through the A220 flight, but we also demonstrated to the world in powerful fashion our commitment to helping the aviation industry reach net zero by 2050.

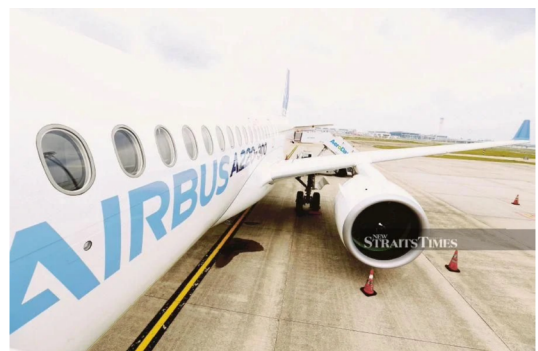
SAF is a hot topic across the aerospace industry, which accounts for between 2.5 and 3.5 per cent of man-made Co2, and other greenhouse gases (GHGs) in the atmosphere.

SAF has the potential to reduce GHG emissions by up to 80 per cent.

What is also interesting for biologically megadiverse Malaysia is the abundance of feedstocks, such as microalgae, for these new fuels.

Microalgae biofuel is devoid of the major drawbacks associated with oil crops and other biofuels.

Algae-based biofuels can technically and economically be viable and cost-effective,



An Airbus A220-300. -- NSTP Filepic

when managed well to produce multiple products, or co-products.

Microalgae have the highest productivity of oil per unit of area/land, require minimal use of water with good management strategy, and have high photosynthetic efficiency for Co2 absorption.

Large-scale and successful commercial production still requires a lot of work due to the instability of biomass concentration at scale and costly downstream processes. But we are determined to change that.

Airbus is one of the most ardent proponents of SAF. One of its top goals is 100 per cent-SAF capability by 2030 throughout its portfolio of commercial and military aircraft.

A leading competitor, Boeing, is less enthusiastic. Chief executive officer (CEO) David Calhoun predicted last week that "climate-friendly biofuels will never achieve the price of jet fuel", pouring unwelcome cold water on the aviation sector's strategy to slash emissions.

I was on a special mission of sorts, together with Malaysian Industry-Government Group on High Technology CEO Datuk Dr

Mohd Yusoff Sulaiman, and Aerospace Malaysia Innovation Centre (AMIC) CEO Dr Liew Kan Ern.

We accompanied Sarawak Premier Tan Sri Abang Johari Tun Openg on that historic journey from Kuching to Langkawi on a Latvian airBaltic Airbus A220-300.

The premier attended the Langkawi International Maritime and Aerospace Exhibition (Lima '23) to demonstrate his commitment to SAF.

He commented that the success that day would pave the way for other areas in Sarawak to venture into SAF production.

AMIC is proud to be part of this endeavour. It started the SAF journey in 2013, when Airbus funded four projects in Malaysia to test the potential of our rich biodiversity, the potential of waste transformation, and to study the lifecycle of a SAF economy.

The findings encouraged and fostered greater effort in the region.

AMIC went to Indonesia, Singapore, Thailand, Vietnam — even to Japan and South Korea — to promote the work underway here and to discover what else Malaysia could do to develop SAF.

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Sarawak is ahead of the curve compared with others in the federation in meeting the three-pronged objectives of the UN Convention on Biological Diversity that was signed by Malaysia and other UN member states at the Earth Summit in 1992. These are the conservation of biodiversity, sustainable use of its components, and access and benefit-sharing of genetic resources.

It established the Sarawak Biodiversity Centre in 1997 to explore

intensive biotech-based research and development.

Earlier this year, SEDC Energy, a subsidiary of Sarawak Economic Development Corporation, signed an agreement with PETRONAS Research Sdn Bhd to develop algae production technology, which includes cultivation, harvesting and extraction of crude algae oil, that is later refined to produce SAF.

The collaboration was taken a step further during Lima. SEDC Energy, PETRONAS Research Sdn Bhd and AMIC signed an agreement to complement technology developments in microalgae, SAF ecosystem and commercial-scale plant exploration. This is a fine example of how ambition supported by science and technology can shake up the status-quo, leading to better innovation and solid entry to market.

Ultimately, it needs sustained political commitment and support from the state's numero uno. And with Abang Johari, Sarawak has a formidable champion.

Congratulations to everyone who was involved, and to all Malaysians. May our SAF industry accelerate into the future sustainably!



Scientific research papers, recommendations gathering dust

Distinguished Professor Rita Colwell underlined the need for Malaysia's scientific community to "step up and speak truth to power", in particular with respect to climate change, biodiversity loss and plastic pollution.

In a lecture in Kuala Lumpur on March 9, distinguished professor Rita Colwell underlined the need for Malaysia's scientific community to "step up and speak truth to power", in particular with respect to climate change, biodiversity loss and plastic pollution.

Speaking at UCSI University's International Institute of Science Diplomacy and Sustainability, she stressed those issues as the most profound among the many identified among the 17 Sustainable Development Goals.

She called on Malaysian scientists to stand up for what's right, respectfully but clearly telling people in charge what's what based on evidence-based knowledge.

Colwell recalled her own service to the United States White House through an infamous incident: British Petroleum's (BP) Deepwater Horizon Oil Spill of 2010. An explosion on the Deepwater Horizon oil rig in the Gulf of Mexico that year resulted in the largest spill in the history of marine oil drilling operations.

Eleven workers were killed, and over the next three months, an estimated 134 million barrels of oil flowed from the damaged well. As science envoy, Colwell recalled conveying an overwhelming volume of information to then US president Barack Obama, who acted swiftly, focusing on the government's all-out response to the immediate crisis, the steps to avoid another such crisis and the longer-term crisis of America's fossil fuel reliance.

Science played a key role in that situation. Remote imaging of the failed blowout preventer, stress testing containment devices and other high-tech tasks helped halt the disaster. A subsequent three-year survey catalogued the



This August 12, 2020, handout satellite image obtained courtesy of Maxar Technologies shows an overview of the MV Wahashio shipwreck off the coast of Mauritius. - Salvage crews have successfully pumped all the fuel from the tanks of a giant cargo ship which ran aground off Mauritius, the prime minister said August 12, 2020, preventing another massive oil spill into the pristine waters. Further ecological disaster was averted as the MV Wakashio, a Japanese-owned bulk carrier, threatens to break apart at any moment after more than two weeks stranded on a coral reef off the island nation. - AFP file pic

harm to animals, beaches, coral, fish and marshes, and estimated that as much as US\$17.2 billion in damages were inflicted on the Gulf. Scientific information was key to understanding the disaster's origin, and the many post-disaster steps needed to prevent a recurrence.

And BP paid a steep price for the Gulf oil spill's damage, as documented by scientists: more than US\$60 billion were levied in criminal and civil penalties, natural resource damages, economic claims and clean-up costs.

"Speaking truth to power" is just another manifestation of the science-policy nexus. We try to promote a dialogue between the knowledge generators (researchers and academics) and

political leaders and decision-makers in the civil service and the corporate sector to encourage the latter group to make sound decisions grounded in evidence-based knowledge provided by the former group.

Sadly, this happens all too infrequently. Academics are still content to confine themselves in the ivory tower. Many well-researched reports and recommendations developed by august bodies like the Academy of Sciences are left to get dusty on the racks of libraries and archives.

In recent times, bodies have been established to provide this bridging role. The International Network on Government Science Advice, founded by Sir Peter Gluckman of New Zealand in 2014, is an early example.

On a larger scale, the newly constituted International Science Council (ISC), comprising 230 organisations, resulted from the 2018 merger

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Two effective global platforms for science-policy dialogues are the Nobel Peace Prize-winning Intergovernmental Panel on Climate Change and the Nobel Peace Prize-nominated Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

of the International Council for Science and the International Social Science Council.

The Academy of Sciences Malaysia is a member of the ISC. The vision of the ISC is to advance science as a global public good.

Two effective global platforms for science-policy dialogues are the Nobel Peace Prize-winning Intergovernmental Panel on Climate Change and the Nobel Peace Prize-nominated

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

It is encouraging these days too to learn of the recent creation of a "Group of Friends on Science for Action" at the United Nations headquarters in New York to help member states use science to solve sustainability problems.

There has been criticism that such an initiative within a huge bureaucracy like the UN may just be a drop in the ocean, especially if it is led by the president of the General Assembly, who holds office on an annual basis. Nevertheless, it is worth a try.

We need to develop a robust mechanism like the running of a successful airline: pilots can come and go, but a well-oiled aircraft would ensure that the business keeps on flying.



Palm oil challenges: Start dialogue based on science, diplomacy

Malaysians, thanks to palm oil, could boast that we had been making progress against Goal #1 (poverty alleviation) since independence in 1957.

On April 19, the European Union Parliament passed a regulation meant to limit deforestation and forest degradation, singling out palm oil as a major driving force.

Deputy Prime Minister Datuk Seri Fadillah Yusoff, who is plantation industries and commodities minister, slammed the EU Deforestation Regulation (EUDR) as "unjust to the palm oil industry in Malaysia", and a "deliberate effort to increase costs and erect barriers to the entry of Malaysia's palm oil into the EU" with "an adverse impact on the livelihoods of 450,000 smallholders in the industry".

As one who grew up in the 1960s in Pahang, Peninsular Malaysia's largest oil palm production state, I have an emotional attachment to the palm oil issue.

It was during that time that the then prime minister, Tun Abdul Razak Hussein, launched the Federal Land Development Authority (Felda) scheme, including mass planting of exotic oil-bearing palm from West Africa in Malaysia's jungles under the slogan "land for the landless and jobs for the jobless".

And when the world met at the 2015 United Nations Summit on Sustainable Development, Malaysians, thanks to palm oil, could boast that we had been making progress against Goal #1 (poverty alleviation) since independence in 1957.

Distinguished Professor Datuk Dr Rajah Rasiah, a Universiti Malaya economist, said the poverty level income was RM50 in 1970, and RM2,208 in 2020.

Our poverty rate dropped from 49 per cent in 1970 to 5.6 per cent in 2020.

Further, during times of economic



On April 19, the European Union Parliament passed a regulation meant to limit deforestation and forest degradation, singling out palm oil as a major driving force. - NSTP file pic

turmoil, such as the 1997 Asian financial crisis, the palm oil sector proved a saviour of our socio-economic wellbeing.

It would not be a surprise, therefore, if most Malaysians support Fadillah's statement.

He called for EU exemptions for palm oil smallholders in the EUDR to prevent large European importers from monopolising the supply chain.

He stressed steps such as the Malaysian Sustainable Palm Oil certification programme, reflecting "our commitment to comprehensive sustainability standards".

The EU and United States have attributed inaccurate and discriminatory

greenhouse gas (GHG) savings values (19 and 17 per cent, respectively) to palm oil, thereby denying access to both places' biofuels markets.

Research by the Malaysian Palm Oil Board and independent experts demonstrates that the values are much higher — 60.4 and 74.7 per cent GHG savings to palm oil produced with and without methane capture.

The palm oil industry is accustomed to accusations of

unsustainable practices, such as the destruction of wildlife habitat, particularly that of the orang utan.

In Sabah and Sarawak, where the orang utan are found, however, steps are being taken to set aside sanctuaries, national parks and forest reserves.

It should be noted, too, that thanks to research and development, it is now possible to grow higher-yielding oil palm, lessening pressure to open new land, and to maintain more than 50 per cent of the country's landmass under forest cover.

And palm oil uses less land than crop-based oilseeds. Only 0.26ha is required to produce a tonne of palm oil while soybean, sunflower and rapeseed need 2.2ha, 2ha and 1.5ha respectively to produce the same amount of oil.

We trod a similar path decades ago when the US soybean lobby campaigned against

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The EUDR stipulates that companies exporting products to Europe produce a due diligence statement showing their supply chains are not contributing to deforestation, or risk hefty fines.

palm oil on health grounds.

Under the leadership of Professor Tan Sri Augustine Ong, much of the disinformation spread by the soybean lobby was debunked by the painstaking gathering of scientific evidence.

The three-year (1986 to 1989) disinformation war ended with a victory for the oil palm industry.

Let's also, however, concede the merits of the EU's efforts.

The EUDR

stipulates that companies exporting products to Europe produce a due diligence statement showing their supply chains are not contributing to deforestation, or risk hefty fines.

This applies equally to palm oil, soybean, beef, wood, cocoa and coffee.

All countries exporting to the EU are affected.

Some regional observers welcome the EUDR "as part of a global commitment to reduce deforestation and increase transparency in commodity mar-kets".

The government is aware that, in our quest for socio-economic development, there is also an urgent need to protect nature.

In light of these new international challenges to an important industry, this is the time to initiate dialogue based on scientific evidence and diplomacy.



Science tells us what to do, but we need love to get it done

29 Mar 2023

The report cites evidence that "global warming drives extreme and deadly climate disasters like heatwaves, heavy precipitation, droughts and tropical cyclones".

LAST week, the Nobel Peace Prize-winning Intergovernmental Panel on Climate Change (IPCC) tried again to shake the world out of its lethargy with powerful language in its new report.

This latest work summarises six previous reports over the last few years involving 700 expert authors from 95 countries, including Malaysia. It comprised thousands of pages gleaned from publications produced by the scientific community, and reviewed and endorsed by expert representatives of governments.

The report confirms the indisputable direct role humans play in causing climate change. And, the problem is getting worse. Already global temperatures are 1.1°C above pre-industrial levels and experts predict it will reach 1.5°C in the early 2030s.

Seven years after the watershed Paris Climate Agreement of 2015, national governments have not done enough to address a problem creating untold harm to lives, livelihoods and natural systems.

The report cites evidence that "global warming drives extreme and deadly climate disasters like heatwaves, heavy precipitation, droughts and tropical cyclones".

For example, according to the World Bank, the October 2022 floods in Pakistan resulted in economic losses of US\$15.2 billion, with rehabilitation and reconstruction in a resilient way estimated to require around US\$16.3 billion.

The floods killed over 1,700 of the 33 million people affected, and more than 2.2 million houses were damaged or destroyed.

Malaysia is no stranger to devastating floods. The "once in a century" floods of



In this file photo taken on September 22, 2021 A view of Nordenskiöld glacier melting and collapsing in the ocean, near Pyramiden, in Svalbard, a northern Norwegian archipelago. - AFP file pic

December 2021 left at least 54 dead, displaced 400,000 people, and resulted in an estimated RM6.1 billion in losses.

United Nations Secretary-General Antonio Guterres described the climate crisis as a "ticking time bomb" that requires developed countries to "decarbonise" their economies by 2040, and developing countries by 2050. The report maintains that "the 1.5°C limit is achievable... but it will take a quantum leap in climate action".

As our Oscar-winning Tan Sri Michelle Yeoh's movie title suggests, our world needs climate action "everything, everywhere, all at once".

That means making sure that global use of coal is eliminated, oil declines by up to 90 per cent, and gas by up to 85 per cent by 2050. But, as someone recently remarked, "the lack of progress toward those cuts since the Paris Agreement isn't stymied by the science but by political and economic considerations".

Several years ago, James Gustave Speth, a former administrator of the United Nations Development

Programme, commented: "I used to think that top environmental problems were biodiversity loss, ecosystem collapse and climate change.

"I thought that 30 years of good science could address these problems. I was wrong. The top environmental problems are selfishness, greed and apathy, and to deal with these we need a cultural and spiritual transformation. And we scientists don't know how to do that."

The challenge was also well summed up by Heidi Steltzer, a US climate researcher who said, "more reports aren't going to do it. We have already done that. Reaching global climate goals may require a transformational vision of science

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The challenge was also well summed up by Heidi Steltzer, a US climate researcher who said, "more reports aren't going to do it. We have already done that. Reaching global climate goals may require a transformational vision of science that starts to consider values, like love and hope, because they aren't easily measured.

that starts to consider values, like love and hope, because they aren't easily measured.

"Whatever goals the world sets, we don't get there without love," she said.

"We can't get to 1.5°C or whatever target we set without love for ourselves, without knowing ourselves and without connecting to, and caring for one another, our planet and the universe."

To complement this we also need hope,

that ingredient which can spark societal changes.

I was a victim of the December 2021 floods that struck Bentong. I still recall the anguish and horror watching the water rapidly rise to the ceiling of our house in the middle of the night and inflicting major damage to our property.

My youngest grandson, Leo Mateen, was born a month ago. I shudder to think that, without a change of course, he is likely to suffer several times as many climate extreme events in his lifetime as I have.

We all need to find it in our hearts to love this planet as much as we love our children and their children and act accordingly.



Malaysia must play proactive role to transform relationship with nature to prevent extinction

13 Jan 2023

After more than two years of Covid-related delay and two intense final weeks of negotiations in Canada chaired by China, the 196 parties embraced the GBF's four ambitious goals and 23 targets ...

SELDOM are the results of a United Nations mega-meeting hailed in world news headlines as "historic", "landmark", "breakthrough" and "crucial".

But, such have been the acclamations since nations adopted the Kunming-Montreal Global Biodiversity Framework (GBF) in the wee hours of Dec 19, 2022.

After more than two years of Covid-related delay and two intense final weeks of negotiations in Canada chaired by China, the 196 parties to the UN Convention of Biological Diversity (CBD.int) embraced the GBF's four ambitious goals and 23 targets to arrest the dangerous loss of biodiversity by 2030.

A marquee outcome: To protect and restore 30 per cent of the world's lands, oceans, coastal areas and inland waters by 2030, while also acknowledging the rights of Indigenous peoples and local communities who depend on and manage much of Earth's remaining biodiversity.

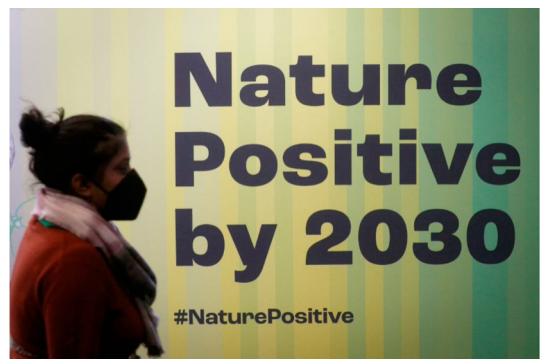
Even the United States, one of only two non-parties to the CBD (the Vatican City being the other), has independently adopted the 30X30 target. The target is not legally binding but countries will have to demonstrate progress through regular national and global reviews.

And the world is now watching closely.

Among the Framework's many other objectives:

- * A US\$500 billion reduction in annual government subsidies to fossil fuel and others industries that devastate nature while scaling up positive incentives for biodiversity's conservation and sustainable use;

- * A 50 per cent reduction of both excess



Delegates pass by a billboard at the United Nations Biodiversity Conference (COP15) in Montreal, Quebec. - AFP Pic

nutrients and the overall risk posed by pesticides and highly hazardous chemicals;

- A 50 per cent reduction in food waste, and

- * A halt to the spread of priority invasive species.

Achieving these ambitious targets will challenge every nation. But, the need to transform our relationship with nature was underlined in a 2019 assessment by the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES).

It warned that biodiversity loss was occurring at an unprecedented rate in human history and accelerating, and that up to one

million of Earth's eight million species of plants and animals are under threat of extinction.

The great irony is that our own survival depends on biodiversity and the web of life for healthy ecosystems that sustain our existence with food, water and clean air.

UN Secretary-General Antonio Guterres hailed the GBF, saying that: "We are finally starting to forge a peace pact with nature".

Brian O'Donnell

of the Campaign for Nature called it, "the largest land and ocean conservation commitment in history."

"The international community has come together for a landmark global biodiversity agreement that provides some hope that the crisis facing nature is starting to get the attention it deserves."

Looking back over the decades, I have seen many strategies and programmes to halt biodiversity loss emerge and fall short.

This time around, there is something different: ambitious and precise targets on nature accompanied by significant funding, and a recognition of the role and rights of Indigenous peoples.

The GBF also aims to ensure that the benefits of resources from nature, like medicines derived from plants, are shared fairly and equitably. Most of Earth's biodiversity resides in

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An estimated US\$700 billion is needed to fully safeguard and restore nature, but these new figures represent an important down payment, a tripling of existing spending.

the developing world. Money to conserve it must come from the rich, industrialised world.

During negotiations in Montreal, a consensus was found on GBF funding from public and private sources — at least US\$200 billion per year, including at least US\$30 billion from wealthy to low-income countries.

An estimated US\$700 billion is needed to fully safeguard and restore nature, but these new figures represent an

important down payment, a tripling of existing spending.

The Malaysian delegation, headed by Dr Khairul Naim Adham, conducted itself well at COP15, aligning with the bloc of developing countries in G77 and China, the like-minded Megadiverse Developing countries and Asean.

While Malaysia initially opposed the 30x30 target, we went along with the consensus and demonstrated our characteristic sense of fair play in international diplomacy.

Hopefully soon, Malaysia will also finally join the High Ambition Coalition for Nature and People, which has assumed a key role in GBF implementation.

As one of the 17 megadiverse countries of the world, Malaysia is a "Biodiversity Superpower", and the world will welcome a more proactive role from us.



Investing in sustainability for a better future

16 Dec 2022

Sustainability is about creating positive net impacts for the environment, for the communities that rely on the environment, and for the individuals that make up those communities.

The impacts of our "business as usual" on the environment are clear: floods, wildfires, infectious diseases, pollution and the list goes on.

These events will intensify and grow in the future. Businesses, governments and society have to prepare for a future where the effects of climate change will become more extreme.

They also have to ensure that preparations and contingency plans do not benefit the few, but also protect those that are the most at risk of being exposed to the worst of climate change.

Sustainability is about creating positive net impacts for the environment, for the communities that rely on the environment, and for the individuals that make up those communities.

The financial impact of climate change is real. According to Bank Negara Malaysia, as of November 2019, about 11.7 per cent of assets held by financial players in Malaysia are sectors potentially exposed to climate change.

The societal impact of climate change is also important. Malaysia ranks 61st on United Nations Children's Fund's (Unicef) Climate Change Risk Index. Nine out of 10 youths in the country have experienced climate and environment-related effects, based on findings of the National Youth Climate Change Survey Malaysia by Unicef and the United Nations Development Programme (UNDP).

Some US\$1.26 trillion in revenue losses is anticipated for suppliers within the next five years due to climate change, deforestation and water insecurity.

Additionally, corporate buyers stand to inherit US\$120 billion in increased environmental



-NSTP file pic, for illustration purpose only.

costs by 2026.

An integral part of sustainability is also protecting and boosting biodiversity. It is estimated that up to 2,000 species go extinct every year.

A 2019 global assessment on biodiversity by the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) states that up to one million species of animals and plants are under threat of extinction due to human activities, especially over the last half century.

An earth rich in biodiversity is a healthy environment for our children and children's children to grow up and continue our legacy.

Achieving the UN Sustainable Development Goals (SDGs) could create millions of jobs, fast-track growth opportunities and unlock millions, if not billions of dollars in market opportunities across the board.

Numbers do not lie. According to the UN, for every US\$1 invested in the green economy yields US\$4 in benefits.

Bold climate action could yield an economic gain of US\$26

trillion to the economy by 2030. Replacing the costliest coal with wind and solar could yield US\$940 billion in investment.

Investing US\$1.8 trillion in climate adaptation could generate US\$7.1 trillion across areas such as early warning systems, climate resilient infrastructure, improved dryland agriculture crop production, global mangrove protection and more resilient water resources.

With less than eight years left to meet the SDGs, there is a widening financing gap of US\$4.2 trillion, the consequence of the lack of insight on sectoral development needs and policy momentum to transition to a sustainable economy.

At the recent "Sustainability Does Matter: Investing for a Better Future" conference

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With less than eight years left to meet the SDGs, there is a widening financing gap of US\$4.2 trillion, the consequence of the lack of insight on sectoral development needs and policy momentum to transition to a sustainable economy.

hosted by the UNDP and Malaysian Investment Development Authority, representatives from the private sector discussed where can we as a nation go when it comes to the adoption of SDG-aligned businesses and economic activity.

The discussions were fruitful, with many players highlighting biomass energy as one of the ways that Malaysia can become a circular economy.

The panel

discussions touched on areas such as green financing, tech-based climate solutions and renewable energy.

These private sector players have demonstrated that the path to sustainability is multi-layered and necessary. They've proven that being sustainable is not just a trend, but rather a necessity.

Businesses and investors have an important and critical role in ensuring that economic activity has to create value for the people that are an integral part of the economy, as well as the physical environment that is the source of life for all of us.

The benefits from such activity have to be for the many, and not just the few.



Montreal meeting a critical moment for all lives on Earth

7 Dec 2022

We are confronting a catastrophic loss of one million species, putting humanity's safe future at risk.

AFTER a two-year Covid-related delay, negotiators from more than 190 countries are assembling in Montreal, Canada, today (until Dec 19) to finalise a global strategy to stem the tide of biodiversity loss.

With the right level of ambition, the global strategy, known as the Global Biodiversity Framework, could become the biodiversity equivalent of the Paris Climate Agreement.

Given the complexity and far-reaching nature of the global biodiversity crisis, the agreement reached at the Convention on Biological Diversity's (CBD) 15th Conference of Parties (COP15) must show ambition on a wide range of issues, including tackling the drivers of biodiversity loss.

It must also contain a strong implementation mechanism that ensures immediate action and a system to increase action throughout the decade.

We cannot have a repeat of the failure of the Aichi biodiversity targets. Ultimately, the agreement needs to clearly put the world on a path to halt and reverse biodiversity loss, achieving a nature-positive world this decade.

We are confronting a catastrophic loss of one million species, putting humanity's safe future at risk. China, which is holding the presidency of this meeting, has chosen not to invite heads of state to COP15, but ministers will be on hand towards the end.

I believe success at COP15 requires a minimum of the following:

ADVANCING the rights and leadership of indigenous peoples and local communities. This framework must have as a core thread throughout full respect for the rights, experiences



United Nations Secretary General Antonio Guterres (3rd from right) during the United Nations Biodiversity Conference (COP15) Youth Summit at Quai Alexandra in the Old Port of Montreal in Montreal, Quebec, Canada, on December 6, 2022. -AFP PIC

and contributions of indigenous peoples and local communities as essential stewards of biodiversity;

A GLOBAL target to protect and conserve at least 30 per cent of the world's lands, inland waters and oceans by 2030 — the "30 x 30" target. Ensure that this protection is effectively enforced and managed, with priority given to ecologically representative areas most important for biodiversity.

Science tells us that 30 per cent is the minimum area required to arrest the habitat loss and overexploitation responsible for much of the problem.

Additionally, a recently released IPCC report underlined that the protection of 30 per cent of the planet is urgently needed to achieve

climate goals, as well as biodiversity and other goals. The target has been endorsed by more than 114 countries, the majority of them developing countries and emerging economies;

INCREASING

funding to meet biodiversity targets. The agreement must result in significantly increased funding for biodiversity, as well as an end to subsidising nature's destruction, with subsidies that harm nature being redirected to fund its protection and restoration. Ideas include debt forgiveness and debt for nature swaps for developing countries.

The 30 x 30 target has gained support within Asean. The Philippines recently adopted the 30 x 30 target and has joined the High Ambition Coalition (HAC) for Nature and People to advocate for it.

Thailand has also recently endorsed the 30 x 30 target and intends to join the HAC, which comprises Cambodia, Japan, India, Bhutan, Nepal, Pakistan, Sri Lanka, Bangladesh, Papua New Guinea and the Maldives.

A public opinion poll conducted in Indonesia, Malaysia and the Philippines revealed resounding support for the global 30 x 30 goal, with 96 per cent respondents in Malaysia, 98 per cent in Indonesia and 95 per cent in the Philippines supporting the target.

A recent report from the Academy of Sciences Malaysia estimated that Southeast Asia

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is home to nature and biodiversity that pumps US\$2.19 trillion into the regional economy every year, and that this figure could be higher if governments further prioritise conservation and restoration.

At the close of the International Union for Conservation of Nature (IUCN)'s Second Asia Parks Congress in Sabah, the 1,200 participants from government, civil society, indigenous groups conservation groups, as

well as academia, issued a stark call to support 30 x 30 as a key priority to help protect biodiversity in the region.

I urge Malaysia and other governments in Asean to support the 30 x 30 target and work to ensure it is agreed to at COP15.

The Montreal meeting represents a critical moment for all lives on our planet. It's my sincere hope that all countries listen to what we in the scientific community have been saying for years: act now with urgency and ambition if we are to reverse the alarming global decline of nature.

Success at COP15 will depend on whether all countries agree to the 30 x 30 target, commit to an ambitious package for financing implementation and embrace a rights-based approach to conserving biodiversity, recognising the critical role that indigenous peoples and local communities play as stewards of nature.



Businesses will benefit greatly by tackling sustainability issue

31 Mar 2022

Investors today are demanding more data on a company's Environmental, Social and Governance (ESG) performance to see how boards consider and assess climate-related issues.

Over the next decade we need to unlock change in a way — and at a rate — that has so far eluded us.

Creating a world in which more than nine billion people can live well and within planetary boundaries by 2050 will require leadership and perseverance across every part of society.

Business has the power to unlock the transformations on which a safe and sustainable future depends.

For business, generating long-term returns requires a transformed model that rewards true value creation rather than value extraction.

Resilience and long-term success mean enhancing a business' capacity to anticipate, embrace, and adapt to change and disruption. Businesses must move to a mindset in which we build the capacity of our social and environmental systems to heal and thrive.

Businesses have a good reason to worry about sustainability.

A World Economic Forum report last year identified five risks with the highest likelihood in the next decade: extreme weather, climate action failure, human-led environmental damage, infectious diseases and biodiversity loss. They all are sustainability-related risks.

Investors today are demanding more data on a company's Environmental, Social and Governance (ESG) performance to see how boards consider and assess climate-related issues; how the company's business model may be affected by climate-related issues and what strategic changes the company might need to make.



With many international regulatory bodies working together to accelerate convergence to reduce the number of reporting frameworks, businesses will be under increasing pressure to supply credible ESG information.

Employees today want employers who incorporate ESG into their purpose. A recent study from insurance firm Marsh McLennan indicates that the impact of ESG performance on workforce sentiment can be a source of competitive advantage.

Top employers, measured by employee satisfaction and attractiveness, have significantly higher ESG scores. Satisfied employees work harder, stay longer, and seek to produce better results for the organisation.

ESG performance will become increasingly important in attracting and retaining talent as millennials and Gen Z make up most of the global workforce.

Another study by consulting firm Simon-

Kucher & Partners reveals that more than a third of global consumers are willing to pay more for sustainability as demand grows for environmentally friendly products and services.

The study, involving more than 10,000 people in 17 countries, showed that sustainability is increasingly important in purchasing decisions, with consumers seeing themselves and for-profit companies as primary catalysts for change.

Increasingly, governments are creating ESG-related regulations and requirements.

A study of 71 countries found more than 2,000 voluntary reporting frameworks, mandatory reporting requirements, methodologies and protocols.

With many international regulatory bodies working together to accelerate convergence to reduce the number of reporting frameworks, businesses will be under increasing pressure to supply credible ESG information.

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With many international regulatory bodies working together to accelerate convergence to reduce the number of reporting frameworks, businesses will be under increasing pressure to supply credible ESG information.

Greenwashing will become harder with an increasing risk of backfiring on the perpetrators. Meanwhile, non-governmental organisations and community groups are pressuring businesses for radical transparency with a company's licence to operate potentially at stake.

Former Unilever chief executive officer Paul Polman recently introduced the concept of a net-positive company: one

that gives more than it takes — solving problems that matter and not creating new ones.

Net-positive leadership is about putting others' interests first, which may require new skills and leaving your comfort zone.

The larger system changes we need can only happen in partnership with groups outside of a company's control — peers, community members, NGOs, governments, consumers, suppliers, and more. Done right, a network of stakeholders creates multiplier effects that help build something bigger and faster.



I'm ecstatic Malaysians support global initiative to conserve nature

80 per cent of us are either extremely or very concerned about the global biodiversity crisis, which involves one million species worldwide facing extinction.

I've long known that my fellow Malaysians care deeply about the natural world, in particular our tropical rainforests, mangroves and coral reefs, and the majestic creatures that call those habitats home.

But even I was blown away by the results of a recent poll.

According to the survey conducted last month involving more than 1,000 Malaysians, 80 per cent of us are either extremely or very concerned about the global biodiversity crisis, which involves one million species worldwide facing extinction.

The poll is aimed at gauging public opinion in the run-up to a summit to be held later this year in Kunming, China, where more than 190 countries are expected to finalise and approve the Post-2020 Global Biodiversity Framework.

The survey represents the first time that Malaysians have been asked to weigh in on a proposal to protect 30 per cent of the world's lands and oceans by 2030.

Known as "30x30," this plan is championed by the High Ambition Coalition for Nature and People, an intergovernmental group of more than 85 countries, and evolves around the central elements of the Global Biodiversity Framework.

According to the poll, 87 per cent of Malaysians are aware of the negotiations underway and 96 per cent support the 30x30 plan. Our neighbours feel roughly the same with 98 per cent of Indonesians and 95 per cent of Filipinos supporting the goal.

My suspicion is that many of you, like me, have all-too-personal experiences with the



Deforestation has deprived wildlife of its habitats and intensified our biodiversity crisis. -NSTP file pic

devastating impacts of environmental degradation.

Regular readers of this column will recall that the torrential rains responsible for flooding in eight states last December also hit my hometown of Bentong, Pahang.

My family and I spent the night sheltering in our car as floodwaters raged around us. We lost a lifetime's worth of work and memorabilia within a few hours.

More than 125,000 people were displaced by those floods and 54 lives were lost. The government estimates that the rains inflicted RM1.4 billion in infrastructure damage and RM20 billion in economic losses.

Scientists have linked December's

extreme weather to climate change with its disastrous effects exacerbated by landslides on hillslopes long denuded of trees.

With the increasing frequency of such freakish weather, and deforestation continuing to force our wildlife from its habitats, our biodiversity crisis seems to be intensifying.

Conserving 30 per cent of the planet's lands and oceans provides a key way to addressing this global emergency, while also helping to store carbon, prevent pandemics, bolster economic growth and increase production of the fisheries sector.

An independent study by more than 100 economists and experts found that meeting the 30 per cent target will generate financial and ecosystem service benefits at least five times the cost.

Much of the world has recognised the validity of the plan. Last September, nine major philanthropic organisations pledged US\$5 billion to advance the 30x30 initiative.

I am heartened to learn that my fellow

An independent study by more than 100 economists and experts found that meeting the 30 per cent target will generate financial and ecosystem service benefits at least five times the cost.

citizens recognise the need for bold steps in the face of our crisis. This includes our young people, who make up roughly half of the survey respondents.

It is now incumbent on our political leaders and policymakers to join the world in this noble effort. (I have been working to persuade all 10 Asean countries to join the High Ambition Coalition for Nature and People, but so far only Cambodia has signed on.)

My family and I

eventually moved back into our house, but our treasured photographs and other memorabilia are gone forever. It breaks my heart to think of the losses other Malaysians suffered during those floods and in the other environmental catastrophes that increasingly befall us.

We now have evidence of just how broadly popular the 30x30 target is. Let us take the steps to restore and safeguard the defences against such disasters and the loss of our wildlife, and call on the government to support this global proposal and act with the urgency our country knows is necessary.



How it feels to be a climate refugee

19 Jan 2022

Early estimates suggest that the flood inflicted about RM1.4 billion in infrastructure damage and a potential RM20 billion in economic losses.

I was serving the United Nations University (UNU) in Tokyo in 2005 when Hurricane Katrina struck New Orleans — perhaps the most devastating storm in the United States on record, causing an estimated US\$108 billion in property damage and 1,200 fatalities.

It was also the year UNU called for recognition of those displaced by gradual environmental change — the so-called climate refugees. In those days, I always assumed such catastrophes would only occur in faraway lands.

That was until last Dec 18, when disaster struck my family and me when prolonged torrential rain caused flooding in eight states across the country, particularly in Selangor and Pahang.

A couple of years ago I relocated to my hometown, Bentong, where I plan to spend my retirement. Sadly, the town was a flood epicentre.

On that fateful Saturday night, the water started to rise rapidly. We made it to higher ground and spent the night in the car as our path of escape was cut off by the raging floodwaters.

With torrential rain pouring down and water coursing around our car, we could only listen helplessly to cries for help from neighbours, many trapped in homes with no power, water or food.

Some, with small children, were stranded on their rooftops waiting up to 10 hours for help from the gallant civilian rescuers and volunteer first responders.

As dawn broke, we went back to the house to assess the damage. At the storm's height, water had reached the first-floor ceiling.

Almost all my memorabilia amassed over a lifetime of work vanished, along with my



With torrential rain pouring down and water coursing around our car, we could only listen helplessly to cries for help from neighbours, many trapped in homes with no power, water or food. - NSTP/ MOHAMAD SHAHRIL BADRI SAALI

family members' many similarly precious belongings.

It is no exaggeration to say the street scene was like that of a tsunami's aftermath. Cars strewn or piled on top of one another, entire houses swept away, whole rows of popular food *warong*, where locals enjoyed delightful breakfasts, wiped out.

Early estimates suggest that the flood inflicted about RM1.4 billion in infrastructure damage and a potential RM20 billion in economic losses.

At least 125,000 people were displaced, and 54 lives lost — one of the deadliest natural catastrophes since 1971.

After three weeks of work, our house

was livable again. But, it was heart breaking to think how much we and everyone else affected had lost in property and livestock.

According to Universiti Kebangsaan Malaysia climatologist Professor Fredolin Tangang, floods in Malaysia have become more numerous in the last 20 years, with losses amounting to RM8 billion.

Studies of Kuala Lumpur show thunderstorm and rainfall intensity has increased 30 per cent in the past 30 years, with frequent flooding.

Scientists and many observers link climate change to the extreme weather on Dec 18, the disastrous effects exacerbated by landslides on hill slopes denuded of trees and complicated by the loss of biodiversity.

Water and Environment Ministry secretary-general Datuk Seri Dr Zaini Ujang said the storm had dropped an average month's worth of rainfall in a little over 24 hours — a "once in a hundred years" event.

The direct cause was a low-pressure system formed in the South China Sea that reached the level of a tropical depression.

Prime Minister Datuk Seri Ismail Sabri Yaakob admitted weaknesses in response coordination and promised improvement but

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According to Universiti Kebangsaan Malaysia climatologist Professor Fredolin Tangang, floods in Malaysia have become more numerous in the last 20 years, with losses amounting to RM8 billion.

managing disasters is a responsibility shared by state and district level authorities too.

Environmentalist Professor Dr Hafizan Juahir of Universiti Sultan Zainal Abidin underlined that community members need more than physical tools to help respond to floods. They need greater skills training too.

What we just experienced has parallels with Hurricane Katrina, which exposed a series of deep-rooted problems,

including controversies over the federal government's response, difficulties in search-and-rescue efforts, and lack of preparedness.

Ten years after Katrina, then president Barack Obama said: "What started out as a natural disaster became a man-made disaster — a failure of government to look out for its own citizens."

If we take no other lessons from Malaysia's flood disaster last month, let us take a whole society /whole government approach to the efficient and speedy manner in which current and future flood victims are cared for.

And, let us now accord even greater respect to Nature, and proactively restore and safeguard the defences against such disasters that she once provided to us.



We must ensure future generations inherit a liveable world

In the COP26 meeting, more than 100 world leaders had promised to end and reverse deforestation by 2030.

Since 1994 the United Nations (UN) has convened almost every country on Earth for an annual summit known as the Conference of the Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC).

This year's two-week 26th meeting, COP26, is described as "the most significant climate event since the 2015 Paris Agreement" which committed nations to limiting global warming to well below 2°C (preferably 1.5°C), and "the world's best and last chance to get runaway climate change under control."

United States President Joe Biden, Indian Prime Minister Narendra Modi, and Indonesian President Joko Widodo were among the 200 world leaders attending the first two days of the conference in Glasgow, Scotland.

Malaysia is ably represented by the savvy Secretary-General of the Water and Environment Ministry Datuk Seri Dr Zaini Ujang.

The conspicuous absence of more senior representation, though, seemed to many a sign that Malaysians were nonchalant about the event. That is, until a big headline appeared saying that more than 100 world leaders had promised to end and reverse deforestation by 2030.

Signatory countries include Canada, Brazil, Russia, China, Indonesia, the Democratic Republic of the Congo, the US and the United Kingdom, which together contain 85 per cent of the world's forests.

The pledge includes almost US\$19 billion of public and private funds, some of which will help developing countries restore damaged land, tackle wildfires and support indigenous



World Leaders pose for a group photo at an evening reception to mark the opening day of COP26 on the sidelines of the COP26 UN Climate Change Conference in Glasgow, Scotland. -AFP file pic

communities.

After last Wednesday's cabinet meeting, our government declared Malaysia's commitment to the Glasgow Leaders' Declaration on Forest and Land Use, and that Water and Environment Minister Datuk Seri Tuan Ibrahim Tuan Man will travel to COP26 to deliver the message. Hopefully, Malaysia's signature on this new pledge exceeds our long-standing promise to maintain at least 50 per cent of the country's landmass as forests and tree canopies.

Uncertainty about the pledge arose a day after it was announced, when Indonesian officials said the pledge was ending "net forest loss".

Indonesia's vice-foreign minister said his

country had only agreed to keep its forest cover steady over the period, meaning trees could still be cut down and replaced.

Then, Environment Minister Siti Nurbaya Bakar said that Indonesia's development agenda must take precedence and it was "inappropriate and unfair" to interpret its addition to the pact as a zero-deforestation pledge.

Other reports said CO2 emissions had almost fully rebounded

from a dip caused by the pandemic and the world had just 11 years of emissions left in its carbon budget if we hoped to avoid catastrophic warming.

According to President of Sahabat Alam Malaysia Meena Raman, in the Paris Agreement, negotiations included proposals by some key developing countries for the adoption of an "equitable access to atmospheric space approach," that considered the historical and current emissions of every country in a cumulative manner, including on a per capita basis.

Such proposals for a fair and equitable allocation of the remaining carbon budget did not see the light of day.

The developed world opposed taking stock of historical emissions, as this would mean assuming major responsibility to reduce emissions.

Instead, all countries need make an emissions reductions pledge, however limited or

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As Meena explained: "There are so many critical issues being advanced by developed countries at COP26, such as net zero emissions for all countries by 2050, and carbon market mechanisms with offsets linked to nature-based solutions in developing countries, which are bound to further exacerbate the inequities between developed and developing countries."

insignificant their emissions might be.

This bottom-up approach led to the concept of Nationally Determined Contributions, without any reference to equity or historical responsibility between developed and developing countries.

This approach is inequitable and contrary to the UNFCCC and the Paris Agreement.

The developed world should also be held accountable for failure to

mobilise by last year the US\$100 billion per year agreed to in 2010 under the UNFCCC to enable more climate action in the developing world and sustainable development with technology transfer.

As Meena explained: "There are so many critical issues being advanced by developed countries at COP26, such as net zero emissions for all countries by 2050, and carbon market mechanisms with offsets linked to nature-based solutions in developing countries, which are bound to further exacerbate the inequities between developed and developing countries." It is crucial for us to stand with the Global South.

At the same time, we must all do everything in our power through sincere change and actions here at home and diplomatically abroad to make sure that coming generations inherit a liveable world.

As matters stand, even after all the pledges in Glasgow, there's no guarantee of that.



Funding, indigenous people key to success

15 Oct 2021

An overwhelming body of evidence confirms the importance of IPLC–managed and governed territories to curbing biodiversity loss.

At a meeting of Parties to the United Nation's Convention on Biological Diversity (CBD) in the southern Chinese city of Kunming, world governments are looking ahead to the adoption of new goals and targets for nature to be met this decade: CBD's "Post-2020 Global Biodiversity Framework" (GBF).

The draft framework lays out broad actions to help transform society's relationship with biodiversity and fulfil a previously agreed shared vision of "living in harmony with nature" by 2050.

This week's online summit Part One sets the stage for a decisive face-to-face meeting in April. Among the new targets is one advanced by the Campaign for Nature (CFN): protect 30 per cent of the world's land and marine areas by 2030.

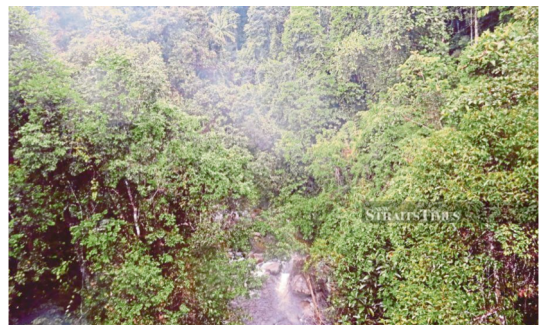
These should consist of protected areas and "other effective area-based conservation measures" (OECMs), such as territories inhabited by indigenous peoples and local communities (IPLCs).

Although IPLCs comprise only six per cent of world population, the areas involved cover 85 per cent of those proposed for conservation.

An overwhelming body of evidence confirms the importance of IPLC-managed and governed territories to curbing biodiversity loss, recognising the role IPLCs as traditional stewards of the natural world.

Historically, government designations of protected areas have not always respected the rights of IPLCs and, in some cases, have led to violence, displacement, and human rights violations.

This "fortress model" of biodiversity



-NSTP file pic, for illustration purpose only.

conservation has also fallen short of its goals because local communities have not been fully involved in decision-making and benefit sharing.

CFN believes that securing IPLCs land tenure should be central to achieving global biodiversity objectives, safeguarding the rights of IPLCs and ensuring their free, prior and informed consent and alignment with the UN Declaration on the Rights of Indigenous Peoples.

A recent webinar convened by the Asean Centre for Biodiversity (ACB), Atri Advisory and the CFN heard from IPLC leaders, CBD delegates and other Southeast Asian experts.

Yongyuth Yuthavong, Thailand's former deputy prime minister, pointed out: "Indigenous people are custodians of some of the most biologically diverse territories in the world. Their traditional knowledge has been and continues to benefit all of humankind."

The ingenuity of IPLCs was eloquently summed up by one of the youngest participants, Natasha Tanjutco, co-founder of Kids for Kids, the Philippines: "Indigenous people are very scientific. It's just that their science includes the heart."

Joji Carino, a leading IPLC spokesman, is convinced that "the 30x30 target will not be met unless IPLC territories are protected by law".

The target needs to prioritise quality over quantity, underpinned by the evidence that IPLC guardianship has been even more effective in nurturing "species abundance, genetic revitalisation and ecosystem resilience, as proven by the fact that the most of biodiversity today is in these territories".

Carino's view was strongly endorsed by another participant, Senator Loren Legarda, deputy speaker of the Philippines House of Representatives: "By honouring the traditions and knowledge of IPLCs, we would have delivered a double benefit of alleviating poverty and protecting our natural capital."

Brian O'Donnell, CFN director, said that, "Asean has shown the way in how governments and indigenous people can conserve biodiversity and protect nature.

"CFN can learn and partner with you on

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As always, funding is key to success. And in New York, last month, nine philanthropic organisations pledged US\$5 billion to advance the 30x30 initiative by supporting protected areas and indigenous stewardship of their territories.

how conservation targets that are rights-based and aligned with financing in the right places and done in the manner that advances rights can be essential to meet the biodiversity and climate change goals."

As always, funding is key to success. And in New York, last month, nine philanthropic organisations pledged US\$5 billion to advance the 30x30 initiative by supporting protected

areas and indigenous stewardship of their territories.

The announcement was welcomed by Theresa Mundita Lim, executive director, ACB: "This funding announcement... sends an important message to countries ready to protect or conserve additional land or sea areas that there will be new funding to help them."

And, as he opened the CBD meeting in Kunming this week, Chinese President Xi Jinping initiated a new fund to protect biodiversity in developing nations with an initial pledge of US\$233 million, inviting other countries to contribute.

Support for CFN's stance on IPLCs and the prospective funding provides Asean member states greater leeway to play their rightful role in global biodiversity governance.



Businesses can't ignore power of FTAs with human rights provisions

4 Oct 2021

Malaysian businesses are ready to adopt sustainable approaches in line with the stipulations of FTAs.

Through tariffs, quotas and issue-specific clauses, free trade agreements (FTAs) encourage the parties involved to comply with conditions in the interest of long-term cooperation.

Such agreements have gone beyond commercial interests and have a role to play in human rights and environmental issues.

Trade agreements can incentivise cooperation or compliance with labour and human rights, for example, affecting not just businesses or policymakers, but the millions of workers and consumers linked to production and supply chains.

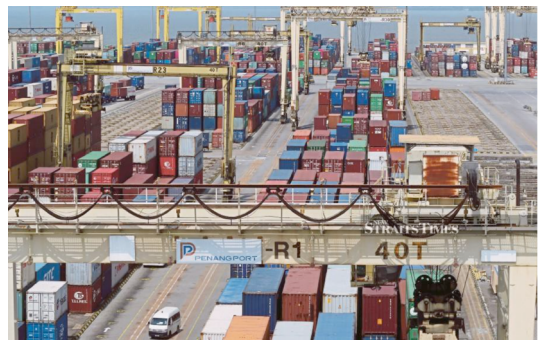
In the European Union and United States, new FTAs have seen an increase in required human rights and democracy commitments.

Recent years have also seen a welcome push in incorporating environmental concerns into such treaties, but more effort needs to be made to ensure compliance at all points of the supply chain for a sustainable future.

The Covid-19 pandemic and the twin biodiversity and climate crises put a spotlight on the need for businesses to address sustainability issues, and countries are placing increased focus on cooperation with the sustainability clauses in trade treaties.

There is obviously still room for improvement. Last year, the US Customs and Border Protection banned the imports of palm oil products from a large plantation company on suspicion of forced labour in its manufacturing process.

The government was quick to respond, with the Plantation Industries and Commodities



-NSTP file pic, for illustration purpose only.

Ministry giving an assurance that "it was ready to consider appropriate action to address the issue".

The past year saw a series of blows delivered to Malaysia's manufacturing sector, as human rights violations and forced labour allegations surfaced during the Covid-19 pandemic.

Lax regulation and non-compliance throughout the supply chain have resulted in no-buy orders and other backlashes from the international community, and actions in response to these allegations have fallen short.

No longer can local businesses overlook the power of trade and investment agreements. The new provisions on human rights, the environment and sustainable development incorporated into FTAs globally will have an impact greater than ever, and Malaysian businesses need to step up.

The Business Council on Sustainable Development, Malaysia (BCSD My) is committed to creating a sustainable future for business, society and the environment.

As the Malaysian partner of the World Business Council for Sustainable Development (WBCSD), we strive alongside fellow members to make more sustainable businesses more successful.

At the same time, as part of our Vision 2050, we want to drive the transformation of systems to create a world where the anticipated 9.5 billion people on Earth by 2050 can live well within our planetary boundaries.

Last week, BCSD My, together with the Raoul Wallenberg Institute of Human Rights and Humanitarian Law from Sweden, convened a webinar on The Role of Free Trade Agreements in Promoting Sustainable Business and Human Rights, part of programmes in our Business for Human Rights and the Environment platform.

Among the conclusions include a need for more concrete steps by Malaysian businesses to be proactive in human rights due diligence and not wait to act until faced with foreign backlash or penalties imposed by FTA clauses.

Interesting points brought up during the panel discussion include the readiness of

As the Malaysian partner of the World Business Council for Sustainable Development (WBCSD), we strive alongside fellow members to make more sustainable businesses more successful.

Malaysian businesses to adopt sustainable approaches in line with the stipulations of FTAs, as well as how to tackle challenges in assessing supply chains for due diligence purposes.

A key highlight was the clear action points presented by speakers, including recommendations on what businesses can already act upon in the interest of sustainable development, and the importance of educating

local businesses on the latest FTAs.

More dialogue and cooperation are needed on human rights and sustainability issues.

And FTAs can help raise awareness and underline the importance of businesses taking concrete steps to reform their supply chains as required.

It is high time we re-examine the local supply chain governance in the context of human rights and the environment to align local business commitments with those at the international level.

While there is much room for improvement, the outlook is optimistic as local and international efforts are growing to educate, enlighten and empower businesses in the interest of responsible and sustainable development.



Support of indigenous people vital in conservation efforts

22 Sep 2021

Governments and civil society organisations convened in 1948 to create the IUCN to protect nature, encourage international cooperation ...

The International Union for Conservation of Nature (IUCN) is one of the foremost global organisations advocating the protection of nature.

Governments and civil society organisations convened in 1948 to create the IUCN to protect nature, encourage international cooperation, and provide scientific knowledge and tools to guide conservation.

IUCN played a fundamental role in creating the Ramsar Convention on Wetlands (1971), the World Heritage Convention (1972), the Convention on International Trade in Endangered Species, (1974) and the Convention on Biological Diversity (1992).

Today, with more than 1,300 members, including states, government agencies, non-governmental organisations and indigenous peoples' organisations, and thousands of supportive experts, IUCN continues to champion nature-based solutions, such as the United Nations' Paris climate change agreement and the 2030 Sustainable Development Goals.

It was, therefore, a welcome development when, at its World Congress in Marseille two weeks ago, the IUCN approved a motion supporting the protection of at least 30 per cent of land and ocean by 2030, popularly called "30x30," adding that "the evolving science... supports protecting, conserving and restoring at least half or more of the planet" to reverse biodiversity loss, address climate change and "as a foundation for sustainably managing the whole planet".

It also stressed the need to focus on sites of particular importance for biodiversity, in well-connected systems of protected areas and



Orang Asli at the Kuala Langat North Forest Reserve. -Pic Courtesy of GEC

other effective area-based conservation measures by 2030 in the post-2020 Global Biodiversity Framework, an agreement being developed under the auspices of the CBD.

It also resolved that: "The full and effective participation of indigenous peoples and work towards the implementation of all protection, conservation and restoration activities with the free, prior, and informed consent of indigenous peoples, and with appropriate recognition of the rights of indigenous peoples to their lands, territories and resources, as set out under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), and full respect for their diverse knowledge systems."

And: "The full and effective participation of local communities in the protection, conservation and restoration activities, with the recognition of customary and local governance

practices as appropriate, along with their diverse knowledge system."

In Marseille, at a parallel summit, indigenous peoples' organisations from six continents presented the "global indigenous agenda"— the first event of its kind at an IUCN World Conservation Congress.

Indigenous peoples demanded that "secure recognition and respect for collective original rights and the management of land, territories, waters, coastal seas and natural resources".

Other activists took a tougher stance. A London-based NGO called 30x30 "nothing more than a sound bite, green lies. History has shown that promises are made, but eventually it is impossible for forest-dwellers to live until they are finally thrown out of their generational homes for centuries... We see no real signs that this is going to change".

However, IUCN director-general Bruno Oberle said: "Our global goal of protecting the earth and conserving biodiversity cannot succeed without indigenous leadership, support and partnership".

The strong, sympathetic language included in the resolutions on the role of indigenous people and local communities (IPLCs)

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The conflict between development and the rights of IPLCs ...
The area has unique biodiversity and is the ancestral home of some 2,000 Orang Asli of the Temuan tribe. The proposed development puts at risk the Temuan people's livelihoods, culture and heritage.

provide a commitment by the global community to peoples who make up only five per cent of the world's population but contribute significantly to its diversity of plants and animals, as more than 80 per cent of the world's remaining biodiversity is found within their rural areas.

The conflict between development and the rights of IPLCs is being played out at the global and local level, as seen in the proposed

degazetting of the Kuala Langat North Forest Reserve to make way for mixed development.

The area has unique biodiversity and is the ancestral home of some 2,000 Orang Asli of the Temuan tribe. The proposed development puts at risk the Temuan people's livelihoods, culture and heritage.

In an exemplary show of "people's power," nearly 50,000 people objected to the move, as did state legislators of different political stripes.

Earlier this month, the Selangor government abandoned the plan to degazette the area.

This episode drives home the point that in protecting nature, public understanding and, eventually, its unequivocal support can avert ugly consequences and trigger change.



Can conservation and development co-exist?

6 Sep 2021

Forest conversion and degradation over the years have threatened the integrity of rainforests.

Borneo, the world's third largest island, boasts one of Earth's oldest rainforests. It accounts for just one per cent of the planet's landmass yet holds approximately six per cent of the Earth's variety of plant and animal species, including such charismatic creatures as Bornean orangutans, clouded leopards, pygmy elephants and rhinoceros, as well as giant pitcher plants and Rafflesia flowers.

Forest conversion and degradation over the years have threatened the integrity of rainforests. The World Wide Fund for Nature (WWF) listed Borneo among the deforestation hotspots and planetary warming has made it vulnerable to forest fires.

It was to the great credit of the governments of Brunei, Indonesia and Malaysia when they established the "Heart of Borneo" (HoB) conservation area in 2007, one of the largest transboundary rainforests in the world — 22 million ha (the size of England and Scotland combined). It was a triumph of environmental diplomacy and a demonstration of political will at the highest level.

Sultan Hassanal Bolkiah of Brunei declared that "being part of Borneo and in our effort to retain ecological connectivity and to conserve a large tract of forest resources, we have committed 58 per cent of our land under HoB management".

Then Indonesian president Susilo Bambang Yudhoyono said: "Our tropical rainforests have a strategic, global function... they produce oxygen and absorb carbon dioxide not just for Indonesians but for the human race."

Former Malaysian prime minister Tun Abdullah Ahmad Badawi said: "The HoB is an



Pan Borneo Highway. -NSTP file pic, for illustration purpose only.

Asean project which is good for research and activities that lead towards forest protection." Today, 14 years after its inauguration, how is the HoB faring? Unsurprisingly, there is tremendous pressure to develop Borneo at the expense of the environment, particularly in Sabah and Sarawak, and in Kalimantan, Indonesia.

A study cited by the United Nations Environment Programme (UNEP), however, showed that the expansion of oil palm and pulpwood plantations has been declining since 2012.

Also noted in a report this year by the Brunei-Indonesia-Malaysia-Philippines East Asean Growth Area, Brunei has preserved its rainforests, which comprise about 70 per cent of its territory, through restrictions on logging since the 1990s. The country is promoted as an ecotourism destination.

Regional and national efforts to protect rainforests include low-carbon growth measures, payment for ecosystem services, public-private conservation programmes and promoting renewable energy investments.

But, all is not well with the HoB. Last month, Mongabay, a non-profit environmental science and conservation news site, reported that with Indonesia planning to shift its capital from Jakarta to the Bornean province of

East Kalimantan, infrastructure development pressures on the island had intensified.

Malaysia, meanwhile, is adding new stretches to the Pan Borneo Highway, which could spur economic development in remote villages but carve into protected areas in the HoB, opening them up for resource extraction.

In particular, the roads could fast-track development of a new "oil palm belt" with disastrous consequences for the wildlife and indigenous peoples of Borneo, and for the global climate.

The perceived conflict between conservation and development, especially in mega-diverse developing countries like Indonesia and Malaysia, is nothing new, especially as we grapple with meeting the aspirations of the UN 2030 Development Agenda.

But, we have to achieve socio-economic development while protecting our biodiversity, bearing in mind, too, those pandemics, including our current Covid-19 health and economic disasters, are linked to the destruction of natural

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All too often conservation, specifically protected areas, has wrongly been considered at odds with economic growth and sustainable development. However, there is now a growing body of work that highlights a correlation between expanded, well-managed conservation and sustainable economic development ...

habitats.

All too often conservation, specifically protected areas, has wrongly been considered at odds with economic growth and sustainable development. However, there is now a growing body of work that highlights a correlation between expanded, well-managed conservation and sustainable economic development, both in terms of gross domestic product and ecosystems services, as well as non-

monetary benefits such as cultural, mental and physical wellbeing.

Last year, a report by more than 100 experts worldwide found that protecting 30 per cent of the world's land and ocean will provide greater benefits than the status quo in terms of financial outcomes and non-monetary measures, like ecosystem benefits. And these benefits outweigh the costs by a factor of at least 5 to 1.

And this year, Cambridge University economist Partha Dasgupta made the most compelling case yet for treating natural capital as an economic asset, as was done for human capital.

With this in mind, we warmly welcome the statement by Energy and Natural Resources Minister Datuk Seri Takiyuddin Hassan at his first press conference on Sept 1 that the HoB will continue to protect forest ecosystems and biodiversity.

We owe it to ourselves to make sure that happens.



Overcoming obstacles to rebuild public trust in science

24 Aug 2021



Key takeaway points include: science cannot benefit the public without public trust.

IN February, with Covid-19 in full rage, Sudip Parikh, chief executive officer of the American Association for the Advancement of Science (AAAS), published highly insightful thoughts on public trust in science.

Differences in public opinion on science-related issues, he wrote, "often align with educational and ideological differences" and exist primarily in areas of applied science, that is, technologies that affect people directly, such as vaccines, genetically modified food, renewable energy and artificial intelligence.

"When the history of our current moment is written, science will be central to the story.

"In the crucible of 2020, did science rebuild the societal trust needed to defeat the coronavirus?

"Or did a break in trust lead to a lingering pandemic that foreshadowed future failures to solve the coming crises of climate change, food and water insecurity, and economic stagnation?

"Historians will consider what led to this pivotal moment in the relationship of science and society and how it was resolved."

Today, mistrust of science is also being accompanied by a massive infodemic of misinformation, "making it difficult for people to trust in science and to find trustworthy sources of scientific information".

Interest in trust in science issues is building regionally too, highlighted by a webinar last month, "Rebuilding Public Trust in Science", convened by the Southeast Asia Science Advice Network (SEA-SAN), and co-organised by International Network for Government Science



Today, mistrust of science is also being accompanied by a massive infodemic of misinformation, "making it difficult for people to trust in science and to find trustworthy sources of scientific information". - File pic

Advice (INGSA)-Asia Regional Chapter.

Regional experts in science governance, communication, health policy and social science took part.

Key takeaway points include: science cannot benefit the public without public trust. The development and delivery of Covid-19 vaccines to market in record time, for example, have no meaning and purpose if the public does not trust the science and is unwilling to take them. There are several keys to promoting public trust in science. Scientists must ensure that information being communicated is factually correct, transparent and clear — avoid jargon and use simple-to-understand language.

News media plays an important role. Caution must be taken to avoid simplification at the expense of accuracy.

Scientists should be trained and encouraged to collaborate with news outlets.

Opinion leaders, educators, religious leaders, social media and other influencers can promote public trust in science and adherence to health protocols.

Community and religious leaders, especially in rural Southeast Asia, have proven to be effective communicators in the context of Covid-19, overcoming strong cultural habits that can be hard to break.

Scientists should be innovative to engage with the public and build public trust.

Social media platforms such as TikTok provide unique micro learning environments with immense potential for rapid science communication.

The webinar was one of the first in a series organised by SEA-SAN to examine issues around Covid-19 and the new normal, including how science-based evidence is being applied to policymaking.

It was an early success for SEA-SAN, a new INGSa initiative to structure and strengthen direct evidence-to-policymaking pathways in the region.

As Dr Parikh of the AAAS noted,

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Humanity's greatest challenges — including pandemics, climate change, biodiversity loss and plastic pollution — are all inter-related and can be effectively mitigated only through greater and long-term integration of science advice in the decision-making process.

Covid-19 is only one of many battles that need to be fought with solid scientific knowledge and evidence.

Humanity's greatest challenges — including pandemics, climate change, biodiversity loss and plastic pollution — are all inter-related and can be effectively mitigated only through greater and long-term integration of science advice in the decision-making process.

Clearly trust in

science by the public and policy makers is fundamental to the transformative changes scientists prescribe, and to shifting the all-too-frequent "react-and-cure" decision-making approach to one of "anticipate and prevent".

Dr Parikh said majorities of people around the world agree that "science and technology make our lives better, and they trust scientists and researchers to make important discoveries that help solve problems".

To build on this foundation, he said, scientists must remember their responsibility "not just to our research and careers, but also to the public that we serve.

"The fruits of our labour are meant to be shared broadly with our communities, not left in labs.

"The only way to build trust is to show members of the public that we are of them and for them, not separate from them."



No Vaccine For Climate Change

16 Aug 2021

"It is unequivocal and indisputable that humans are warming the planet."

THE latest report by the Intergovernmental Panel on Climate Change (IPCC) is perhaps the most damning yet with United Nations Secretary-General Antonio Guterres calling the message a "code red for humanity".

It warns of increasingly extreme heatwaves, droughts and flooding, and foresees a key limit (average global temperatures 1.5° Celsius higher than pre-industrial times) being broken in just over a decade.

It is the first major review of climate change science since 2013, released less than three months before a key climate summit in Glasgow known as COP26.

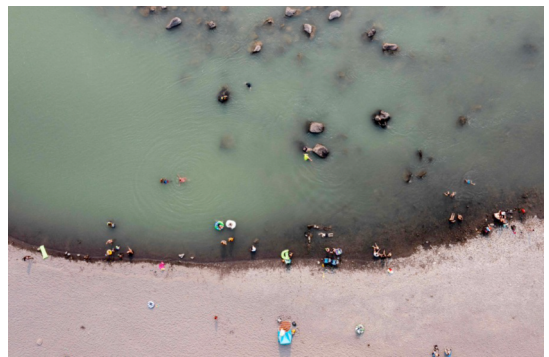
Professor Ed Hawkins of the United Kingdom's University of Reading, a report author, said: "It is unequivocal and indisputable that humans are warming the planet."

The authors say that since 1970, global surface temperatures have risen faster than in any other 50-year period over the past 2,000 years. This warming is "already affecting many weather and climate extremes in every region across the globe".

Whether they're heatwaves, recently experienced in Greece and western North America, or floods in Germany and China, "their attribution to human influence has strengthened" over the past decade.

One key aspect of the report is the expected rate of temperature rise and what it means for the safety of humanity. Almost every nation on Earth signed up to the goals of the Paris climate agreement in 2015.

It aims to keep the rise in global temperatures well below 2°C this century and to pursue efforts to keep it under 1.5°C.



As abnormally hot weather lingers in the Pacific Northwest, residents of Portland, Oregon take to the banks of the Sandy River in an attempt to cool off. -AFP pic

The report says, under all the emissions scenarios considered by the scientists, both targets will be broken this century unless huge cuts in carbon take place.

While this report is more confident about the downsides to warming, scientists are more hopeful that if we can cut global emissions in half by 2030 and reach net zero by the middle of this century, we can possibly reverse the rise in temperatures.

Reaching net zero involves using clean technology to reduce greenhouse gas emissions as much as possible, then burying any remaining release using carbon capture and storage or absorbing them by planting trees.

Professor Fredolin Tangang, a fellow of the Academy of Sciences Malaysia (ASM) and a leading scientist involved in the preparation of the IPCC report, warned that Malaysia and other Southeast Asian countries would be impacted more by more droughts, floods and other weather extremes if the world fails to make deep cuts to CO2 emissions and warming continues beyond the 1.5°C and 2°C targets.

Fredolin, a former vice-chair of IPCC Working Group I, warns that Malaysia must give equal emphasis to climate change mitigation and adaptation measures and establish our National Adaptation Plan.

ASM fellow Professor Joy Jacqueline Pereira, now vice-chair of the IPCC's Working Group 2 on Impacts, Adaptation and Vulnerability, calls the extreme weather events being witnessed widely worldwide represent "the new norm".

"Even the most optimistic scenario of the IPCC WGI Report indicates that we will fail to limit global warming to 1.5°C. We could exceed 1.5°C as early as in the next 20 years of our lifetime.

"Malaysia has recently updated the Nationally Determined Contributions to unconditionally reduce the intensity of greenhouse gas (GHG) emissions by 45 per cent based on gross domestic product by 2030."

"However, there is still hope to make that breach temporary through drastic actions that compel additional and more ambitious emission reduction."

Joy said Malaysia faced two challenges: "We need to adapt to a 1.5°C world to secure lives and livelihoods from extreme weather events and other negative impacts unique to the tropics.

"We also need to secure our nation's

capacity to generate future income and avoid stranded assets in the coal, oil and gas sectors.

"Malaysia has recently updated the Nationally Determined Contributions to unconditionally reduce the intensity of greenhouse gas (GHG) emissions by 45 per cent based on gross domestic product by 2030."

"While this amount is insignificant in the global context, it does give the country a moral ground to demand for deeper cuts from all high GHG-emitting countries, to avoid the worst impacts of a 1.5°C or warmer world."

"Unlike Covid-19, there is no vaccine for climate change," Joy observed.



Biodiversity loss and climate change must be treated in parallel



A consensus has grown that the two should be treated in parallel.

THE challenges created by the Covid-19 pandemic must not obscure the long-lasting threats posed by climate change to our social well-being, economic development and global health.

That was the reassuring message recently given by Prime Minister Tan Sri Muhyiddin Yassin, who expressed his vision on the climate crisis at the virtual launch of the International Greentech and Eco Products Exhibition and Conference Malaysia (IGEM) 2021.

Muhyiddin said the government would continue to adopt a "whole-of-nation" approach to ensure that its policies are well defined and conducive to sustainable economic development.

"It is crucial that we stay agile by engaging all industry players and stakeholders to better deliver planetary health in the long run."

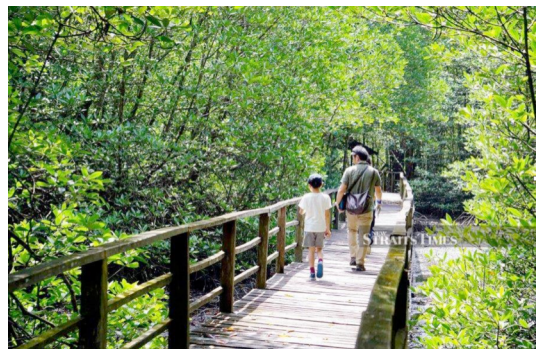
He added that it was time for industries, businesses and stakeholders to prepare for the post-pandemic socio-economic transition.

He said Malaysia has put in place several initiatives to ensure sustainable development, including the National Green Technology Policy in 2009.

Muhyiddin noted that the Malaysian Climate Change Action Council, which was created in April, was aimed at centralising and charting the direction of climate policies and actions across federal and state governments.

This year's IGEM theme — Redefining Sustainability — would focus on climate and green technology.

"We need to find ways collectively to pursue economic and social well-being in an environmentally friendly manner," he said.



Malaysia has put in place several initiatives to ensure sustainable development, including the National Green Technology Policy in 2009. - NSTP file pic

He added that "this is also an opportunity for government institutions to reassess their strategies to revive economies, preserve the environment and bring social stability to climate challenges."

His emphasis on climate was refreshing, but led some observers to lament that the ongoing, highly linked catastrophe of biodiversity loss wasn't mentioned.

This disconnect manifested also in the form of different ministries dealing with twin environmental issues: the Water and Environment Ministry addresses climate change, while biodiversity falls under the purview of the Energy and Natural Resources Ministry.

For a long time, the two inter-related issues have been treated in a siloed manner on the global front too, in the form of separate United Nations treaties signed in 1992: the Convention on Biological Diversity and the Framework Convention on Climate Change.

A consensus has grown that the two should be treated in parallel.

Two months ago, scientists from the Intergovernmental

Science-Policy Platform on Biodiversity and Ecosystem Services and the Intergovernmental Panel on Climate Change released an unprecedented joint report.

It stated: "The destruction of forests and other ecosystems undermines nature's ability to regulate greenhouse gases in the atmosphere and protect against extreme weather impacts — accelerating climate change and increasing vulnerability to it. The rapid vanishing of carbon-trapping mangroves and seagrasses, for example, both prevents carbon storage and exposes coastlines to storm surges and erosion." The report called for governments to enact policies and nature-based solutions to address both issues.

"For far too long, policymakers tended to see climate change and biodiversity loss as separate issues, so policy responses have been siloed," said report co-author Pamela McElwee, an ecologist at Rutgers University.

"Our report points out that biodiversity loss has that similar effect on human wellbeing."

In the United Kingdom last month, G7

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According to experts, setting aside 30 per cent of the Earth is the minimum needed to maintain habitats under a changing climate. This is not to say that protected areas are off limits to humans.

leaders recognised climate change as a key driver of biodiversity loss, and that protecting, conserving and restoring biodiversity was crucial to addressing climate change.

They also embraced the goal of protecting at least 30 per cent of global land and 30 per cent of the global oceans by 2030, with domestic targets set according to national circumstances and approaches.

According to experts, setting aside 30 per cent of the Earth is the minimum needed to maintain habitats under a changing climate.

This is not to say that protected areas are off limits to humans.

These areas today are increasingly diverse.

They include not just strictly protected areas, but community conservation areas, also known as "Other Effective Area-based Conservation Measures" set up by local communities, and sustainable-use reserves which often allow a broad expanse of human activities under certain regulations.

Notwithstanding the political conundrum that we are currently mired in today, our leaders must not lose sight of the twin existential threats facing us: biodiversity loss and climate change.

In the words of one of Malay-sia's foremost negotiators on climate change, Dr Gary Theseira: "Without biodiversity conservation, any reference to nature-based solutions to address climate change will have no credibility whatsoever."



Mega UN Meetings May Herald 'Super' Year For Nature

30 Dec 2020

The Covid-19 pandemic had upended these critical meetings originally scheduled for fall, 2020.

TWO United Nations (UN) mega meetings on biodiversity and climate change next year are expected to set new targets and reaffirm old pledges.

The UN Framework Convention on Climate Change has scheduled its 26th Conference of Parties (COP26) in Glasgow, the United Kingdom, a summit that will serve as a de facto deadline for countries to increase their 2030 goals under the Paris Climate Agreement.

Meanwhile, talks are underway on revised global targets under the Convention on Biological Diversity (CBD), scheduled for agreement in Kunming, China, at the 15th meeting of the convention's member nations (COP15).

The Covid-19 pandemic had upended these critical meetings originally scheduled for fall, 2020. Notwithstanding those delays, towards the end of this year, we saw many activities that help prepare a strong foundation for progress next year.

Between the UN General Assembly (UNGA) in September and the fifth anniversary of the Paris Climate Agreement on Dec 12, significant new commitments to climate action were made by high-emitting countries like China and from leading subnational actors like California.

United States President-elect Joe Biden has committed to rejoining the Paris Climate Agreement and restoring American climate and environmental leadership. In the nature arena, the UN Summit on Biodiversity, on Sept 30, underlined the need to establish a successful and ambitious Post-2020 Global Biodiversity Framework at the CBD's COP15.



Courtesy handout picture taken on November 12, 2019 and recently released by Venezuelan researcher and documentary maker Jose Manuel Romero for its first publication showing a view of the Humboldt Glacier partially covered with snow, at the National Park Sierra Nevada of Merida, Merida State, in the Andes Mountains in Venezuela.

The UN Framework Convention on Climate Change has scheduled its 26th Conference of Parties (COP26) in Glasgow, the United Kingdom, a summit that will serve as a de facto deadline for countries to increase their 2030 goals under the Paris Climate Agreement. (Photo by Jose Manuel Romero / Jose Manuel Romero / AFP)

Like the Paris accord, such an agreement will contribute to the 2030 Agenda for Sustainable Development and put the global community closer to realising its agreed Vision for Biodiversity, "Living in harmony with nature", by 2050.

During the virtual summit, leaders expressed concern that while many of the 60 elements within the 20 Aichi Biodiversity Targets set in 2010 were achieved, no target was fully met worldwide by this year's deadline, with millions of hectares of forest lost since the decadal targets were agreed, and a million species now facing extinction.

In the last 50 years, vertebrate

populations have declined by more than two thirds. To continue is to lose not only natural riches, but also security of food and water supplies, livelihoods and our ability to fight diseases and face extreme events.

Summit participants noted that more than half of the world's gross domestic product — US\$44 trillion — depends on nature. According to the World Economic Forum, "biodiversity loss and ecosystem collapse" ranks among the top five threats facing the world today.

UNGA president Volkan Bozkir called on member states to build political momentum for a strong new framework under the CBD.

Kunming, he said, must do for biodiversity what Paris did for climate change in 2015, elevating discourse on the subject to mainstream society and placing it firmly on the political agenda.

Many summit participants pointed to the Leaders' Pledge for Nature, signed to date by 92 countries and the European Union, as a promising sign of gathering momentum for an ambitious post-2020 global biodiversity framework.

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Covid-19, like Zika, Ebola and the human immunodeficiency virus, is just the latest in a series of infectious diseases that originate from animal populations under environmental pressure. Experts say 60 per cent of such illnesses originate this way.

Signatories commit their nation to a transition to sustainable production and consumption, mainstreaming biodiversity, ending environmental crimes and strengthening implementation. The High Ambition Coalition, led by Costa Rica and France, called for the protection of 30 per cent of the planet by 2030, with a similar target for oceans advocated by the Global Oceans Alliance.

However, the Leaders' Pledge for Nature is missing the signatures of leaders from megadiverse countries, including Australia, the US, China, Brazil, India and Asean members. Some suggested this is due to the pandemic, but it may also be because the issue remains a hidden crisis.

Its direct and irrefutable links to the pandemic, with stark warnings of more to come more frequently, are not yet widely recognised or appreciated. Covid-19, like Zika, Ebola and the human immunodeficiency virus, is just the latest in a series of infectious diseases that originate from animal populations under environmental pressure. Experts say 60 per cent of such illnesses originate this way.

After all we have been through this year, we cannot allow another pandemic to happen before accepting the warnings and activating the political will required to create adequate, science-based protections of nature and avert a comparable catastrophe.

That's why, with the two UN meetings next year, it is hoped they will herald a "super" year for nature.



Focus On Eco-Tourism, Biodiversity Conservation

25 Dec 2020

The 10-year National Tourism Policy aims to regenerate one of our most important industries, and the one worst hit by the Covid-19 pandemic.

It was welcome news this week when Prime Minister Tan Sri Muhyiddin Yassin officiated at the virtual launch of the 10-year National Tourism Policy, which aims to regenerate one of our most important industries and the one worst hit by the Covid-19 pandemic.

Tourism, Arts and Culture Minister Datuk Seri Nancy Shukri hopes that through the policy, focus will be given to sustainable tourism and increased revenue.

With one in four jobs in Malaysia related to tourism, the prime minister noted, and facing losses of more than RM100 billion, the policy offers the industry much needed help.

"The government is aware and sensitive to the big hurdles faced by industry players," he said, adding that the United Nations World Tourism Organisation predicts the recovery of the global tourism sector in about two to four years.

This is a long time and will definitely be a big challenge to those involved directly and indirectly.

The prime minister underlined the staggering size of our tourism sector — the third biggest contributor to Malaysia's gross domestic product (GDP), RM240.2 billion, or 15.9 per cent of GDP, eclipsed only by manufacturing and commodities.

The sector employs 3.6 million people, or 23.6 per cent of our total labour force.

"At the initial stage, we can regenerate the tourism industry by activating domestic tourism as the borders are still closed and return the confidence of our people to visit domestic tourism sites," said Muhyiddin.

The National Tourism Policy 2020-2030, he said, has six main strategic thrusts:



We must realise that resources and assets, notably our rich biodiversity, are the basis of the growing eco-tourism sub-sector in Malaysia.

FILE PIC

administration transformation; inclusive tourism investment zones; consolidating tourism digitalisation; enhancing demand sophistication; reinforcing commitment to sustainable and responsible tourism; and, upgrading skills and human capital in all tourism sub-sectors.

Elaborating on the digitalisation of the sector, the prime minister noted the importance of digital technology in achieving the policy's objective, strengthening the industry network and creating opportunities for innovative tourism sub-sectors, which in turn can create business and job opportunities.

As well, "under this policy, Malaysia will set up inclusive tourism investment zones to increase public and private cooperation as well as attract more local and foreign investors".

Of special note to me were the prime minister's comments on sustainable tourism. As a responsible government, he said, it was important to balance development, protection and preservation of the country's treasures — our environment, culture and heritage.

"I believe the preservation of resources can spur new economic growth and create job opportunities. This policy is part of our efforts in Malaysia's commitment to

the United Nation's Sustainable Development Goals," said Muhyiddin.

Nancy also hopes that this policy will make Malaysia the preferred eco-tourism destination of the world based on the natural attractions Malaysia has to offer.

While technologies such as those discussed in the context of the Fourth Industrial Revolution will be important, we must be savvy too to realise that resources and assets — notably our rich biodiversity — are the basis of the growing eco-tourism sub-sector in Malaysia, attracting visitors to delight in the surroundings of our natural wonders.

Well-managed national parks, biological reserves and other such areas create benefits beyond financial rewards. Protected natural areas raise our awareness of environmental values and contribute to our health and wellbeing in countless other ways.

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A fine example to emulate is Costa Rica, where eco-tourism is a major economic engine. The country is among many developing nations that look to meet the growing demand for this popular trend of travel.

A fine example to emulate is Costa Rica, where eco-tourism is a major economic engine. The country is among many developing nations that look to meet the growing demand for this popular trend of travel.

The National University of Costa Rica estimates that eco-tourism revenues rose 48 per cent between 2009 and 2016.

It is no coincidence then that Costa Rica is co-chairing

with France and the United Kingdom the High Ambition Coalition (HAC) for Nature and People, an intergovernmental group of more than 45 countries, championing a global deal to halt the accelerating loss of species and protect vital ecosystems — the source of economic security.

The HAC is supporting the Campaign for Nature's call to protect at least 30 per cent of lands and oceans by 2030 to secure the future of all life on Earth.

As one of the 12 mega diverse countries of the world, it is imperative that Malaysia considers being a member of the HAC.

Let us make sure that we are known as a country that not just professes, but practises sustainable development, i.e. a nation that meets our socio-economic priorities without compromising the ability of future generations to do likewise by undermining our nation's priceless environment.



Our Debt To UK Naturalists, Traditional Knowledge

19 Dec 2020

The wonder of Malaysia's flora and fauna is the multibillion-year product of natural selection, a theory attributed to naturalist Charles Darwin.

THE importance of nature and nature-based solutions to overcome biodiversity loss and climate change has never been higher on our global agenda. And Malaysia's treasure trove of natural assets is second to none.

British High Commissioner, Charles Hay, who has been here for nearly two years and speaks Malay, is very well-versed in our natural attractions. Last week, he launched the Malaysian Nature Tours programme in the context of the 2021 "Super Year for Biodiversity and Climate Change", during which major world summits will be held on both topics.

Malaysia's natural endowments include our vast rainforests and pristine marine areas, rich in plant and animal species, some found nowhere else on Earth. We are one of the world's 12 most megadiverse countries.

The wonder of Malaysia's flora and fauna is the multibillion-year product of natural selection, a theory attributed to naturalist Charles Darwin. However, what most people do not know is that another British naturalist, Alfred Russel Wallace, also deserves credit for the theory.

Born in Wales in 1823, Wallace has been described as a naturalist, a geographer and a social critic. Like Darwin, Wallace travelled the world, observing and collecting samples of species. He travelled to Brazil and the Malay Archipelago that make up modern-day Indonesia, Malaysia and the Philippines, amassing thousands of specimens of insects, birds and other animals.

After four years in Brazil, Wallace fell ill and started back to England. But 26 days into the voyage, his ship caught fire and sank in the Atlantic ocean. Through the greatest of luck,



A file photo showing a forest reserve in Kedah. -- NSTP File Pix (For illustration purposes only)

Wallace, his team and the ship's crew were picked up by a passing ship after 10 days adrift. But, all of Wallace's notes and samples were lost at sea.

Despite this setback, Wallace set off on another Southeast Asia voyage in 1854 to collect more samples. By 1855, his observations led him to the conclusion that living things change over long periods of time — they evolve. However, he could not explain how or why. Then, in 1858, still in Southeast Asia, he fell ill again. Wracked with fever, he suffered hallucinations, but when the fever broke, the answer came to him — species evolve by adapting to their environment.

Wallace knew Darwin was working on similar research. In 1858, he wrote to Darwin, outlining his ideas. They collaborated on a scientific paper discussing their evidence for natural selection and evolution.

In 1859, Darwin published *On the Origin of Species*, his theory on natural selection for a broader audience. It became known as Darwin's theory. Sadly, Wallace's considerable contributions to the study of evolution have not achieved the same historic acclaim.

In Malaysia, it is a point of pride that our region has long been, and continues to be, of intense interest for naturalists' and other scientists' fieldwork.

It is no coincidence that one of this year's recipients of the prestigious Merdeka Award is the South East Asia Rainforest Research Partnership (SEARRP), established by the Royal Society in 1985, based in the Danum Valley, Sabah. SEARRP facilitates world-class scientific research that addresses major environmental issues facing the tropics: plantation development, habitat restoration and climate change.

Over the last 30 years, SEARRP scientists have vastly improved our understanding of rainforests, their conservation, restoration and sustainable management. Their mission also includes training and mentoring the next generation of scientists and conservation leaders, informing policy and best practices at

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Over the last 30 years, South East Asia Rainforest Research Partnership (SEARRP) scientists have vastly improved our understanding of rainforests, their conservation, restoration and sustainable management.

local, regional and global levels.

While appreciating the British scientists' contributions to the our natural history, one must not forget those of the Malays and their many original scientific insights. This is well documented in a classic 1935 book by I.H. Burkill, *Dictionary of the economic products of the Malay Peninsula*, widely acknowledged as "a work of great

scholarship by one of the world's leading ethnobotanists" and "a masterpiece of condensation of a vast fund of knowledge and experience".

But this writer could not agree more with the astute and legendary Royal Professor Ungku Abdul Aziz Ungku Abdul Hamid (whose recent passing we greatly mourn), who noted that much of Burkill's information must come from traditional knowledge kept by *kampung* and indigenous people.

It is gratifying to see that today, in our quest to conserve biodiversity and use its components in a sustainable manner, appreciation of indigenous knowledge and leadership is being acknowledged in an ever-expanding range of ways and forums.



The Benefits In Shifting To A Nature-Positive Economy

9 Dec 2020

UN Secretary-General Antonio Guterres warned that nature always strikes back "with gathering force and fury".

In strikingly blunt remarks last week, United Nations Secretary-General Antonio Guterres said humans were waging a "suicidal war" on planet Earth. He warned that unless efforts were stepped up, the fires, floods and cyclones causing widespread problems in recent times will become the "new normal".

In a BBC interview, he warned that nature always strikes back "with gathering force and fury", and called on nations to coalesce around a goal of reducing greenhouse gas emissions to net zero.

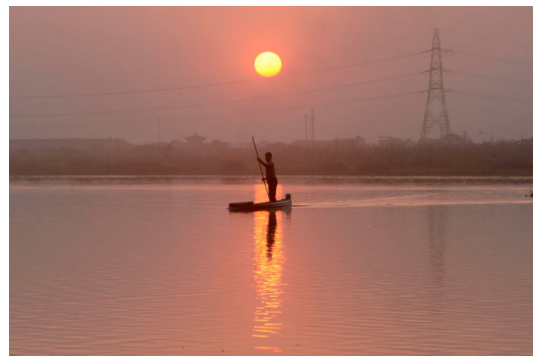
He also underscored the biodiversity crisis, often called the flip side of the climate crisis coin. Indeed, the need to address the climate and biodiversity crises with an integrated approach was underlined in a recent report by the UN Environment Programme's World Conservation Monitoring Centre (UNEP-WCMC).

That report also detailed why contributions of nature or nature-based solutions (NbS) deserve a more central place in policy-making to reverse climate change and biodiversity loss.

Caring for ecosystems represents an opportunity for mutual benefits from carbon sequestration and storage, biodiversity conservation and sustainable use.

Co-benefits are most likely to be achieved where integrated and holistic approaches to biodiversity loss and climate change are implemented.

Many activities that are undertaken with the primary aim of meeting the objectives of biodiversity conservation have significant potential to contribute to the mitigation of climate change.



A fisherman rows a boat at the Fulbari wetland area on the outskirts of Siliguri. (Photo by DIPTENDU DUTTA / AFP)

A year from now, the world will have two major opportunities for pivotal decision-making in this regard:

The first is a meeting of the UN Convention on Biological Diversity (CBD, COP15) in Kunming, China, where parties will be asked to formally adopt a post-2020 Global Biodiversity Framework — something akin to the 2015 Paris climate agreement.

The second is a meeting of the UN Framework Convention on Climate Change (UNFCCC, COP26), in Glasgow, the United Kingdom, where parties will focus on five key areas identified for particular attention on the climate change front, one of which is NbS.

Both were delayed by the Covid-19 pandemic — a mixed blessing, as they will now take place with a strengthened understanding and appreciation of the fundamental links between the health of the natural world, human health and economic wellbeing.

Positive outcomes at COP15 and COP26 can speed up the action and investments needed to generate clean jobs and potentially unlock

trillions of dollars in new business opportunities.

The UNEP-WCMC report also identified where global action to achieve post-2020 biodiversity conservation goals could deliver the greatest contribution towards mitigating climate change.

It showed that the strategic choice of areas to be managed for conservation being increased to 30 per cent of land globally could prevent more than 500 gigatonnes of carbon from entering the atmosphere, further amplifying the greenhouse effect.

According to the report, taking account of biodiversity and carbon together can secure 95 per cent of the biodiversity benefits and nearly 80 per cent of the carbon stock that would be obtained by priorities that were based on either value alone.

It cites examples of the most important regions in which we should prioritise nature-based climate solutions, which include Brazil's Atlantic forest and Central America, large parts of the Mediterranean, Southeast Asia, the West

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According to a World Economic Forum report, *The Future of Nature and Business* which was released last summer, transitioning towards a sustainable economy could create 395 million jobs by 2030 and generate US\$10.1 trillion in business opportunities.

African coast, Papua New Guinea, and the East Australian rainforest.

Other areas with vast amounts of carbon include the lowlands south of Hudson Bay in Canada, the Amazon rainforest and the Congo basin.

The report highlighted the usefulness of novel multi-criteria optimisation tools to guide decisions on where to implement NbS in order to maximise benefits for the two objectives.

Such information

can make a vital contribution to helping decision makers move from aspirations to ambitious and effective policies and concerted efforts to meet international commitments.

It can also inform the inclusive decision-making processes involving indigenous peoples, local communities and other stakeholders that are crucial to operationalising effective NbS.

It is obvious that there are potentially huge economic gains to be made when shifting towards a nature-positive economy.

According to a World Economic Forum report, *The Future of Nature and Business* which was released last summer, transitioning towards a sustainable economy could create 395 million jobs by 2030 and generate US\$10.1 trillion in business opportunities.

Guterres's warning should be seriously heeded and these numbers carefully scrutinised by political leaders and policymakers looking to safeguard our long- term future, and in the short term to create new jobs and sources of income in challenging times.



Asean-SAN Will Make Science Central To Policymaking

30 Nov 2020

According to IPBES, Covid-19 is at least the sixth global health pandemic since the Great Influenza Pandemic of 1918.

THROUGHOUT the Covid-19 crisis, governments worldwide have appropriately prioritised strong frontline pandemic response services, ensuring rapid access to help for those who contract the virus.

Months of isolation, physical distancing, limited social interaction and the wearing of face masks are all taking a toll yet to be fully realised. We await with concern the long-term personal and socio-economic effects of, for example, moving so many educational and business activities online.

Governments are scrambling to develop economic stimulus packages — wage subsidies, tax exemptions and even cash transfers. Combined with the reduction in economic growth, these will result in a massive debt increase, creating a different set of challenges for the future.

Meanwhile, the environment is often an afterthought. In fact, it should be a top priority.

According to a recent report from the Intergovernmental Platform on Biodiversity and Ecosystem Services, Covid-19 is at least the sixth global health pandemic since the Great Influenza Pandemic of 1918.

The emergence of Covid-19 has been entirely driven by human activities. And it is estimated that another 1.7 million currently 'undiscovered' viruses exist in mammals and birds, 850,000 of which could infect people.

According to lead author, Dr Peter Daszak, a disease ecologist who has spent years studying coronavirus transmission in China and Southeast Asia, emerging diseases such as swine flu, SARS, Ebola, and the Nipah virus (which devastated Malaysia in 1999) originate



The national flags of the various Association of Southeast Asian Nations (Asean) countries on display. -- File Pix

largely through land-use change and human encroachment on wildlife habitat.

Supported by 22 experts, the report says future pandemics "will emerge more often, spread more rapidly, do more damage to the world economy and kill more people than Covid-19 unless there is a transformative change in the global approach to dealing with infectious diseases". They warn that escaping "the era of pandemics" is possible but "requires a seismic shift in approach from reaction to prevention".

The report calls for "a high-level intergovernmental council on pandemic prevention to provide decision-makers with the best science and evidence on emerging diseases; predict high-risk areas; evaluate the economic impact of potential pandemics and to highlight research gaps".

Such a council could also coordinate the design of a global monitoring framework and facilitate the setting of mutually agreed international goals or targets, with clear benefits for people, animals and the environment.

The prototype of such a council may have already been established. By coincidence it was announced last week that an international task force under the ambit of The Lancet Covid-19 Commission was being formed. It is to be led

by Daszak and includes Academy of Sciences Malaysia's senior fellow, Prof Lam Sai Kit — a leader in emerging viral infections, who was also central to the discovery of the Nipah virus.

Indeed, could there be a more dramatic illustration of the importance of evidence-informed policymaking than the Covid-19 pandemic crisis, estimated to result in a global economic blow of up to US\$16 trillion by the end of next year?

It is a privilege, therefore, to announce that the International Network for Government Science Advice (Ingsa) is launching a new structure this week to facilitate senior-level scientific information sharing and collaboration within the Asean region.

The Asean Science Advice Network (Asean-SAN) will structure and strengthen direct evidence-to-policymaking pathways, particularly in areas related to the world's 17 United Nations-brokered Sustainable Development Goals.

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Ingsa was founded six years ago by some of the world's leading academics and practitioners in the emerging field of science advice to government.

Indonesia, Malaysia, the Philippines, Thailand and Vietnam are the five initial Asean-SAN members, which we hope to expand to all 10 Asean member states.

Ingsa was founded six years ago by some of the world's leading academics and practitioners in the emerging field of science advice to government. Malaysia and over 40 other countries from every world region, together with representatives of

key international organisations, proudly convened to inaugurate Ingsa in 2014 under the chairmanship of Sir Peter Gluckman, the then science adviser to New Zealand's prime minister.

Ingsa has proven to be a valuable platform promoting collaborative exchanges on policy, capacity building and research. Ingsa organises workshops and conferences while developing a growing catalogue of tools and guidance.

By enhancing the global science-policy interface, the network facilitates policy formation informed by science at every government level from sub-national to national and international.

Asean-SAN will focus on how scientific evidence is being used in Covid-19-related policymaking, for example, in areas of health, socioeconomics and the environment, and in the deployment of pandemic recovery efforts to meet the important goal of "building back better" and shaping a "new normal".



The World Needs A Treaty To Regulate Plastic Pollution

23 Nov 2020

Derived from fossil fuels, plastics emit greenhouse gases throughout their life cycles.

LAST week, the British High Commission in Kuala Lumpur convened a webinar on plastic pollution's contribution to climate change, part of a preliminary programme to next November's world climate summit in Glasgow (COP26), co-hosted by the United Kingdom and Italy.

The webinar began with a video message from British Prime Minister Boris Johnson, who days before had announced a 10-point national plan to reach net zero greenhouse emissions, including a ban on the sale of new petrol and diesel cars by 2030.

Ken O' Flaherty, the British COP26 Regional Ambassador for Asia-Pacific and South Asia, then outlined the UK's policy on marine litter and plastic waste.

Derived from fossil fuels, plastics emit greenhouse gases throughout their life cycles. From refining and manufacturing through post-use incineration, being sent to landfills and recycling, each stage produces significant greenhouse gases responsible for global warming.

Plastic is everywhere, from single-use cutlery, straws and water bottles to components in electronics, cars and spaceships. It does not biodegrade, which is both a great quality and a cause for concern because about 12 million tonnes of it ends up in our oceans every year, the equivalent of a full rubbish truck every minute, according to Greenpeace.

Plastics in the oceans originate from many sources — landfills, litterbugs, plastic microbeads in cosmetic products, and countless others. By some accounts, the oceans now contain 300 million tonnes of plastic, much of it pulverised to



By some accounts, the oceans now contain 300 million tonnes of plastic, much of it pulverised to an invisible scale. - AFP file pic, for illustration purposes only

an invisible scale. In a few decades, our oceans could contain more plastic than fish. We have been warned that plastic is now finding its way into our food.

In recent years, marine plastic pollution has been put on the international agenda.

The United Nations' Sustainable Development Goal 14.1 states the need "by 2025, (to) prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution".

In 2017, the United Nations Environment Assembly urged the adoption of a new comprehensive treaty, noting that the issue wasn't adequately covered in any of the 18 relevant international or 36 regional environmental agreements.

Last week, a UN working group met virtually to discuss the issue and more than two-thirds of UN member states, including the European Union, declared their openness to considering a new agreement akin to the Paris climate agreement or the Montreal protocol to prevent ozone depletion.

The International Union for the Conservation of Nature members this month adopted a resolution

calling for the world community to agree to a binding global agreement, supported by two million signatures on a public petition.

Hopefully the United States , a top world plastics producer that has stymied progress in recent years, will adopt a progressive stance under President-elect Joe Biden’s administration.

With about 1,300 manufacturers, Malaysia is an important global player in the plastic industry. In 2016, our exports totalled RM30 billion, with 2.26 million metric tonnes of resin used in plastics production.

Malaysia, however, is ranked eighth among countries on mismanagement of plastic waste. One study estimated that almost one million tonnes of plastic waste were mismanaged, 370,000 tonnes of which may have been washed into the oceans.

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Malaysia, however, is ranked eighth among countries on mismanagement of plastic waste. One study estimated that almost one million tonnes of plastic waste were mismanaged, 370,000 tonnes of which may have been washed into the oceans.

When China banned most plastic waste imports in 2018, Malaysia reportedly became an alternative destination for contaminated and mixed plastic waste that is difficult or even impossible to recycle.

To its credit, our government last January sent 150 shipping containers of plastic waste back to rich countries including the US, UK, France and Canada, insisting it won’t be the “garbage dump” of the world. It is precisely because of this type of

shenanigans that the world needs a global treaty to regulate plastic pollution management in a fair, transparent and equitable manner.

Besides returning illegal plastic waste imports, our Environment and Water Ministry launched a Roadmap to Zero Single-Use Plastic by 2030 and the Malaysia Sustainable Plastic Alliance is closing down illegal plastic recycling factories, and encouraging implementation of the Extended Producer Responsibility Policy.

Make no mistake, many plastics today are a valuable mainstay of modern life. But their environmental consequences — for our oceans, lands and atmosphere — must be addressed. It is gratifying to see the UK, where plastics had their humble origin in 1856, adopting a leading role.

Malaysia should be ready to play its role as a leading country in the global south.



Nurturing The Shoots Of Environmental Hope

15 Nov 2020



The Kuala Langat North Forest Reserve is home to many endangered animals like sun bears and flying squirrels.

ACTIONS speak louder than words. Three recent events have left this observer feeling more optimistic about the environment in this country.

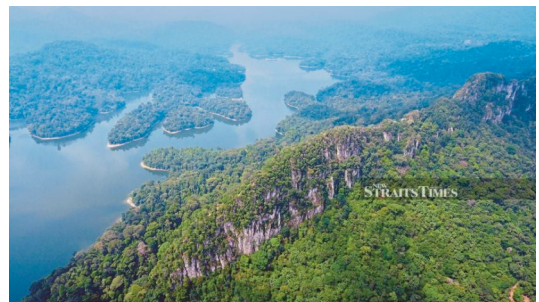
Firstly, the 2021 Budget. The finance minister last week listed a number of environment-friendly measures, including RM50 million to remove rubbish and waste from rivers; RM40 million to strengthen enforcement and monitoring; RM10 million for island waste management projects in Johor and Terengganu; RM400 million for the preservation of natural resources (the Tahap initiative); RM20 million to hire 500 former soldiers and police, as well as Orang Asli, to patrol forests; and a promise to build with the private sector an urban transformation centre in Lembah Pantai.

Secondly, Pakatan Harapan and Barisan Nasional assemblymen in the Selangor Legislative Assembly last week stood as one to vote to preserve forest reserves in Selangor, after the speaker called for a voice vote to consider that "any move to degazette forest reserves should only be done in consultation with residents, stakeholders and professionals".

A final decision will be made by the state executive council chaired by the menteri besar. The assembly had earlier been told the state government intended to degazette 2,400 hectares of forest reserve, with 150ha set aside for the Orang Asli community.

The Kuala Langat North Forest Reserve is home to many endangered animals like sun bears and flying squirrels.

Previously, Environment and Water Minister Datuk Seri Tuan Ibrahim Tuan Man had urged the Selangor government to preserve the



For environmentally conscious observers, this month brings encouraging signs of enlightenment dampened by disappointment. - NSTP file pic, for illustration purposes only

area to ensure environmental sustainability.

Third, (though not exactly recent), is the environment-friendly construction of the Rawang Bypass, with a 2.7km elevated section standing 58.2m above ground, Malaysia's tallest pillar structure.

The structure's curvy design is aimed at protecting and preserving the environmentally sensitive area below. The 108,000ha state park is rich in flora and fauna, including the world's 400 remaining Giam Kanching (*Hopea subalata*) trees.

The original design and construction methods would have caused the extensive felling of trees, cutting and filling of slopes, and disrupted the free flow of wildlife.

Vegetation loss would also cause an increase in surface run-off and future flash floods downstream.

After extensive study and discussion, it was decided that a viaduct solution would be used instead to minimise environmental disturbance.

The solution offered minimal, local cutting on slopes at two high points, necessary to reduce viaduct gradient, but wildlife can move

freely beneath the entirety of the structure.

On another note, last week saw the establishment of nine All Party Special Select Committees of Parliament.

They are on Basic Freedoms and Rights under the Constitution; Finance and Economy; Security; Agencies under the Prime Minister's Department; Agriculture and Domestic Trade; Infrastructure Development; Education; Health, Science and Innovation; and Women and Children Affairs and Social Development. While I agree with those who want to break down silos, it is disappointing not to see a special select committee dedicated to the environment.

The committee could consider how, for example, our Covid-19 socio-economic recovery stimulus packages ensure that we avoid destroying wildlife habitats and triggering the release of more deadly, economically crippling zoonotic diseases on humanity.

It might also consider how Malaysia can reassert herself in science diplomacy — how we could be the leading environmental voice of the region when we host the Asean Biodiversity Conference next year.

It might also consider how Malaysia can reassert herself in science diplomacy — how we could be the leading environmental voice of the region when we host the Asean Biodiversity Conference next year.

Or it could give consideration to a membership in the High Ambition Coalition (HAC) for Nature and People, an intergovernmental group championing a global deal to halt the accelerating loss of species, and to

protect vital ecosystems that are the source of our economic security.

The HAC will use a pair of UN meetings next year, one on climate change and one on biodiversity, to push for ambitious, science-driven global action to safeguard nature and humanity's future. It is also not too late for us to sign up for the Leaders' Pledge for Nature launched during the World Summit on Biodiversity this September.

There are 78 countries from all regions that have committed to reversing biodiversity loss by 2030. These leaders are sending a united signal to step up global ambition and encourage others to match their collective ambition for nature, climate and people with the scale of the crisis at hand.

So, for environmentally conscious observers, this month brought encouraging signs of enlightenment dampened by disappointment. We are gradually, surely making progress.



Decarbonising Malaysian Companies - Moving Towards Net Zero

9 Nov 2020

Petroleum Nasional Bhd president and group CEO made clear on Oct 28 its aspiration to achieve net zero carbon emissions by 2050.

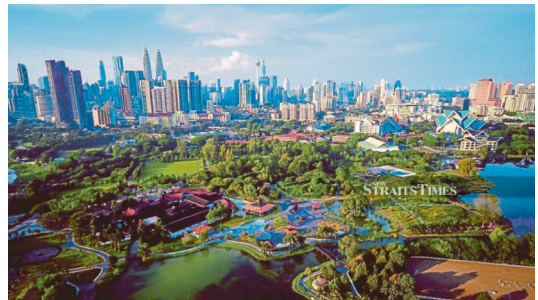
NET zero is a desperately needed global goal. It means minimising our atmospheric greenhouse gas emissions and fully absorbing emissions that cannot be avoided into forests, mangroves, and other carbon sinks, or through carbon capture and storage systems.

Petroleum Nasional Bhd president and group chief executive officer Tengku Muhammad Taufik made clear on Oct 28 its aspiration to achieve net zero carbon emissions by 2050. It follows similar welcome announcements earlier by Total (France), Repsol (Spain), BP (United Kingdom), and Shell (UK/Netherlands).

But, how can any oil and gas company make such a bold statement? The pledges are definitely good news even though, as is often the case, the devil is in the details. Definition of "net zero" depends on what types of emissions are counted.

The Greenhouse Gas Protocol of the World Business Council on Sustainable Development (WBCSD) sets out the following guidance: Scope 1 emissions: Direct emissions from sources owned or controlled by a firm; Scope 2: Indirect emissions related to the generation of energy purchased by the firm for its operations; Scope 3: All indirect emissions not included in Scope 2 that occur in the company's value chain, including both upstream and downstream emissions.

Oil and gas companies with net zero plans agree on fully cutting Scope 1 and 2 emissions, which is normally the easy part and normally accounts for on average less than 10 per cent of total emissions. The hard part is Scope 3 emissions. And for an oil and gas company, this must involve contributing to



While the energy transition is obviously well underway in some quarters, we need all businesses to get on the train. - NSTP file pic

reshaping mobility, transport as well as looking at industrial and domestic energy generation and consumption.

Not a trivial task! When companies embark on transitioning to net zero, an important starting point is to look into which business they are in. If they see themselves in the business of providing oil and gas products and services, for example, then net zero ambitions are likely out of reach.


However, if they start looking at themselves as an energy provider, then they are in a new game, and opportunities to decarbonise open up. In other words, they must reinvent themselves. The path to net zero — decarbonisation — is increasingly unavoidable for business. When to start? The sooner the better.

To avoid the most devastating impacts of climate change, we must limit average global warming to 1.5°C. We need to reduce energy-related CO2 emissions in the short-term. That means using the lowest carbon energy sources available today to manufacture our products, to heat, cool and light buildings, or to transport goods, people and services.

With proven technologies and low-

carbon fuels, business can already make significant headway in decarbonising the energy system. There is also value to shareholders in decarbonisation.

Data shows that the top 30 corporations that slashed carbon emissions from 2014 to 2018 saw their market capitalisation increase by 15 per cent from December 2017 to September this year.



Data shows that the top 30 corporations that slashed carbon emissions from 2014 to 2018 saw their market capitalisation increase by 15 per cent from December 2017 to September this year.

On the other hand, the top 30 companies that increased their carbon emissions from 2014 to 2018 saw their market capitalisation decrease by 12 per cent over the same period. Some 200 of the world's largest corporations, all members of the WBCSD, are committed to net zero emissions by 2050.

While the energy transition is obviously well underway in some quarters, we need all businesses to get on the

train.

We must educate companies on the options at their disposal. Most importantly, business must see that the energy transition brings opportunities on several fronts.

The success will certainly contribute to our goal to "build back better" in our Covid-19 recovery efforts while creating more resilient companies in the sustainable development era.



Key To Stem Biodiversity Loss, Pandemics And Climate Change

5 Nov 2020

While Covid-19 is an extreme situation, any one of up to 850,000 animal viruses could jump to humans.

CLIMATE change and biodiversity collapse represent a double crisis for our world. The threat is increasing and there is an urgent need to scale-up response efforts. Our immediate tendency is to look to technology for solutions.

But, we should not overlook nature. Sometimes natural solutions may be more cost-effective.

Over billions of years, Earth has developed a resilient balance that provides a breeding ground for solutions and a source of considerable innovation, which is largely unexploited.

Why? Is it because we innately mistrust nature and associate "wildness" with potential danger, rather than the benefits it can bestow?

As noted by Isabelle Autissier, president of World Wide Fund for Nature France: "Have we found anything better than earthworms to purify the soil? And yet, humans have neglected to realise this, or even worse, have destroyed these natural mechanisms."

The International Union for the Conservation of Nature defines nature-based solutions (NBS) as "actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits".

NBS have significant underutilised potential to help address climate change, food and water security, natural disasters, biodiversity loss, and human health.

Last week, the Intergovernmental Platform on Biodiversity and Ecosystem Services



Members of the public ride horses in Hyde Park, London on November 4, 2020. - Over billions of years, Earth has developed a resilient balance that provides a breeding ground for solutions and a source of considerable innovation, which is largely unexploited. - (Photo by Glyn KIRK / AFP)

issued a report citing estimates that Covid-19 will have racked up an economic cost of US\$8 to US\$16 trillion by next July.

While Covid-19 is an extreme situation, any one of up to 850,000 animal viruses could jump to humans. And primarily due to land use change, zoonotic disease outbreaks are more frequent, producing annual economic impacts of about US\$1 trillion, the report said.

Steps to prevent future zoonotic disease outbreaks, meanwhile, — dealing with deforestation, the wildlife trade and better surveillance — would cost only a small fraction of that annual bill — about US\$22 to US\$31 billion.

And that sum falls even further — to between US\$18 and US\$27 billion — if the benefits of reduced deforestation on carbon sequestration are calculated.

Research has shown that nature-based solutions can provide over one-third of the cost-effective climate mitigation needed between now and 2030 to stabilise warming to below 2°C, achieving nature's mitigation potential of 10 to 12 gigatons of carbon dioxide

(CO2) per year.

Adequate investment in NBS will help reduce financial consequences of climate change, and contribute to the creation of new jobs to livelihood resilience, to reducing people's poverty and other Sustainable Development Goals.

Nature-based solutions are effective, long-term, cost-efficient and globally scalable. And they aren't confined to wilderness and rural settings; they can be applied in urban settings to provide benefits that range from improving public health to reducing energy costs and pollution to regenerating urban spaces.

Today, nature-based solutions receive only a small share of climate finance. We need to maximise nature's contribution to addressing the problems of an increasingly crowded and needful world. There are exemplary initiatives ready for extension and intensification.

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Today, nature-based solutions receive only a small share of climate finance. We need to maximise nature's contribution to addressing the problems of an increasingly crowded and needful world. There are exemplary initiatives ready for extension and intensification.

Indeed, Malaysia has some success stories to share. Last January, George Town took first place at the Climathon Global Awards 2020 with a nature-based climate adaptation plan by the Penang Island City Council and Think City, an urban rejuvenation organisation.

It involves planting climate resilient species of trees, introducing upstream retention to prevent flooding, and raising

awareness through social programmes. It will be implemented with state and federal agencies, community groups and scientific institutions.

As articulated during the Climate Action Summit in 2019: "World leaders should do all within their power to ensure that nature's transformative potential is fully valued and realised in decision-making, especially in relation to climate action.

"This includes governance processes that are designed to stop the destruction of nature and the damage caused by investments or incentives that contribute to environmental harm. There is a need to recognise that NBS have an enormous potential which can be effectively realised through international and regional cooperation among States and with the participation and inclusion of all stakeholders, including youth, women, indigenous people and local communities."



We Know Why Climate Change Action Is Needed, We Just Need To Do It

27 Oct 2020

A 2018 study found that 83 per cent of wild mammals, marine mammals (80 per cent), plants (50 per cent) and fish (15 per cent) have vanished.

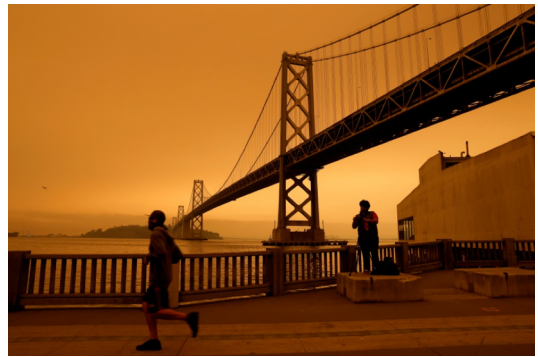
It is encouraging to note that during last month's virtual United Nations General Assembly meeting, some semblance of importance was accorded to biodiversity loss and climate change in the "Leaders Pledge for Nature". Biodiversity loss and climate change are two sides of the same coin, and we must develop solutions together to help us cope with their impacts.

There has been a surprisingly muted response so far to our dawning realisation that the Earth is moving to the brink of the sixth mass extinction episode in its five-billion-year history — an event defined as the loss of roughly 70 per cent of plant and animal species in a relatively short time.

The crucial difference is that this one is being caused by a single species — ours. By some estimates, plant and animal species are already being lost hundreds of times faster than the natural rate experienced over the past 10 million years.

A 2018 study found that 83 per cent of wild mammals, marine mammals (80 per cent), plants (50 per cent) and fish (15 per cent) have vanished. Today, livestock comprise 60 per cent of the biomass of all mammals on the planet, followed by humans (36 per cent) and wild mammals (four per cent). As for birds, only 30 per cent are considered wild animals.

Driving this crisis: humans converting land to expand farming, to harvest timber, for development or some other human use, compounded by hunting, overfishing, the pollution of air, soil and water, and the introduction of invasive species through shipping and other vectors.



There has been a surprisingly muted response so far to our dawning realisation that the Earth is moving to the brink of the sixth mass extinction episode in its five-billion-year history — an event defined as the loss of roughly 70 per cent of plant and animal species in a relatively short time. - EPA/JOHN G. MABANGLO

Too few properly appreciate that the air we breathe, the water we drink and the food we eat all fundamentally rely on biodiversity and the health of ecosystems. Climate change, meanwhile, is driven by our massive burning of fossil fuels, deforestation, intensive farming, waste disposal, mining, and overconsumption. Since 1900, the planet's average temperature has risen by 0.8°C. Each of the last three decades has been warmer than the one before.

This upheaval is impacting many parts of the world. Food, energy and water scarcity is causing conflicts.

Higher sea levels and flooding are forcing humans to migrate, with climate refugees expected to number 250 million people in just 30 years.

If we continue to shirk our responsibility to take the prescribed actions in full measure, scientists expect the planet's average temperature by 2100 to increase by 1.5°C to 5.3°C compared with pre-industrial times.

If that happens, many species in certain

regions will go extinct, and by 2100, climate change may well be the foremost driver of biodiversity loss.

According to the Intergovernmental Panel on Climate Change, if the planet warms by just 2°C, 18 per cent of insects, plants (16 per cent), and vertebrates (eight per cent) will be displaced, far more than if the warming is held to 1.5°C.

Meanwhile, "risks associated with other biodiversity-related factors, such as forest fires, extreme weather events and the spread of invasive species, pests and diseases, would be lower at 1.5°C than at 2°C of warming, supporting a greater persistence of ecosystem services".

The natural world needs us to understand, as well as prevent and offset the damage we are inflicting on the planet through climate change. We know what to do.

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In 2005, the Millennium Ecosystem Assessment identified climate change as a major driver of biodiversity loss, causing shifts in species distribution, population sizes, reproduction and migration patterns, and the frequency of pest and disease outbreaks.

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We know we need to address biodiversity loss and climate change in an integrated manner, that healthy ecosystems,

absorbing excess flood water or buffering us against coastal erosion or extreme weather events, will be more resilient to climate change and better able to maintain the ecosystem services on which our prosperity and wellbeing depend.

We know that ecosystems-based approaches need to be an integral part of the overall climate change adaptation and mitigation effort, that forests, peatlands, and other habitats are major "stores of carbon", and that protecting them can also help limit atmospheric greenhouse gas concentrations.

We know that the impact of climate change will profoundly affect economies and societies, that only a transformative shift to genuinely sustainable lifestyles can ensure our survival. We know why it must be done. We just need to do it.



'We Are On The Brink Of A Hunger Pandemic'

19 Oct 2020

The award of the 2020 Nobel Peace Prize to the World Food Programme (WFP) is a step forward in recognising the seriousness of the global food crisis.

A GOOD friend from the University of Malaya, Distinguished Professor Datuk Rajah Rasiah forwarded this poignant quote: "The hunger virus kills about 8,000 children a day, and the vaccine for it exists. It's called 'food'. But you won't hear about it in the media because hunger doesn't kill the rich."

The award of the 2020 Nobel Peace Prize to the World Food Programme (WFP) is a step forward in recognising the seriousness of the global food crisis.

It draws attention to the sustained efforts to fight hunger and famine from the grassroots to the highest levels of global governance.

The Norwegian Nobel Committee declared the WFP winner of the prestigious award "for its efforts to combat hunger, for its contribution to bettering conditions for peace in conflict-affected areas and for acting as a driving force in efforts to prevent the use of hunger as a weapon of war and conflict". Chairwoman Berit Reiss-Andersen said the committee wanted to "turn the eyes of the world to the millions of people who suffer from or face the threat of hunger".

The committee stressed the link between armed conflict and hunger — something the WFP also recently reminded us.

Almost 80 per cent of all chronic malnourished children inhabit countries affected by conflict. The Covid-19 pandemic has exacerbated food insecurity and famines, and the number of hungry people could increase to an anticipated 270 million, with the most acute suffering experienced in conflict zones.

The 4th annual Global Report on Food



The award of the 2020 Nobel Peace Prize to the World Food Programme (WFP) is a step forward in recognising the seriousness of the global food crisis. - AFP file pic

Crises 2020, involving 16 partner organisations including the WFP, has identified several drivers of acute food insecurity. Conflict/insecurity was still the main cause of food crises in 2019, but weather extremes and economic shocks became increasingly significant.

Over half of the 77 million acutely food-insecure people where conflict was identified as the primary driver were in the Middle East and Asia. Regional crises continued to drive acute food insecurity, particularly in the Lake Chad Basin and Central Sahel. Africa had the largest share of acutely food-insecure people badly affected by weather events, particularly in the Horn of Africa and Southern Africa, followed by Central America and Pakistan. In East Africa,


armed conflicts and other tensions, particularly in South Sudan, led to large numbers seeking refuge in neighbouring countries and economic crises are impacting acute food insecurity levels in Venezuela, Zimbabwe, Haiti and the Sudan.

Of the estimated 79 million displaced people worldwide in the middle of 2019, 20 million were refugees, and over half hosted in countries with high numbers of acutely food-insecure

people. Even before the pandemic, parts of East Africa and South Asia were already facing severe food shortages caused by drought and the worst locus infestations for decades.

Earlier this year, the WFP warned that because of the pandemic, 265 million people would face acute food insecurity by the end of this year, almost double the number in 2019.

WFP executive director David Beasley said the world was facing "the worst humanitarian crisis since World War Two".


"Today is a reminder that food security, peace and stability go together. Without peace, we cannot achieve our global goal of zero hunger; and while there is hunger, we will never have a peaceful world."

"At the same time as dealing with the Covid-19 pandemic, we are on the brink of a hunger pandemic," he said.

Beasley noted that the WFP currently offers food assistance to almost 100 million people but warned that the coronavirus could make it difficult for them to be reached. As he rightly pointed out: "Where there is conflict, there is hunger. And where there is hunger, there is often

conflict.

"Today is a reminder that food security, peace and stability go together. Without peace, we cannot achieve our global goal of zero hunger; and while there is hunger, we will never have a peaceful world."

As we contemplate how we could lessen their suffering, we should be thanking our lucky stars that Malaysia and the whole of Asean is still a Zone of Peace, Freedom and Neutrality as envisaged by our political leaders in 1971.



Global Biodiversity Group Will One Day Receive Nobel Peace Prize

The Norwegian Nobel Committee announced an extremely deserving winner from within the UN family, the World Food Programme (WFP).

SEVERAL members of the biodiversity community were abuzz last week with news that IPBES, the Intergovernmental Platform on Science-Policy Advice on Biodiversity and Ecosystem Services, was being considered for this year's Nobel Peace Prize (NPP), nominated by a senior German government minister and others.

On Friday, the Norwegian Nobel Committee announced an extremely deserving winner from within the UN family, the World Food Programme (WFP).

But when one looks at the history of the NPP, I believe there's a very good chance IPBES, which today is just eight years into existence, will be recognised in similar fashion one day.

The NPP has been awarded in 101 of the 120 years since 1901 (no prize for peace was awarded in 19 years). In 2020 and 23 other years it was awarded to an organisation (including a triple winner, the International Red Cross, in 1917, 1944 and 1963).

It has been awarded to UN-related organisations 10 times, including the UN as a whole in 2001 (shared with the then-secretary general Kofi Annan).

In total, the UN and/or its officials have won the NPP in 12 of the 101 years in which it was awarded. In 2001, its centennial year, the selection committee shared an interesting insight, stating that: "For 100 years, the Norwegian Nobel Committee has sought to strengthen organised cooperation between states. The end of the cold war has at last made it possible for the UN to perform more fully the part it was originally intended to play. Today (it) is at the forefront of



Several members of the biodiversity community were abuzz last week with news that IPBES was being considered for this year's Nobel Peace Prize, nominated by a senior German government minister and others. - EPA file pic21

efforts to achieve peace and security in the world, and of the international mobilisation aimed at meeting the world's economic, social and environmental challenges."

IPBES, as regular readers know, is the mechanism by which the world's most authoritative experts in biodiversity and ecosystem services inform decisions on policies and measures to conserve and sustainably use biodiversity, on which long-term human well-being and sustainable development depend.

It evolved from a 2005 initiative to create an "International Mechanism of Scientific Expertise on Biodiversity (IMoSEB)", which in 2008 became IPBES and five years later its first

plenary meeting of member states was held in Bonn.

IPBES was modelled on the highly successful Intergovernmental Panel on Climate Change, winner of the 2007 NPP in its 19th year of service, an honour shared with former US vice-president Al Gore.

Malaysia has a soft spot for IPBES on several counts. Firstly, when Paris hosted the 2005 conference to launch IMoSEB, our then-prime

minister Tun Abdullah Ahmad Badawi was one of only four world leaders invited by French president Jacques Chirac to speak at the meeting.

Secondly, as the site of one of the earliest international planning meetings, in November 2008, Kuala Lumpur can claim to be one of IPBES' birthplaces.

Thirdly, I proudly served as the founding chair of IPBES, elected at the first meeting of member nations in 2013, succeeded in 2016 by former IPCC chair Sir Robert Watson of the UK, and in 2019 by Ana María Hernández Salgar of Colombia.

In nominating IPBES, Environment Minister Svenja Schulze pointed to the organisation's "invaluable contribution to world peace and global development".

"In particular, the IPBES report on the state of nature on the planet, the Global Assessment Report, adopted by the international community last year, has already generated greater global awareness and impact than any other environmental report published to date."

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Brian O'Donnell, the director of the Campaign for Nature proclaimed that "the experts at IPBES are heroes for the planet. They have sounded the alarm that nature faces a dire emergency.

That milestone report is best known for warning that without an ecological turnaround, one million species would become extinct in the next few decades.

A previous report, launched at the 6th IPBES plenary in KL in 2016, authoritatively laid out the threats facing pollinator species, responsible for much of the world's food supply.

And a forthcoming report will detail the effects of biodiversity loss on

global health, such as the current Covid19 crisis, and recommend remedial next steps.

This year's NPP nomination of IPBES is acknowledgement of the growing realisation that our health, peace and security depend very directly on nature and its contributions to people.

Brian O'Donnell, the director of the Campaign for Nature proclaimed that "the experts at IPBES are heroes for the planet. They have sounded the alarm that nature faces a dire emergency.

In their call for transformational change they put forward a vision where humanity and nature thrive together".

For me, with nearly four decades of experience in international biodiversity governance, the threat posed by the unprecedented and accelerating decline of nature is an existential one for the human race.

These are early years for IPBES. But I believe and sincerely hope the world's biodiversity scientists one day will receive the Nobel Peace Prize—a powerful signal of the supreme importance the issue deserves.



A Plea Falling On Deaf Ears?

6 Oct 2020

Without political will, we cannot succeed in reversing loss of biodiversity.

SEPT 30, 2020 will forever be etched as the D-Day for biodiversity when the United Nations hosted the first ever World Biodiversity Summit literally virtually at its headquarters in New York City.

Global concern for biodiversity is nothing new. During the Earth Summit in Rio de Janeiro 28 years ago, the UN Convention on Biological Diversity (CBD) was signed by 168 countries, a near universal membership.

Its three-pronged objectives, namely conservation of biological diversity; its sustainable use; as well as access and benefit-sharing of genetic resources, remain fresh and relevant today.

Almost three decades have passed, but are we any closer to meeting the objectives?

The Global Biodiversity Outlook 5 (GBO5) revealed that the world has failed to meet a single target to stem the destruction of wildlife and life-sustaining ecosystems in the last decade. Not one 20 Aichi biodiversity targets agreed in Japan in 2010 were met, the second consecutive decade that governments have failed to meet targets.

The GBO5 found that natural habitats have continued to disappear, vast numbers of species remain threatened by extinction from human activities, and RM2 trillion of environmentally damaging government subsidies have not been eliminated, including subsidies for agriculture, fossil fuels and fishing.

"We are still seeing so much more public money invested in things that harm biodiversity than in things that support biodiversity," said the report's lead author, CBD deputy executive secretary David Cooper.

UNITED NATIONS BIODIVERSITY SUMMIT



The Global Biodiversity Outlook 5 (GBO5) revealed that the world has failed to meet a single target to stem the destruction of wildlife and life-sustaining ecosystems in the last decade. - Pic source: Facebook/UNBiodiversity

Six targets have been partially achieved, including those on protected areas and invasive species. While governments did not manage to protect 17 per cent of terrestrial and inland water areas and 10 per cent of marine habitats, 44 per cent of vital biodiverse areas are now under protection, an increase from 29 per cent in 2000. About 200 successful eradications of invasive species on islands have also taken place.

Last May, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) reported in a landmark global assessment that one million species are at risk of extinction.

The UN said failure to act could undermine the Paris agreement goals on climate crisis and sustainable development goals agreed in 2015. The recent summit was convened

against a backdrop of such disconcerting news on the planet's state of health.

The signatories to the Leaders' Pledge for Nature committed to putting wildlife and the climate at the heart of post-pandemic economic recovery plans, promising to address the climate crisis, deforestation, ecosystem degradation and pollution.

"Science clearly shows that biodiversity loss, land and ocean

degradation, pollution, resource depletion and climate change are accelerating at an unprecedented rate. This acceleration is causing irreversible harm to our life support systems and aggravating poverty and inequalities, as well as hunger and malnutrition.

"Despite ambitious global agreements and targets for the protection, sustainable use and restoration of biodiversity, and notwithstanding many local success stories, the global trends continue rapidly in the wrong direction. A transformative change is needed: we cannot simply carry on as before," the pledge reads.

Emmanuel Macron, Angela Merkel, Justin Trudeau, Jacinda Ardern and Boris Johnson are among 64 leaders making the pledge, together with leaders of Bangladesh,

★
"A planetary emergency is upon us. Driven by the dual threats of the climate crisis and biodiversity collapse, this emergency is threatening people and planet," said UN Secretary-General Antonio Guterres in a video message to the Leaders' Pledge for Nature.

Bhutan, Colombia, Costa Rica, Fiji, Kenya, Seychelles and Mexico. Conspicuously missing is Malaysia, one of the world's megadiverse countries.

Still, the absence of the major polluters is quite perplexing as pointed out to *The Guardian* by Sir Robert Watson, a former IPBES chair, who said: "Many of the most important countries in the world that are causing climate change due to their

emissions of greenhouse gases, and/or are destroying their biodiversity, are not signatories to this pledge.

"Without the United States, Brazil, China, Russia, India and Australia, we cannot succeed in achieving the Paris Climate goal or halting and ultimately reversing the loss of biodiversity."

Without political will, particularly among the bigger countries, the plea from UN Secretary-General Antonio Guterres may fall on deaf ears.

"A planetary emergency is upon us. Driven by the dual threats of the climate crisis and biodiversity collapse, this emergency is threatening people and planet," he said in a video message to the Leaders' Pledge for Nature.

"We are at war with nature. And nature is fighting back."



Sustainable Development Is Founded On Science

29 Sep 2020

The 2030 Sustainable Development Agenda is a blueprint for shared prosperity in a world where all people can live productive, vibrant, and peaceful lives.

THE Covid-19 pandemic looms large over this month's United Nations General Assembly meetings and others worldwide, most of them taking place virtually. Yet, the drive to meet the 17 Sustainable Development Goals (SDGs) still commands the strong attention of political, government, business, academic and civil society leaders.

The 2030 Sustainable Development Agenda is a blueprint for shared prosperity in a world where all people can live productive, vibrant, and peaceful lives. In his recent Sustainable Development Report, UN secretary-general Antonio Guterres said some progress and favourable trends were evident in several critical areas.

For example, he reports, "extreme poverty has declined considerably, the under-five mortality rate fell by 49 per cent between 2000 and 2017, immunisations have saved millions of lives, and the vast majority of the world's population now has access to electricity.

"Countries are taking concrete actions to protect our planet: marine protected areas have doubled since 2010; countries are working concertedly to address illegal fishing; 186 parties have ratified the Paris Agreement on climate change, and almost all have communicated their first nationally determined contributions."

Those along with several other accomplishments noted, Guterres's report identifies many areas where urgent attention is needed, including the alarming rate of nature's deterioration (citing the 2019 IPBES report finding that one million plant and animal species are at risk of extinction), rising sea levels, and accelerating ocean acidification. And, the past



Indeed, scientists have worked tirelessly to increase understanding of the causes and impacts of climate change and biodiversity loss.

four years "have been the warmest on record".

Guterres notes "we know what works" and focused his report on areas that can drive progress across all 17 SDGs. A board of scientists advising the then UN secretary-general Ban Ki-moon from 2013 to 2016 underlined the centrality of science to decision-making for sustainable development.

I was honoured to be among those scientists, who emphasised science, technology and innovation as the game changers in dealing with most of the most pressing global challenges, providing solutions to poverty, creating jobs, reducing inequalities, increasing incomes, and enhancing health and wellbeing.


Indeed, scientists have worked tirelessly to increase understanding of the causes and impacts of climate change and biodiversity loss. Research communities have convened across disciplines of geoscience, engineering, and social science to address questions at a system level, building first the foundation for the Intergovernmental Panel on Climate Change (IPCC).

It is knowledge

that will determine the future of the human race. Science and engineering have advanced the efficiency of solar panels and wind turbines, and the capacity and durability of batteries, much faster than many predicted, raising hope where there was once pessimism, that the world may soon reduce its dependence on fossil fuels before it is too late.

What IPCC is to the climate issue, the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) is to the issue of accelerating nature and species loss. Both IPCC and IPBES are independent intergovernmental bodies established to strengthen the communication between scientists and policymakers.

Instituted eight years ago, IPBES reports have made their mark — from its 2016 assessment of declining bee and other pollinator species vital to the world's food supply, to its


The impact of evidence-based knowledge assembled by bodies such as IPCC and IPBES should never be underestimated.

2018 assessments of global land degradation, and of biodiversity and ecosystem services across four world regions, to its Global Assessment Report last year.

Informed in large part by the IPBES assessments, a post-2020 Global Biodiversity Framework is under negotiation by 197 parties to the UN Convention on Biological Diversity.

The draft framework agreement

includes a proposal to protect at least 30 per cent of the land and marine areas of the world by 2030. According to the Campaign for Nature, a major proponent of that proposal, 50 per cent may in fact be needed, but 30 per cent is a scientifically credible interim goal.

The impact of evidence-based knowledge assembled by bodies such as IPCC and IPBES should never be underestimated. I am immensely proud to note that IPBES is a contender for this year's Nobel Peace Prize. If chosen, IPBES would join IPCC on the list of Nobel Peace Prize laureates, the latter having shared the award with former US vice-president Al Gore in 2007.

Whatever choice the Nobel committee announces a few days from now, it is a great honour for the biodiversity and nature-science community to be accorded recognition in the form of a well-earned nomination.



World Off The Mark In Meeting Biodiversity Targets

19 Sep 2020



The world had largely failed to meet the 20 different targets to safeguard species and ecosystems.

ALL the world's governments have fallen short on pledges made a decade ago to protect wildlife, though cases of conservation show that the destruction of nature can be slowed, and even reversed, according to a United Nations report — the Global Biodiversity Outlook (GBO5) — published on Tuesday.

It found that the world had largely failed to meet the 20 different targets to safeguard species and ecosystems. Just six were "partially achieved".

The UN team and report authors said the study was meant to galvanise governments to take stronger actions over the next decade to protect the diversity of life.

Last year, the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) said a million species were at risk of extinction unless countries prioritised conservation.

About two thirds of the world's animals have vanished over the last 50 years, a World Wildlife Fund (WWF) report said last week. Malaysia has its share of sad stories.

Recently, Malayan tigers, which numbered 3,000 in the 1950s, have been classified as a critically endangered species by the International Union for Conservation of Nature, with fewer than 200 left in the wild today.

And how could we forget the news last November of the demise of the last Sumatran rhino in Malaysia due to cancer. The Sumatran rhino is the smallest of the rhinoceros' species and once roamed across Asia as far as India, but their numbers shrunk drastically due to deforestation and poaching.

The WWF conservation group estimated



About two thirds of the world's animals have vanished over the last 50 years, a WWF report said last week. Tigers have also become an endangered species. - File pic

that there were only about 80 left, mostly in Sumatra. With countries due to meet for a UN summit on biodiversity on Sept 30, and another next year in China, at which a new framework for managing nature for the remainder of this decade will be set, the GBO5 report underlines the need not just for stronger commitments in stemming a precipitous decline in wildlife, but also in seeing them through.

There is a major push being made for governments to collectively set aside 30 per cent of the planet's land and sea areas for conservation, led by the global Campaign for Nature.

Currently, about 17 per cent of the world's land falls into areas that receive some form of protection. The figure is more dismal for the marine and coastal areas. Scientists have

said the world may need more than 30 per cent to survive, if not thrive.

However, the GBO5 report was not without bright spots. For example, the endangered Japanese crested ibis, which almost vanished, started to produce chicks in the wild after conservationists released captivebred birds.

In Pakistan, a programme is protecting the snow leopard by conserving Himalayan ecosystems.

In Malawi, a

community-based project is replanting the Mulanje cedar, prized for its aromatic wood and resistance to termites and fungal diseases.

Another sign of progress is that while global deforestation was not reduced by at least 50 per cent, it did slow by a third over the last 10 years relative to previous decade.

And while a third of marine fish stocks were over fished, a higher proportion than a decade ago, stocks have bounced back quickly in areas where protections were put in place.

"We also see that governments have made efforts. And where they make those efforts, they deliver results—and that's where we get some hope," said David Cooper, lead author of GBO5 and deputy executive secretary of the UN

★
"We also see that governments have made efforts. And where they make those efforts, they deliver results—and that's where we get some hope," said David Cooper, lead author of GBO5.

Convention on Biological Diversity (CBD).

Without conservation efforts, the number of bird and mammal extinctions would probably have been at least twice as high during the 10-year life of the pact, the report said.

Concerns over the impact of industrial world has escalated amid the Covid-19 pandemic, caused by a coronavirus that likely jumped from

bats to humans in China.

The destruction of wild spaces increases the risk of other, possibly worse diseases emerging. If this was a school and these were tests, the world has flunked, said Elizabeth Maruma Mrema, executive secretary of the CBD which released the report.

Inger Andersen, Executive Director of the UN Environment Programme, warned that, "from Covid-19 to massive wildfires, floods, melting glaciers and unprecedented heat, our failure to meet the Aichi Targets to protect our home has very real consequences. We can no longer afford to cast nature to the side. Now is the time for a massive step up, conserving, restoring and using biodiversity fairly and sustainably."



Green New Deal For Malaysia?

11 Sep 2020

It is only a matter of time before nation considers launching its own arrangement to tackle sustainability challenges.

A GREEN New Deal (GND) to tackle climate change and economic inequality has captured the imagination of many. In the United States, a non-binding resolution calls on the federal government to wean the country from fossil fuels and curb planet-warming greenhouse gas emissions across the economy while aiming to guarantee new high-paying jobs in clean energy industries.

Inspired by President Franklin D. Roosevelt's response to the Great Depression of the 1930s, the GND combines his economic approach with modern ideas such as renewable energy and resource efficiency. The GND was first introduced long ago. *New York Times* journalist, Thomas Friedman, had been writing about it as early as 2007.

It was embraced the next year by the United Nations Environment Programme and its then-executive director Achim Steiner, who unveiled a Global GND initiative in 2008 aiming to create jobs in "green" industries, boosting the world economy and curbing climate change.

The European Commission (EC) launched the European Green Deal (EGD) in December 2019 with the aim of transforming into a modern, resource-efficient and competitive economy, where there are no net emissions of greenhouse gases by 2050.

The EGD plan to boost the efficient use of resources by moving to a clean, circular economy, restore biodiversity and cut pollution. Last May, the world was impressed by the EC's commitment to protect 30 per cent of European Union (EU) lands and oceans by 2030, part of the EGD.

Welcoming the European initiative,



A man placing a charging cable in his car at an electric car parking lot in Oslo, Norway. The country is aiming for all new cars to have zero emissions by 2025. AFP PIC.

former US senator Russ Feingold, ambassador for the Campaign for Nature, called the 30 per cent commitment "timelier than ever". The EU aims to be climate neutral in 2050 and proposes to turn this political commitment into a legal obligation.

Reaching this target will require action by all sectors, including investing in environment-friendly technologies; supporting industry to innovate; rolling out cleaner, cheaper and healthier forms of private and public transport; decarbonising the energy sector; ensuring buildings are more energy efficient; and working with international partners to improve the global environmental standard.

Will the rest of the world also follow? China produces more than a quarter of global greenhouse gases. Beijing's buy-in was central to the 2015 Paris Agreement to reduce CO2 emissions, promising that they would peak by 2030.

The country appears on track to keep its commitment though emissions again increased in recent years. President Xi Jinping has pushed several initiatives, including efforts to

transition from coal to renewable energy, investments in new technologies, and mechanisms to put a price on carbon.

In 2018, India was third biggest among national emitters, producing seven per cent of the world total after China and the US. New Delhi set a renewable energy target for 2022 requiring investments four times the size of its defence budget. Latest forecasts predict India will fall well short of its 2022 goal.

Norway has been particularly aggressive on energy policy, aiming for all new cars to have zero emissions by 2025. It has exempted electric vehicles from many taxes, tolls and parking fees.

The result? With a population of about five million, Norway is the world's third-largest electric car market after China and the US. The Netherlands and several other countries have set similar targets.

Chile became the first South American

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The government has been working on other ways to go green. For example, the Government Green Procurement policy requires procurement of products or services by any ministry or government agency to meet strict environmental criteria.

country to implement a carbon tax in 2014. Mexico launched its own in 2018. Kazakhstan, New Zealand, Singapore and South Korea have followed, either taxing carbon or implementing their own emissions trading scheme. Costa Rica has launched a national programme to completely decarbonise its economy by 2050.

Malaysia has no immediate plan to impose carbon pricing on industry players as we pursue in

the meantime the reduction of carbon emissions through improved energy efficiency, energy reform and emphasising renewable energy as part of our climate strategy.

The government has been working on other ways to go green. For example, the Government Green Procurement policy requires procurement of products or services by any ministry or government agency to meet strict environmental criteria.

It has also introduced alternative green financing schemes such as Green Sukuk and the Green Technology Financing Scheme, to finance and stimulate sustainable projects.

Given our standing as a major trading nation, it is only a matter of time before we consider launching our own GND to deal with the myriad sustainability challenges faced by all countries today, the most immediate being the Covid-19 pandemic.



Corridors Between Habitat Areas Can Reduce Roadkill

3 Sep 2020

In Malaysia, as elsewhere, the rise in roadkill incidents contributes to biodiversity loss.

ROADS encroach on animal habitats and populations, posing a hazard to wildlife.

In Malaysia, as elsewhere, the rise in roadkill incidents contributes to biodiversity loss, which is a threat to the wellbeing of humans every bit as dangerous as climate change.

The solution includes safe corridors of transit between habitat areas — passages and bridges — and better driving habits.

On an exceptionally large scale, we need to ensure the connectivity between national and international protected areas and animal habitats.

A global effort to conserve biodiversity got underway recently. Campaign for Nature (CFN) called on governments worldwide to protect at least 30 per cent of the planet's land and oceans by 2030, deemed by scientists to be the minimum area needed to halt biodiversity loss.

The proposal received a major boost when it was included in the "zero draft" of the post-2020 global biodiversity framework currently being negotiated by the 196 member states of the United Nations Convention on Biological Diversity (CBD) for endorsement by governments at the 15th Conference of the Parties next May in Kunming, China.

Last June, this writer and fellow members of the CFN's Global Steering Committee, led by former United States senator Russ Feingold, urged world leaders to invest in nature, arguing that protected areas stave off poverty, provide key wildlife habitat, generate jobs, fight climate change, and will guard against future pandemics.

Protected areas are critical to ending the



In Malaysia, as elsewhere, the rise in roadkill incidents contributes to biodiversity loss, which is a threat to the wellbeing of humans every bit as dangerous as climate change. -NSTP/File pic

mass extinction of plants, animals and microorganisms that keep our air clean, our water pure and our food supplies plentiful.

Over the past 10 years under the CBD, nations have made admirable progress in creating protected areas.

The so-called 30 by 30 proposal would significantly expand that effort.

We recognise that those areas also need to be networked as well, something nations have not done nearly so well in the past decade.

A new report by the International Union for Conservation of Nature's Connectivity Conservation Specialist Group has likewise underlined the major shortcoming in conservation efforts to date: a lack of consideration for connectivity between protected areas.

An insightful article on Aug 12 titled "Guidelines for Conserving Connectivity through Ecological Networks and Corridors" said "while the concept of an ecological corridor is easy to grasp, efforts to date to conserve corridors between protected areas have come up short", according to the report leader, Dr Jodi Hilty.

"This is in part due to the fact the concept is quite new and the conservation tools that we

have in place were not developed with conserving connectivity in mind. Yet, the bulk of data demonstrates that, more than ever, maintaining ecological connectivity through corridors is key to the conservation of our natural world.

"Connected, protected, and conserved areas are stronger, and corridors are a major component in successfully fighting fragmentation and strengthening biodiversity. These physical links are one of the most important ways to ensure species can move between protected areas and maintain genetic strength," she added.

Hilty, an internationally-renowned wildlife corridor ecologist and conservationist, notes the many reasons wildlife has to travel across landscapes and between large protected havens, including seasonal migrations, escaping natural ecosystem disturbances, and adaptation to climate change.

The barriers to their movement likewise

Malaysia's concern about the fragmentation of its rich biodiversity resources and the security of water catchment was reflected in the Central Forest Spine Master Plan in Peninsular Malaysia, adopted in 2009, which recommended 37 ecological corridors.

vary, from fences and highways to towns and other development that obstruct them from finding mates, food, or new places to thrive.

Hilty argues that ecological corridors could benefit people by providing pathways for mobile communities in hunting/gathering cultures and pastoralists, providing areas for recreation, buffering rivers, streams, and wetlands and serving as homes to crop pollinators, or as sources of seed stock for forest regeneration.

Malaysia's concern about the fragmentation of its rich biodiversity resources and the security of water catchment was reflected in the Central Forest Spine Master Plan in Peninsular Malaysia, adopted in 2009, which recommended 37 ecological corridors.

In addition to preserving the health of ecological functions, the master plan aimed to conserve endangered wildlife species, including Asian elephants, Malayan tigers, Malayan tapirs and Malayan gaurs.

The reality is no method will solve the pressing issue of mass extinction of species caused by widespread human alteration of ecosystems and climate change.

Together, protected areas, ecological corridors and other effective conservation mechanisms represent an arsenal of tools to improve and conserve biodiversity today and into the future.



Would Simple Numerical Targets Slow Biodiversity Loss?

20 Aug 2020

One of the nagging problems with biodiversity as a political issue — one that has confounded the scientific community for so long — is the absence of simple, measurable goals.

In a few weeks, the United Nations Convention on Biological Diversity will release a final report card on the world's 20 biodiversity targets, set back in 2010 for achievement by this year. According to all predictions, we have made progress, but largely missed those pledges, as we did the decade before, when the world agreed to stem the rate of biodiversity loss.

The Global Biodiversity Outlook report, fifth edition (it's been published every five years since 1995), will inform the negotiators of the UN Convention on Biological Diversity working on our next set of 10-year targets, with final agreement expected in China next year (postponed by the Covid-19 pandemic).

We can only hope that the searing pain inflicted by the coronavirus crisis will provide the incentive for us to be more respectful of nature, to make the needed transformative changes, and the investments of resources that scientists have called for repeatedly over the decades.

One of the nagging problems with biodiversity as a political issue — one that has confounded the scientific community for so long — is the absence of simple, measurable goals. This contrasts with climate change, with experts in that field calling for the increase in the average global temperature to be kept well below 2 °C.

The 2019 global biodiversity assessment report from the Intergovernmental Panel on Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) offered for the first time a simple, memorable number that was widely shared and continues to resonate: one million species (out of roughly eight million) are at risk of extinction by 2050.



Among many questions: how a target of 20 extinctions per year does — across all plants, animals, and fungi — fit with the IPBES' assessment that one million species are at risk. And what about species not yet described? - AFP

Both climate change and biodiversity have turned "a metric into a mascot", to borrow a clever phrase. But in the case of biodiversity, one million species at risk is a warning, not a goal.

Today a simple, measurable target is being championed by the Campaign for Nature: "30 by 30", the protection of 30 per cent of our terrestrial and marine environments by 2030. Now other experts, writing in the esteemed journal *Science*, suggest that the world should also adopt a long-term goal to reduce species extinction to fewer than 20 a year.

Like 30 x 30, the proposal from Germany's Mark Rounsevell and international colleagues, is gaining traction. One of the paper's co-authors, Georgina Mace of University College London, said: "Once a species has gone, it has gone forever, and with it goes all the exquisite adaptations and interactions that it has developed, often over millions of years."

The irreplaceable loss of a species is simple to assess, they argued, and

having a prominent, scientifically-defensible target for extinctions will help to galvanise both policy and public support for nature.

Since the *Science* paper was published, calls have been made to rigorously assess the proposal's feasibility and consequences, in the same way that climate metrics are assessed by the UN's climate-science advisers, including the Intergovernmental Panel on Climate Change.

Among many questions: how a target of 20 extinctions per year does — across all plants, animals, and fungi — fit with the IPBES' assessment that one million species are at risk. And what about species not yet described?

Rounsevell and colleagues stress that creating an extinction target should not detract from the need for nationally-relevant targets and


Biodiversity loss continues because decisions fail to account for the costs of replacing the services that species and ecosystems provide to humans.

policies. And they advocate funding to help countries that are financially poor but biodiversity-rich to meet their goals.

One such group of countries is the "Like-Minded Megadiverse Countries" (LMMC), of which in Asean alone comprise Indonesia, Malaysia and the Philippines. Member countries of LMMC hold 60 to 70 per cent of the Earth's species and are considered megadiverse.

Biodiversity loss continues because decisions fail to account for the costs of replacing the services that species and ecosystems provide to humans, such as provisioning services that provide potable water, food, fibre and medicines; regulating services which control our climate, disease vectors, crop pests and pollinators, and cultural services that influence our beliefs, traditions and provide enjoyment opportunities.

In that regard, putting a price on biodiversity and nature's services to people is another important strategy, and we look forward to a review underway on the economics of biodiversity. That report will be published prior to next year's world biodiversity summit in China.

New estimates of nature's values are sure to open many eyes.



Insist On Strictly Sustainable Development Of Ocean Resources

10 Aug 2020



Nearly two-thirds of our oceans are beyond national jurisdiction — in which no single state has authority.

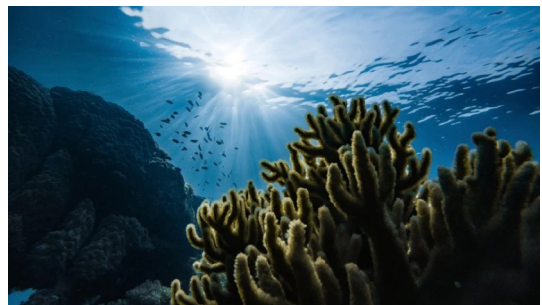
“THE oceans are our great laboratory for the making of a new international order, based on new forms of international cooperation and organisation, on new economic theory, on a new philosophy.” That’s the view of internationally renowned ocean law and policy expert, Elisabeth Mann Borgese, an expert in maritime and environmental protection, who died in 2002 in her 80th year.

Nearly two-thirds of our oceans are beyond national jurisdiction — in which no single state has authority. These cover 45 per cent of Earth’s surface, plunge to depths of more than 10km and represent 95 per cent of Earth’s total habitat by volume.

They contain vast riches of biological and inorganic resources and produce half of our life-giving oxygen. They constitute the world’s largest long-term carbon sink and largest reservoir of genetic resources, including many used as medicine for cancer, for example, and others with major commercial and industrial applications.

With no government in charge, these “Areas Beyond National Jurisdiction” are overexploited, polluted and degraded, and the few laws in place to protect them are often weak and poorly enforced. In 1982, the United Nations adopted the United Nations Convention for the Law of the Sea (UNCLOS). It took 12 years for the convention to enter into force, but represents, in effect, a “constitution for the oceans” — laying down a comprehensive regime of law and order in the world’s oceans.

It spells out the right of states with respect to oceans to navigate, fly over, fish, research, lay submarine cables and pipelines,



Malaysia, as a key member of the Group 77 and China, the negotiating group of developing countries in the UN, regards the oceans as a “Common Heritage of Humankind”.

construct artificial islands and more, balancing freedom with responsibility. But ever faster ships and refrigeration have enabled exploitation of deeper and more distant areas, resulting in an increasing loss of biodiversity and depletion of fish stocks.

Today, a growing body of scientific research has documented that we are nearing the oceans’ ecological limits. The short-sighted era of the “freedom of the seas” is over, or should be. Certainly, the oceans are increasingly regulated. In addition to UNCLOS, the Convention on Biological Diversity and other international and regional agreements now address fisheries, marine pollution and conservation.

But they do not yet adequately address all ocean uses, such as biological prospecting and new ideas about climate change mitigation techniques, which demand detailed international rules and standards. Another issue is equity in access to deep resources that belong to all humanity.

Deep-sea expeditions and explorations involve sophisticated research vessels, instrumentation,

submersibles and remotely operated vehicles — all representing huge financial costs and technologies available only to affluent developed countries.

This issue is easily seen in the patents associated with marine resources used in pharmaceuticals, enzymes and other products based on deep-sea organisms. The leaders among those patent holders are the United States, Germany, Japan, and a handful of other countries with access to the required technologies.

They reap the financial rewards, enabling further investments into discoveries. Bottom line: without serious investment in capacity building and technology transfer, income gaps will widen further with time.

UNCLOS, sadly, was drafted before the exploitation of genetic resources in the deep sea was foreseen. As a result, it is unclear in that convention if, like fish in the water column, such

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UNCLOS, sadly, was drafted before the exploitation of genetic resources in the deep sea was foreseen. As a result, it is unclear in that convention if, like fish in the water column, such resources are subject to the "freedom of the high seas" regime.

resources are subject to the "freedom of the high seas" regime. Or are genetic resources, like seabed minerals, subject to the "common heritage of mankind" regime.

A major step was taken in December 2017 when the UN, after more than a decade of discussions, agreed to convene negotiations on an International Legally Binding Instrument under UNCLOS on the conservation and

sustainable use of Biodiversity Beyond National Jurisdiction.

The negotiations began in 2018 and continued through 2019, then were derailed this year by the Covid-19 pandemic. Negotiations focus on marine genetic resources (including benefit sharing), area-based management tools (including Marine Protected Areas), environmental impact assessments, and capacity building and technology transfer.

Malaysia, as a key member of the Group 77 and China, the negotiating group of developing countries in the UN, regards the oceans as a "Common Heritage of Humankind". In these critical negotiations, we must argue in favour of strictly sustainable development of these resources, that the oceans be reserved for exclusively peaceful purposes, and that benefits from these global commons be shared equitably, with particular consideration for the needs of the poor.



Conservation Benefits Outweigh Cost

21 Jul 2020

The world stands to gain if at least 30 per cent of its lands and oceans are protected.

AMONG many forms of relief to be produced by a return to normal (hopefully soon): international travel can resume and two large, critically important global meetings postponed by Covid-19 can take place.

Under the United Nations' auspices, world governments will convene twice to set our agreed course and targets on climate change and biodiversity.

The outcomes may well decide nothing less than Earth's long-term habitability for humans. The climate talks were postponed to November next year.

But last week the UN Convention on Biological Diversity (CBD) announced that its 15th meeting of its 196 Parties, originally slated for this October, will convene from May 17 to 30 next year.

If successive years of world temperature records and the coronavirus pandemic have a silver lining, it is this: they have helped raise public appreciation of science and awareness of the fundamental importance of a temperate climate and healthy ecosystems to our health and economic well-being. Thus, the postponement of both global meetings could prove to be a blessing in disguise. New attitudes throughout the public and in high offices should improve conditions for successful outcomes.

At CBD's COP-15, nations will consider a 10-year plan to protect and preserve biodiversity worldwide. These decisions will be made with the benefit of the most authoritative reports ever on the subject, including last year's Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' global assessment, warning that one million species are



Environmental conservation can reduce the risk of new zoonotic disease outbreaks such as Covid-19. PIC BY ASWADI ALIAS.

at risk of extinction by 2050, and CBD's upcoming 5th Global Biodiversity Outlook report, to be launched in September.

Complementing them is a new independent study by over 100 international economists and scientists detailing the economic case for protecting far more of the planet's lands and ocean territories. Commissioned by the Campaign for Nature (campaignfornature.org), it is premised on a proposal to protect at least 30 per cent of the world's lands and oceans, a headlined proposition in the draft 10-year strategy to be decided at COP-15.

Roughly 15 per cent of the world's land and seven per cent of the ocean are protected to some degree. Reaching a 30 per cent target would return benefits five times greater than the required investment.

Their report analyses the impact on agriculture, fisheries, forestry and other sectors and offers new evidence that conservation drives economic growth and makes a net contribution to the global economy. It also measures non-monetary benefits of investing in nature, like climate- change mitigation, flood protection, clean water, soil conservation and other ecosystem services.

Benefits increase

when nature is protected. Protecting 30 per cent of lands and oceans would yield an average every year of US\$250 billion in increased economic output and US\$350 billion in improved ecosystem services.

Protection also provides important mental and physical health benefits and reduces the risk of new zoonotic disease outbreaks such as Covid-19, a value not yet quantified but obviously and extraordinarily high.

Protecting that 30 per cent requires an average annual investment of US\$140 billion by 2030, almost six times more than the US\$24 billion invested today.

The report recommends that investment be funded from official development assistance, governments' domestic budgets, climate financing directed to nature-based solutions, philanthropies, corporations, and new sources of revenue or savings through regulatory and

Protecting that 30 per cent requires an average annual investment of US\$140 billion by 2030, almost six times more than the US\$24 billion invested today.

subsidy changes, for example.

Low and middle-income countries like Malaysia contain the world's most threatened biodiversity, it notes, recommending that 70 to 90 per cent of funding be focused on them.

Protecting nature "brings in more revenue than the alternatives and likely adds revenue to agriculture and forestry, while helping prevent climate change, water crises, biodiversity loss and disease", said Anthony Waldron, the report's lead

author.

"Investing to protect nature would represent less than one-third of the amount that governments spend on subsidies to activities that destroy nature. It would represent 0.16 per cent of global GDP and require less investment than the world spends on video games every year," added report co-author Enric Sala, explorer-in-residence at the National Geographic Society.

Carlos Manuel Rodriguez, Costa Rica's energy and environment minister, concludes: "This new report... gives us a concrete idea of how much it would cost to protect at least 30 per cent of the planet's land and ocean and, more importantly, it tells us that the benefits of this protection far outweigh the costs.

"All countries must increase their financial commitments and work with businesses and philanthropies to increase investment in the protection of nature."



Sustainable Development: Malaysia Must Put Words Into Practice

7 Jul 2020

The "bedrock principles" of the SDGs, said Sachs, include "social inclusion, universal access to public services, and global cooperation".

THE world's Sustainable Development Goals (SDGs) are needed now more than ever before. This point was underlined by Professor Jeffrey D. Sachs, the world-renowned director of the Sustainable Development Solutions Network in remarks last week as he helped launch the Sustainable Development Report 2020.

The report was released days before the United Nations begins a major stock-taking of international progress against the SDGs, five years after their adoption by UN member states.

The "bedrock principles" of the SDGs, said Sachs, who was recently appointed as Tan Sri Jeffrey Cheah honorary distinguished professor of sustainable development at Sunway University, include "social inclusion, universal access to public services, and global cooperation".

"They are the guideposts for fighting Covid-19 as well as for the investment-led recovery the world should adopt to overcome the economic crisis caused by the pandemic," he added.

Indeed, this new report focuses on the short-term fight to stop Covid-19 and long-term transformations to guide the recovery phase.

"As the report shows, there was clear SDG progress before this year's pandemic. With sound policies and strong global cooperation, we can restore that progress in the coming decade."

The annual report, as it has done since 2016, tracks progress by countries towards the SDGs as an unofficial but authoritative complement to official monitoring efforts.

Some countries, particularly in the Asia-Pacific region, had been successful (so far) in



Malaysia modestly improved its ranking from 66th last year to 60th this year, but major challenges remain. - NSTP/MOHAMAD SHAHRIL BADRI SAALI

containing Covid-19 and minimising economic damage, the report showed.

It included a novel index for grading the effectiveness of early response to Covid-19 in 33 Organisation for Economic Co-operation and Development member countries, integrating both health and economic outcomes.

South Korea topped this new index, followed by Baltic countries and countries from the Asia-Pacific region. Less successful were Western European countries and the United States.

The report said strict, prolonged lockdowns, though costly, contributed to saving thousands of lives.

Malaysia modestly improved its ranking from 66th last year to 60th this year, but major challenges remain.

We are on track to achieve SDG 1 (No poverty); SDG 7 (Affordable and Clean Energy); SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation, and Infrastructure).

We are moderately improving in SDG 3 (Good Health and Wellbeing); SDG 5

(Gender Equality); SDG 6 (Clean Water and Sanitation); SDG 11 (Sustainable Cities and Communities) and SDG 16 (Peace, Justice and Strong Institutions).

We are stagnating in SDG 2 (Zero Hunger); SDG 4 (Quality Education); SDG 13 (Climate Action); SDG 14 (Life below Water) and SDG 15 (Life on Land).

As in previous years, the SDG index is topped by three Nordic countries — Sweden, Denmark, and Finland — but no country is on track to reach all 17 SDGs by 2030.

The report says Covid-19 is likely to have severe short-term negative impacts on SDG 1, SDG 2, SDG 3 and SDG 8.

The pandemic gravely amplifies inequalities in many forms.

A bright spot is reduced environmental impact caused by a decline in economic activity. A key objective moving forward is to restore economic activity without reactivating old patterns of environmental degradation.

The report suggested that Malaysians have lost the appetite for reaching SDG 17

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The pandemic gravely amplifies inequalities in many forms. A bright spot is reduced environmental impact caused by a decline in economic activity. A key objective moving forward is to restore economic activity without reactivating old patterns of environmental degradation.

(International Collaboration).

Yet it is the only way to speed a resolution to the epidemic, identifying five key measures for such cooperation: disseminate best practices rapidly; strengthen financing mechanisms for developing countries; address hunger hotspots; ensure social protection; and, promote new drugs and vaccines.

The report concluded that despite

political rhetoric, few countries have meaningfully integrated SDGs into public management practices and procedures, including national budgets.

Malaysia started its journey towards sustainable development in the 1970s when the New Economic Policy was introduced to eradicate poverty and restructure societal imbalance.

All subsequent five-year plans, including the 11th Malaysia Development Plan (2016-2020), have underscored the elements of sustainable development, such as sustainable economic growth and striving for equitable distribution throughout society, access to basic infrastructure and utilities, access to education and healthcare services, and mainstreamed environmental conservation.

As a nation, we excel at building the language of sustainable development into our policies and made significant progress.

However, there is clearly room to improve when it comes to putting our words into practice.



Invest In Nature To Prevent Pandemics

24 Jun 2020

Putting at least 30pc of land and oceans under protection by 2030 is the minimum needed to halt global biodiversity loss.

It is a bold new goal of rising importance to the interests of every human and other species: Protect at least 30 per cent of all land and oceans by 2030. Its urgency was underlined last week in a joint statement by the Global Steering Committee of the Campaign for Nature, formed to promote that objective as the world looks to agree on new decadal biodiversity goals next year.

I am a proud member of the committee, which is led by Russ Feingold, former United States Senator and former Special Envoy to the Great Lakes Region of Africa.

He is supported by former presidents José María Figueres (Costa Rica), Olusegun Obasanjo (Nigeria), Mary Robinson (Ireland), Olafur Ragnar Grimsson (Iceland), Ellen Johnson Sirleaf (Liberia), Ernest Bai Koroma (Sierra Leone), former prime minister Hailemariam Desalegn (Ethiopia), former executive secretary of the United Nations Framework Convention on Climate Change Christiana Figueres, former foreign ministers Amre Moussa (Egypt), Tzipi Livni (Israel), Susana Malcorra (Argentina), former deputy prime minister Yongyuth Yuthavong (Thailand), former environment minister Emil Salim (Indonesia) and US Congresswoman Deb Haaland, an honorary member.

We urge today's world leaders to invest in nature as a core element of plans for post-pandemic economic recovery. Protected areas offer a well-known range of all-too-often overlooked benefits, foremost among which is preventing the mass extinction of plants, animals and microorganisms that keep our air clean, our water pure and our food supplies plentiful.



Sunset in Labuan, with Mount Kinabalu in view. It is vital to prevent communities linked to protected areas from collapsing. BERNAMA PIC

Scientists tell us that putting at least 30 per cent of the planet's land and oceans under protection by 2030 is the minimum needed to halt global biodiversity loss, a crisis listed as one of the top five risks facing the global economy by the World Economic Forum.

The coronavirus pandemic has further stressed the need to protect more of the natural world. To quote Isabelle Autissier, president of WWF France, "there is no healthy human on a sick planet, whether it is due to global warming, pollution or the collapse of biodiversity".

The Campaign for Nature Global Steering Committee statement is rooted in the findings of a new report launched last week: "A Key Sector forgotten in the Stimulus Debate: the Nature-Based Economy" (bit.ly/2B2pLML). That

report finds that protected areas and local communities that depend on them for their livelihoods have been overlooked by stimulus discussions, despite overwhelming funding merit.

The Global Steering Committee of the Campaign for Nature calls on the world to urgently invest in nature conservation.

TO prevent local communities worldwide associated with protected

areas from collapsing into prolonged poverty, unemployment and depression;

TO prevent protected areas from being further exploited by wildlife poaching and illegal logging and mining — the assets of the protected areas' business;

TO create jobs and economic activity, including through restoration and by providing a safety net to nature-based tourism, which was one of the fastest growing sectors before the pandemic;

TO safeguard the huge contribution that nature makes to the global economy (more than half of the world's gross domestic product depends on nature);

TO fight climate change, as nature-based solutions are recognised as key to meeting climate goals and can deliver near-term and long-term economic benefits;

TO help recover crucial biodiversity and critical ecosystems; and,

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"By protecting more nature, governments around the world can simultaneously create jobs, avoid long-term costs associated with climate change and biodiversity loss, and help guard against future pandemics."

TO guard against future pandemics.

As emphasised by Senator Feingold: "By protecting more nature, governments around the world can simultaneously create jobs, avoid long-term costs associated with climate change and biodiversity loss, and help guard against future pandemics."

Leaders of the World Health Organisation, World Wide Fund for Nature and the UN Convention on

Biological Diversity, for example, stated last week that "the world must embrace a recovery that involves sustainable farming and clean energy. Anything else is a false economy".

Mary Robinson, former president of Ireland, warned that "we will not reach the goals of the Paris Climate Agreement without fully embracing nature-based solutions and protecting at least 30 per cent of the world's land and ocean by 2030".

Yongyuth Yuthavong, former deputy prime minister of Thailand, said "the rampant destruction of nature is increasing the risk of pandemics. We must protect more of the natural world as part of a strategy to guard against the spread of infectious diseases".

Here in Malaysia, her government and all her citizens need to lead by example, embracing and promoting this science-based goal: protect at least 30 per cent of the planet's land and ocean.



Can ASEAN Match 'European Green Deal' Initiative?

4 Jun 2020

To fund the plan, they aim to raise €20 billion per year from private and public sources at the regional and national levels.

TWO weeks ago, the world was pleasantly surprised by the European Commission's (EC) commitment to protect 30 per cent of European Union (EU) lands and oceans by 2030, part of the European Green Deal.

The EU's 27 member states cover a combined land area of 4.2 million square kilometres; one third of that would be three times the land area of Malaysia.

The commitments include reducing chemical pesticide use by 50 per cent, planting three billion trees by 2030, and reversing the decline in pollinators.

A third of land and sea will be under "strict protection", meaning there should be no human intervention besides minimal management to keep the area in good condition for wildlife.

These areas will include primary and old-growth forests, peatlands, wetlands and grasslands — all carbon-rich habitats vital to conserve for climate as well as biodiversity reasons. Currently only three per cent of land and one per cent of marine areas are strictly protected.

To fund the plan, they aim to raise €20 billion per year from private and public sources at the regional and national levels. This also applies pressure for a reworking of Europe's common agricultural policy, which has been accused of driving biodiversity decline through its €60 billion per year subsidy system that essentially rewards farmers for the amount of land they have, not for making environmental improvements.

The targets on agriculture are a "game changer", say environmentalists who say decadal biodiversity targets set in 2010 were weakened



The European Commission's (EC) commitment to protect 30 per cent of European Union (EU) lands and oceans by 2030, part of the European Green Deal. -Pic for illustrations purposes only

by the EU's farming lobby, resulting in a "lost decade" for wildlife. Hopefully, the new targets of "healthy agriculture" can accommodate birds and butterflies.

In Europe, the loss of biodiversity has been catastrophic over the past 40 years, with wildlife populations falling 60 per cent. However, some environmentalists note "a huge sense of déjà vu", having seen previous plans and promises set out but unfulfilled.

Where protections have been instituted before, many only exist on paper and management is poor and the EC has become too timid in taking national governments to court for breaking environmental rules.

On average, the commission takes a law-breaking country to the European Court of Justice within four months for a breach of regional transport rules, but it takes 66 months for flouting environmental standards. The EC is promising legally binding targets on member states to restore nature reserves. European officials note that the biodiversity plan dovetails with action to combat the climate emergency.

"We cannot halt and reverse biodiversity loss without achieving Paris

agreement goals and vice versa," says Virginijus Sinkevičius, Europe's commissioner for environment and oceans. "Our relationship with nature has broken down in part because we lost sight of the interconnections, because we acted as if our actions had no consequences.

"This strategy is a chance to change that."

The new strategy is expected to be approved and on the table at the United Nations Convention on Biodiversity, COP15, in Kunming in 2021. Delegates from 190 countries will thrash out global biodiversity targets for the next decade,

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It is hoped that the 10 Asean member states, three of them considered biologically mega-diverse, will embrace this global target and invest in nature conservation to better safeguard the health of our communities and our planet.

and the EU is likely to put pressure on other countries to follow its lead.

A draft of the targets released by the UN Convention on Biological Diversity in January called for a global commitment to protect at least 30 per cent of the planet in the next decade. Interestingly, announcement of the new strategy coincided with the Covid-19 pandemic, which has further

highlighted the link between the environment and human health.

And, in welcoming the European initiative, former US Senator Russ Feingold, ambassador for the Campaign for Nature, called the 30 per cent commitment "timelier than ever".

It is hoped that the 10 Asean member states, three of them considered biologically mega-diverse, will embrace this global target and invest in nature conservation to better safeguard the health of our communities and our planet.

That would be a fitting response to this new EU initiative.



Sustainable Development, Business Opportunities Go Hand In Hand

22 May 2020

This is a critical moment for businesses to demonstrate leadership, to turn this challenge into an opportunity and establish business models with a laser sharp focus on sustainability.

WHILE saving human lives and rebooting the economy are two utmost priorities for government consideration when developing post-Covid-19 stimulus packages, we must not forget Nature. Society needs to change its outlook and give prime importance to halting the environmental deterioration increasingly obvious all around us, and to preserving and sustaining our home.

This is a critical moment for businesses to demonstrate leadership, to turn this challenge into an opportunity and establish business models with a laser sharp focus on sustainability. This doesn't mean smaller profits. It does mean innovation — doing things faster, better, cheaper, and using fewer resources while achieving greater output.

It means deployment of technologies connected within the Internet of Things, automation, machine learning, real-time data and monitoring, big data analytics and more — circular economy solutions. The Fourth Industrial Revolution innovation underway will save energy, decrease waste of food and materials, and reduce greenhouse gas emissions. They will contribute to development, to human wellbeing, and to long-term success for companies that pursue them.

A hot-button issue when discussing sustainability is the palm oil industry. Malaysia and Indonesia are jointly responsible for about 86 per cent of global production, and oil palm is the oil crop with the highest yield per hectare — an indispensable part of the 21st Century sustainability strategy.

Palm oil is an important ingredient in a range of products, including biodiesel. And,



This is a critical moment for businesses to demonstrate leadership, to turn this challenge into an opportunity and establish business models with a laser sharp focus on sustainability.
--File pic via BERNAMA

following the European Union's Biofuel Directive in 2003, palm oil production in Malaysia and Indonesia accelerated, which contributed to deforestation as plantations expanded to meet rising demand.

And as a consequence, our peatlands — where much of the deforestation happened — were burnt and degraded, releasing enormous greenhouse gases into the atmosphere. In the light of these insights, the EU passed legislation in 2018 that bans South East Asian palm oil as a feedstock for biodiesel and reduces its use for any purpose to zero by 2030.

Caught in this sustainability-driven seesaw are palm oil producers and most critically, large numbers of smallholders across the region who depend on this crop for their livelihoods.

Just after independence, Malaysia's poverty level was 47 per cent. Today it is less than 5.0 per cent, thanks largely to oil palm. Our debt to this industry is great. But the priority today is to stop deforestation, to take care of the forests that remain, their precious biodiversity and the dwindling wildlife in them.

South East Asian companies must find ways to increase yield in the areas already in use and the sustainability of the whole palm oil supply chain, to

maximise uses of the industry's residue, and to diversify income streams for local farmers and communities.

This challenge is keeping companies viable, innovating to help local societies prosper, and putting a stop to deforestation and runaway carbon emissions. It can be done. The role of policymakers and government is fundamental to encouraging and enabling these sustainable business opportunities and practices.

Likewise, platforms such as the Malaysian chapter of the World Business Council for Sustainable Development (BCSD) are critically important, allowing member companies to share solutions that have shown their value and efficacy, saving precious time and effort.

There is compelling evidence that companies prioritising the environment, social responsibility and good governance enjoy sustainable financial performance. Investors,

It is up to industry shakers and movers to lead by example, and for all industries of different kinds to engage with and use the BCSD Malaysia platform for sharing sustainability practices.

stakeholders and potential customers expect, in some cases demand, that companies and their boards perform well with respect to, for example, water management, biodiversity, or labour exploitation in their supply chains. Effective performance with respect to sustainability issues is now a competitive advantage.

Forward-looking businesses will pursue the enormous

opportunities that true sustainability has to offer. By recognising emerging mega trends such as the accelerating de-carbonisation of the economy, or the need for agricultural innovation to safeguard food security for a growing world population, companies will gain an enormous advantage over less sustainable competitors.

It is up to industry shakers and movers to lead by example, and for all industries of different kinds to engage with and use the BCSD Malaysia platform for sharing sustainability practices, leverage the knowledge and reach of the global organisation's international network, and to apply that in a range of areas, from climate and energy or food and agriculture to human rights.

I invite firms to join the BCSD Malaysia. Together, we will transition to a more sustainable future for business, society, and the environment — for Malaysia.



Choose Nature-Friendly Policies

12 May 2020

"The process that leads a microbe, such as a virus, from a population of vertebrates such as bats to humans is complex, but driven by people."

WHILE saving human lives and re-booting the economy are two utmost priorities for governments to consider when developing their post-Covid-19 Stimulus Package, they must not forget Nature.

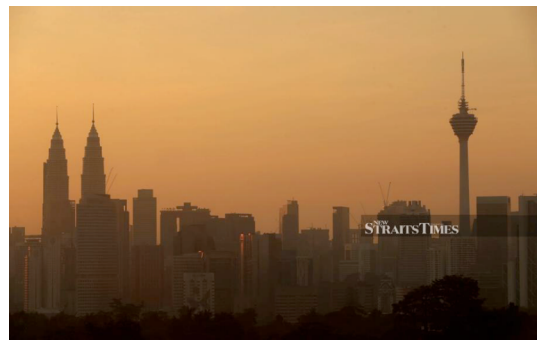
After all, the root cause of those zoonotic diseases such as Covid-19 is the destruction of wildlife habitats, a fact endorsed by most of the scientific community. Meaning, our human activity facilitated the virus' jump from wildlife to us. And, as we contemplate the post-pandemic world to come, the voices of scientists need to be heard far and wide.

"The process that leads a microbe, such as a virus, from a population of vertebrates such as bats to humans is complex, but driven by people," says Anne Larigauderie, executive secretary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the panel of UN experts on biodiversity.

"The rate of global change in nature during the past 50 years is unprecedented in human history, and the most important direct driver of change in nature is land use change," she adds. This message was reinforced recently by four renowned IPBES-affiliated experts: Josef Settele, Sandra Díaz, Eduardo Brondizio and Peter Daszak.

In an eloquent commentary, they suggested that post Covid-19 stimulus measures "must save lives, protect livelihoods, and safeguard Nature to reduce the risk of future pandemics."

"There is a single species that is responsible for the Covid-19 pandemic — us. We have a small window of opportunity, in



In an eloquent commentary, they suggested that post Covid-19 stimulus measures "must save lives, protect livelihoods, and safeguard Nature to reduce the risk of future pandemics." - NSTP/ MOHAMAD SHAHRIL BADRI SAALI

overcoming the challenges of the current crisis, to avoid sowing the seeds of future ones," they said.

They argued that government stimulus plans needed to include sustainable and nature-positive initiatives.

"It may be politically expedient at this time to relax environmental standards and to prop up industries such as intensive agriculture, long-distance transportation such as the airlines, and fossil-fuel-dependent energy sectors, but doing so without requiring urgent and fundamental change, essentially subsidizes the emergence of future pandemics."

Three of the commentary's authors — Settele, Díaz, and Brondizio — also led the comprehensive 2019 IPBES Global Assessment

Report on Biodiversity and Ecosystem Services, which found that one million species of plants and animals are at risk of extinction within decades.

They warned that 1.7 million unidentified viruses known to infect people are estimated to exist in mammals and water birds.

Any one of these may be more disruptive and lethal than Covid-19. With that in mind, the authors recommend three essential considerations

for Covid-19-related stimulus plans.

Countries should a) streng-then environmental regulations; b) adopt a 'One Health' approach to decision-making that recognises complex interconnections among the health of people, animals, plants, and our shared environment; and c) prop up healthcare systems in the most vulnerable countries where resources are strained and underfunded.

"This is not simple altruism," they argued.

"It is vital investment in the interests of all to prevent future global outbreaks. The programmes required will cost tens of billions of dollars a year.

"But, if you get one pandemic, even just one a century, that costs trillions, so you still

That compelling narrative underlines the urgent necessity to support the Campaign for Nature, launched in 2018 by the Wyss Foundation and National Geographic Society to set aside 30 per cent of the Earth surface as protected areas by 2030.

come out with an incredibly good return on investment.

"Business as usual will not work. Business as usual right now for pandemics is waiting for them to emerge and hoping for a vaccine. That's not a good strategy. We need to deal with the underlying drivers."

The authors contend that the world could build back better and emerge from the current crisis stronger and

more resilient than ever, "but to do so means choosing policies and actions that protect nature, so that nature can help to protect us."

That compelling narrative underlines the urgent necessity to support the Campaign for Nature, launched in 2018 by the Wyss Foundation and National Geographic Society to set aside 30 per cent of the Earth surface as protected areas by 2030. Habitat loss is widely regarded as the world's top cause of species extinction. To save those species, their homes and those of other species on which they depend must be protected — and quickly.

"Every year we wait, we put more species in peril," says Brian O'Donnell, director of the Campaign for Nature, who advocates globally for more conservation areas.



Urgent Need For A Circular Economy

28 Apr 2020

Our society is still sleepwalking along practising the linear consumption model; just look at the food waste in previous Ramadan seasons.

ON Earth Day, April 22, amidst the ongoing "War of the World" against Covid-19, we are reminded again on the need for us to respect and take care of Nature. As the Malay proverb says, *Kalau meludah ke langit, akhirnya jatuh ke muka sendiri*, literally meaning, "if you spit to the sky, it will eventually fall back on your face".

In the current context and if you damage the environment, the essentials it provides — food, water and clean air — will be less readily available. Worse still, our intrusion into and destruction of wildlife habitats have triggered apocalyptic zoonotic diseases such as Covid-19.

In a new documentary, celebrated British broadcaster David Attenborough declared that "human beings have overrun the world" and are sending it into decline. He's placing hopes on the younger generations to save our civilisation.

It is no coincidence, then, that a 2014 video voiced by Hollywood icon Julia Roberts has been making the rounds again on social media. Created by Conservation International, the video (bit.ly/natureroberts) offers its thought-provoking message in a powerful way.

The actress delivers messages in the voice of Mother Nature: "I have fed species greater than you. And I have starved species greater than you. My oceans, my soil, my flowing streams, my forests: They all can take you — or leave you... Your actions will determine your fate. Not mine."

We must get going, the sooner the better. One popular concept involves a "circular economy", which means minimising waste and maximising our necessary use of natural



If you damage the environment, the essentials it provides — food, water and clean air — will be less readily available. FILE PIC

resources, an alternative to the linear economy, in which we extract great quantities of resources to make products that we often use once only and discard in a landfill.

The aims of the circular economy: optimise the use of the resources we extract from nature and minimise waste — to "close the loop", in other words, with maximum material recycling.

To work, manufacturers are called on for new product designs, and transformative new models for how products are consumed and who owns them.

For example, a computer or mobile phone manufacturer held responsible for the waste from its products might put a deposit on and lease its products, ultimately taking them back for refurbishment or to recycle its components.

The idea is to break our disposable world mindset and throwaway habits, which result in polluted rivers and oceans, threatened wildlife, and food supply insecurity.

To quote *National Geographic*: "That means rethinking how products are conceived at the start, minimising unnecessary use of resources, designing items to be used as long as possible, and planning to funnel

material back into the economy afterward. Achieving this will require massive investment in collection, sorting and recycling infrastructure."

It notes that municipal governments worldwide "are becoming incubators for ideas that can inform broader policies and can inspire action in both public and private sectors".

Toronto's organic waste, for example, is collected from households and turned into biogas that can fuel trucks or generate heating. At least 4,500 New York City businesses, meanwhile,

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To what extent has Malaysia adopted the circular economy? From a cursory observation, it's still a nascent concept. Our society is still sleepwalking along practising the linear consumption model.

focus on "repair, reuse and the sharing economy". Carbon taxes could be a key tool in the strategy: reward producers that successfully shrink the carbon emissions caused by their products throughout their entire life cycle and penalise those who don't.

To what extent has Malaysia adopted the circular economy?

From a cursory observation, it's still a nascent concept. Our

society is still sleepwalking along practising the linear consumption model. Just look, for example, at the mountains of food waste generated in previous Ramadan seasons, most of it ending up in dumps unequipped even to collect landfill gas.

It is up to our leaders to put us finally and firmly onto a sustainable path. As a wake-up call to respect nature, the Covid-19 pandemic is a giant alarm clock with the impact of a sledgehammer on our health and economy. We have no time left to procrastinate.



Critical Learning For All Countries

15 Apr 2020

Covid-19 represents the biggest science advice and science diplomacy challenge the world has faced in decades.

AS we relentlessly encroach on nature and degrade ecosystems, we endanger the health of all humanity, a warning underlined by the Covid-19 pandemic in the most dramatic imaginable fashion.

Inger Andersen, executive director of the United Nations Environment Programme, last week noted that 75 per cent of all emerging infectious diseases in humans are zoonotic — originating from animals, whether domesticated or from the wild.

A new study in the prestigious journal *Proceedings of the Royal Society B* found that the spillover risk was highest from threatened and endangered wild animals whose populations had declined largely due to hunting, the wildlife trade and loss of habitat.

“Spillover of viruses from animals is a direct result of our actions involving wildlife and their habitat,” said lead author Christine Kreuder Johnson of the University of California.

“The consequence is they’re sharing their viruses with us. These actions simultaneously threaten species survival and increase the risk of spillover. In an unfortunate convergence of many factors, this brings about the kind of mess we’re in now.”

The link between ecosystems and human health has been well documented repeatedly — in landmark reports from the Millennium Ecosystem Assessment 15 years ago to last year’s IPBES Global Assessment of Biodiversity and Ecosystem Services — both comprehensive, United Nations-endorsed reports involving thousands of experts worldwide.

In 2005, the Millennium Ecosystem Assessment stressed an upturn in the



Just witness a sampling of the headlines last week: “Want to Stop the Next Pandemic? Start Protecting Wildlife Habitats” (Bloomberg News). (Photo by Punit PARANJPE / AFP)

emergence or re-emergence of infectious diseases due largely to rising human encroachment on natural environments, reductions in biodiversity (including natural predators of organisms that transmit disease), livestock and poultry production methods, and trading in wildlife.

The 2019 IPBES Global Assessment likewise warned of emerging infectious diseases in wildlife, domestic animals, plants or people, exacerbated by human activities such as land clearing and habitat fragmentation.

Both reports were well publicised, their messages repeated in countless forms, the scientific evidence there for all to see.

Sadly, it seems, only a calamitous event such as the current pandemic provides the jolt

needed by many of us to take notice.

Just witness a sampling of the headlines last week: “Want to Stop the Next Pandemic? Start Protecting Wildlife Habitats” (Bloomberg News); “Deforestation isn’t just an environmental problem. It’s a public health crisis” (ABC News, United States); “Coronavirus has exposed our arrogant relationship with nature” (*Financial Times*, United Kingdom); and, “Infectious diseases

from animals likely to cause further pandemics” (The Medical News, Australia).

Surely there’s a better way — rather than react and cure; it’s time to anticipate and prevent more effectively.

At the initiative of Sir Peter Gluckman, former science adviser to the prime minister of New Zealand, the International Network for Government Science Advice (INGSA) was founded in 2014 to fill an important gap — to promote and build the capacity for policymaking informed by scientific evidence. INGSA develops competent people and institutions operating at every level, from local to international — an association of thought leaders with know-how to enhance scientific evidence-based policymaking.

The inevitability of a pandemic like Covid-19 had been predicted for many years. Yet the level of preparation was limited by a failure to appreciate the significance of such warnings.

Gluckman asks why the science evidence, policy nexus failed. Was it overconfidence within policy communities because previous outbreaks like SARS and Ebola were effectively contained?

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As pointed out by Gluckman, the Covid-19 crisis represents the biggest science advice and science diplomacy challenge the world has faced together in many decades.

Was it because influenza was perceived as a minor disease usually well dealt with by vaccination (even though flu viruses regularly kill 290,000 to 650,000 people per year, especially the elderly and infirm, according to the World Health Organisation)?

Did scientists forecasting an uncertain but potentially devastating disease spread seem alarmist?

The expense required to prepare for this

pandemic might have had little public support in the absence of certainty of impact, making such long-term planning a low priority relative to short-term demands. But the missed investment needed to be well prepared in advance seems pittance today compared with the expense and consequences of ramping up belatedly to deal with Covid-19.

Even now, there remains an array of denial and misinformation that bends the narrative to support short-term political and economic interests.

There is critical learning here for every country.

As pointed out by Gluckman, the Covid-19 crisis represents the biggest science advice and science diplomacy challenge the world has faced together in many decades. It offers the most appropriate time ever for the scientific community to forge a more solid ongoing link with policymakers, government officials and leaders of industry and civil society.

With the devastating effects of climate change on the horizon, we had better start to get it right, and right away.



Why Interspecies Social Distancing Is Important

1 Apr 2020

We should reflect on our overall relationship with nature.

MALAYSIANS love their durian. But do they know how much their enjoyment of that fruit and their fundamental health depends on bats?

New Sunday Times columnist Rohiman Haroon describes witnessing durian rapture like this: "(O)nce it touched the tongue, the lusciously nectarous with a tinge of bitterness taste would put you on the highest level of ecstasy."

Our King of Fruits was even featured on the United States talk show *Jimmy Kimmel Live!*, its taste described as "bleu cheese infused in a creamy pudding that had garlic and onions in it".

Beyond our huge domestic market, there's increasing demand for Malaysian durian overseas, mainly from China, in particular for the Musang King variety. Before Covid-19 hit, the Federal Agricultural Marketing Authority had a RM50 million export target for Musang King durians to China (though now, of course, nothing is certain).

Some have been quick to put the blame for Covid-19 on bats. But not so fast. There is a lot of research yet to be done to confirm the source of the coronavirus. And certainly, let's not create ecological disaster in the form of massive culling of bats in a misguided eagerness to avoid pandemics.

We must avoid the folly expressed in our Malaysian saying: "*Marahkan nyamuk, kelambu dibakar*" (Burning the whole net out of anger with one mosquito). In other words, creating a much bigger problem trying to correct another.

Writing in the latest edition of online magazine *The Conversation*, environmental historian Peter Alagona, an associate professor



Beyond our huge domestic market, there's increasing demand for Malaysian durian overseas, mainly from China, in particular for the Musang King variety. -- NSTP file pic, for illustration purposes only

at the University of California, Santa Barbara, stresses that bats provide invaluable services to humans and need protection.

For example, bats pollinate around 500 plant species, including mangoes, bananas, guavas, durian and other crops essential to the human diet and world economies. Each night, insect-eating bats can consume their body weight in bugs, including mosquitoes that carry diseases like Zika, dengue and malaria. In that way, bats offer people a critically important health shield.

Bat droppings — guano — nourish entire ecosystems and have been harvested for centuries for use as fertiliser and for making soaps and antibiotics. Much needed today is

research about bats, says Alagona, "why they carry so many viruses, and why these viruses only jump infrequently to humans — typically when people hunt bats or intrude into places where bats live.

"Bats carry a range of viruses that can sicken other mammals when they jump species. These include at least 200 coronaviruses, some of which cause human respiratory diseases, like Severe Acute Respiratory Syndrome and Middle

East Respiratory Syndrome."

People raise the risk of transmission between species when they harvest bats or encroach on their habitats. Humans pack live bats into unsanitary conditions with other wild species that may serve as intermediate hosts. This may have happened at the Wuhan wet market, where many experts suspect Covid-19 emerged.

Knowledge gaps identified by Alagona include questions such as: why do bats seem unaffected by virus diseases? Perhaps genetic mutations boost their immune systems, he suggests; or, as the only flying mammal, perhaps bats generate so much internal heat in flight that their bodies fight off illnesses.

Long reviled as pests, flying foxes or fruit bats ("keluang" in Malay) have declined steadily in recent years, hunted or chased off by mango and durian farmers. Now, non-profit research organisation Rimba Research, founded by a young husband and wife team, Dr Sheema

Globally, there are around 70 fruit bat species, six of which have gone extinct in recent times. Meanwhile, around half of the surviving fruit bat species are considered threatened with extinction, and many others are imperilled locally.

Abdul Aziz and Dr Reuben Clements, has shed light onto the ecology of fruit bats.

For instance, their main food is the fruit of wild fig trees, and they play an important ecological role as dispersers of seeds. Camera trap footage reveals that fruit bats visit durian trees, but do not actually eat durian flowers. They only feed on the flowers' nectar without damaging them.

Globally, there are around 70 fruit bat

species, six of which have gone extinct in recent times. Meanwhile, around half of the surviving fruit bat species are considered threatened with extinction, and many others are imperilled locally.

Sheema, conducting her research at the Muséum National d'Histoire Naturelle in France, cautions that governments have a major role in conservation by extending legal protection to flying foxes/fruit bats and their habitats.

"For flying foxes, this means protecting rainforests, mangroves and swamps," she says. "Mangroves and swamps are the last few refuges sheltering flying foxes from hunting pressure, so their roost sites need to be secured."

It seems obvious, too, that in general we need well-respected boundaries for all wildlife, such as establishing protected areas in perpetuity. We should take this opportunity to reflect on our overall relationship with nature. For our safety and health, we need social distancing between our species and many others on which we depend.



Nature Is Calling, How Will You Respond?

26 Mac 2020

Covid-19 seems like an expression of our failure to understand link between humans and planet health.

AS the global Covid-19 crisis dramatically underlines, the fate and wellbeing of people relies on the health of the planet. Planetary health is a term referring to human health “and the state of the natural systems on which it depends”.

The novel coronavirus looks increasingly like an expression of our failure to understand this link, as demonstrated by our disruption of ecosystems. It was in 1980 that non-governmental organisation (NGO) Friends of the Earth first articulated the need to enlarge the World Health Organisation’s definition of health, asserting that “personal health involves planetary health”.

The next decade, the late Norwegian physician Per Fugelli warned: “The patient Earth is sick. Global environmental disruptions can have serious consequences on human health. It’s time for doctors to give a world diagnosis and advice on treatment.”

In 2015, the Rockefeller Foundation-Lancet Commission on Planetary Health concluded that unparalleled 20th century advancements had created better health conditions for billions of people but at great expense — a heavy toll on the Earth’s natural systems.

“Between unsustainable resource consumption and population growth, there is growing evidence that the planet’s capacity to sustain the growing human population is declining,” it said.

Air, water and land degradation, climate change, extreme weather events, lost biodiversity, and other problems have reduced food security and nutrition, diminished freshwater



Covid-19 and other zoonotic diseases are linked to the loss of biodiversity and climate change.
-NSTP File pic

resources, raised exposure to communicable diseases and increased non-communicable ones.

The result: great loss of life and undermined wellbeing. The commission’s publication, *Safeguarding Human Health in the Anthropocene Epoch*, explored the scientific basis for establishing planetary health as a new field.

It identified three categories of challenges:

“Imagination challenges”, such as an over-reliance on gross domestic product as a measure of human progress, the failure to account for future health and environmental harms over present-day gains, and the disproportionate effect of those harms on the poor and those in developing nations;

Research and information challenges, such as failure to address social and environmental drivers of ill health, a historical lack

of transdisciplinary research and funding, together with an unwillingness or inability to deal with uncertainty within decision-making frameworks; and,

Governance challenges, such as delayed recognition and responses to threats by governments and institutions, especially when faced with uncertainties, and time lags between action and effect.

Covid-19 and

other zoonotic diseases — illnesses spread from animals to humans — are linked to the loss of biodiversity and forests and climate change. Others in recent decades include Nipah, Ebola, Avian Flu, and Zika.

The 2019 report by the Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services (IPBES) said vector-borne diseases account for about 17 per cent of all infectious diseases and now cause an estimated 700,000 deaths per year.

“Emerging infectious diseases in wildlife, domestic animals, plants or people can be exacerbated by human activities such as land clearing and habitat fragmentation,” IPBES said.

Many scientists believe that we are witnessing the tip of an iceberg, that without drastic steps now more pandemics will follow.

And a recent survey of 222 scientists across 52 countries by NGO Future Earth ranked biodiversity loss and ecosystem collapse among the top five risks facing humanity. The others: extreme weather, the failure to mitigate and adapt to climate change, food crises and water shortages.

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The campaign’s rationale: “We need bold new ideas and decisive action from leaders around the world so that life on Earth can continue to thrive.” And “we need to ensure the full participation of indigenous peoples and local communities.”

Many of these scientists stressed, however, that their greatest concern is the prospect of one global risk cascading onto the others. Heatwaves, for example, can accelerate water loss and food scarcity, just as biodiversity loss exacerbates climate change, and vice versa.

There is an appropriate Malay saying for this atrocious situation: “*Kalau sesat, baliklah ke pangkal jalan*” — when

lost, get back to where you started. It is important for us to join forces with like-minded movements, such as The Campaign for Nature, a partnership of the Wyss Campaign for Nature and the National Geographic Society, working with a growing coalition of more than 100 conservation organisations around the world that is calling on policymakers to commit to a science-driven, ambitious new deal for nature.

This involves commitments to: Protect at least 30 per cent of the planet by 2030; help mobilise financial resources to ensure protected areas are properly managed; and approach biodiversity conservation in a way that fully integrates and respects indigenous leadership and indigenous rights.

The campaign’s rationale: “We need bold new ideas and decisive action from leaders around the world so that life on Earth can continue to thrive.” And “we need to ensure the full participation of indigenous peoples and local communities.”

A slogan of the campaign says it all, from citizens to their leaders: “Nature is calling. How will you respond?”



Sweden's Respect For Environment

20 Mac 2020

Environment, economy and social concerns inseparable legs of the stool on which sustainable development rests.

SCANDINAVIAN countries have pioneered sustainable development in every way.

After all, it was former Norwegian prime minister Gro Harlem Brundtland and her commission who introduced, in their seminal 1987 publication *Our Common Future*, the very concept of sustainable development, which “meets the needs of the present without compromising the ability of future generations to meet their own needs”.

It was particularly interesting last week, therefore, at a lecture hosted by the Academy of Sciences Malaysia, to hear Swedish judge Dr Christina Olsen Lundh narrate her country's experience in administering environmental law. To an environmentalist's ear, it was almost like music.

The Swedish Environmental Code (SEC) discussed by Dr Lundh aims “to promote sustainable development which will assure a healthy and sound environment for present and future generations. Such development will be based on recognition of the fact that Nature carries with it a responsibility for wise management of natural resources”.

A major consolidation and reform of the environmental legal framework in Sweden took place in 1999 when SEC entered into force, replacing 15 environmental acts dating back many years, the tangle of which had made legislation complex and fragmented, and therefore harder to enforce.

SEC has a broad scope, covering land and water management, nature conservation, protection of flora and fauna, environmentally hazardous activities, water operations, genetic engineering, chemical products and waste

management.

Apart from material provisions, SEC also sets out the basic framework for implementing environmental protection, with provisions on procedure, supervision, sanctions, compensation, environmental damages, and a permit regime covering both environmentally hazardous activities and water operations.

Strikingly, Dr Lundh underscored the reverence that Swedes showed for nature by instituting a code that insists that “nature has an intrinsic value”. Many Malaysians could take a lesson from the Swedes, who ranked first (and Malaysia 55th) among 180 countries in the 2019 Global Sustainable Competitiveness Index.

For the most part, Malaysians have yet to get that the environment is one of three equal components of our national capital, the other two being our economic and human capital. Witness our legendary, notorious and ongoing assault on the environment.

Last year, toxic pollution of Sungai Kim Kim in Pasir Gudang affected 6,000 people, hospitalised 2,775 and led to the closure of 110 schools. In 2013 and 2014, illegal clearing of land for agriculture in Cameron Highlands resulted in mud floods that claimed several lives and ravaged houses in the vicinity.

Recognised by Science magazine as the eighth worst country worldwide for plastic waste in 2015, Malaysia has also become the preferred destination for plastic waste dumping after China banned its import in 2017. There was money to be made from recycling plastic. In Malaysia, according to government sources, it is worth RM30 billion annually, while globally, it is worth RM600 billion. It was only in October 2018 that

the government took steps to ban the import of plastic scrap.

It was not as if the government was oblivious to the significance of the environment. Forty-six years ago, Malaysia enacted the Environmental Quality Act, regarded in 1974 as the most comprehensive piece of legislation addressing environmental protection and pollution control.

The act also

forms the basic instrument for achieving environmental policy objectives. It has been amended several times over the years to consider the changing dynamics of environmental problems faced by the country. However, a proper and methodological implementation of the act remains a big challenge.

Last year, the then Energy, Science, Technology, Environment and Climate Change Ministry decided to undertake another review which could incorporate greater enforcement powers as well as stiffer punishments for polluters. The new act would focus on boosting enforcement action and legislative powers.

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Forty-six years ago, Malaysia enacted the Environmental Quality Act, regarded in 1974 as the most comprehensive piece of legislation addressing environmental protection and pollution control.

A Steering Committee to review the act has been established under the Academy of Sciences Malaysia. Some early findings of the committee include weak enforcement of the act and a lack of transparency in some processes, such as the Environmental Impact Assessment, revealing a need to open up more information to the public.

Finally, some mechanisms must be found to overcome the

fragmentation of environmental governance, which falls under the purview of several ministries, and to overcome the overlapping federal-state jurisdiction conundrum. The new cabinet under Prime Minister Tan Sri Muhyiddin Yassin has re-introduced a standalone Environment Ministry led by Minister Datuk Tuan Ibrahim Tuan Man.

We wish them well, and hope that they and all relevant colleagues knock down the inter-ministerial walls and recognise, like the Swedes, that the environment, the economy and our social concerns constitute three inseparable legs of the stool on which sustainable development rests.



We Cannot Take Trees For Granted

10 Mac 2020

A respectful attitude for nature is shared not only by so many common people but our royals too.

HOW encouraging it has been lately to see a heightened level of awareness of and respect for nature.

In Malaysia, this was evident in the huge public outcry after last October's attempt by the Johor government to degazette the Pulau Kukup National Park — one of the world's largest mangrove islands.

Just off the southern Malaysian coast, it has been a national park since 1997 and renowned worldwide as one of our nation's five Ramsar sites, accorded international importance under the United Nations' Convention on Wetlands.

Early last month, the Selangor Forestry Department invited stakeholders to voice their views on a proposal to remove protections for virtually all the 93-year-old Kuala Langat North Forest Reserve in order to green light a mixed development project.

The peat swamp forest is important for the conservation of several critically endangered plant and animal species, and the prospect of its development sent shock waves through the environmental community, to say nothing of the reaction of members of the Temuan Orang Asli tribe who live off the forest. Some 2,000 objections have been submitted so far.

A respectful attitude for nature is shared not only by so many common people but our royals too.

In a speech on climate change and global warming delivered in Kuala Kangsar on Tuesday, the Sultan of Perak, Sultan Nazrin Muizzuddin Shah lamented that trees and forests seemed no longer appreciated, seen increasingly as simply commercial fodder for timber or as land



Trees are the life-giving cornerstones of livelihood for many. PIC BY HAFIZ SOHAIMI

for commercial farming.

The monarch gave a regal nod to the efforts to replant indigenous trees, noting that several places in the state are named after trees, including Ipoh, Beruas, Lekir, Changkat Keruing and Padang Rengas.

Outside Perak, there are also towns named after native trees: Tampoi and Simpang Pulai in Johor; Durian Tunggal and Sungai Rambai in Melaka; Alor Star and Pokok Sena in Kedah; Machang in Kelantan; and Dungun in Terengganu.

"How many of today's generation still recognise these trees and do they still exist in places that use their names?" he asked.

As aptly pointed out by the *New Straits Times* Leader on March 5: "It's time we got to

know our trees. One, they are living things. Two, other life forms depend on them, including us.”

Planting trees is part of the great Malay culture. My late father enjoyed doing it.

It was common to plant a tree, usually a coconut, to signify the arrival of a new child in the family. This is also widespread globally.

One giant personality involved in a big way was the late Wangari Maathai who started “the

Green Belt Movement” in 1977 and inspired the planting of 51 million trees in her native Kenya.

For these and many other environmental efforts, she was awarded the Nobel Peace Prize in 2004.

One of the more active corporate players in tree planting is the Aeon Environmental Foundation, the sponsor of the Midori Biodiversity Prize.

Launched in 1991, its tree-planting project in Japan and elsewhere in Southeast Asia has now reached 12 million trees.

More needs to be done.

Thankfully, biologists who champion biodiversity are starting to achieve the success of scientists who champion the mitigation of global warming.

Biodiversity conservation and protection must also be mainstreamed. This means understanding the contribution of biodiversity to socioeconomic development and human well-being and including actions to conserve and use

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In January this year, the Water, Land and Natural Resources Ministry unveiled a programme — with strong private sector support — to rehabilitate degraded areas throughout Malaysia by replanting 100 million trees, starting this year through 2025.

biodiversity sustainably at the policy, planning, and programme stage of every project cycle.

We simply must reduce the negative impacts that our productive sectors, development investments and other human activities have on biodiversity.

Mainstreaming forms an integral part of the UN Convention on Biological Diversity, in which the Parties are obliged to develop

national strategies, plans or programmes for the conservation and sustainable use of biological diversity, and to integrate the latter into relevant sectoral or cross-sectoral plans, programmes and policies.

In January this year, the Water, Land and Natural Resources Ministry unveiled a programme due to be launched this month — with strong private sector support — to rehabilitate degraded areas throughout Malaysia by replanting 100 million trees, starting this year through 2025.

It remains to be seen whether this programme will take off now given the change of government.

Trees are a vital part of our planet’s ecosystem.

Every one of us relies fundamentally on them for oxygen, fruits, wood, water, medicines, soil nutrients and more.

Trees not only give life, they improve livelihoods. We cannot take them for granted.



Preparing A Path To Avert Human Extinction

29 Feb 2020

Rome meeting needs to lay out framework to revive actions to reduce biodiversity loss.

Twice in recent memory, the international community has missed the target to halt biodiversity loss.

The first time was in 2010 — the International Year of Biodiversity — when a significant cut in the rate of biodiversity loss was supposed to have happened. Instead, pressures on biodiversity were increasing.

The world tried again in 2011 with the Aichi Biodiversity Targets, setting a 10-year goalpost of 2020. By the look of things, stemming the destruction of species' habitats or halting overfishing will not be achieved.

As ever, the human species — *homo sapiens* (“the wise one”) — is an optimistic one. This week in Rome, Italy, more than 1000 delegates from Malaysia and more than 140 countries are hard at work negotiating the initial draft of a landmark post-2020 global biodiversity framework and targets for nature to 2030.

The new framework will be considered by the 196 Parties to the Convention on Biological Diversity (CBD) at the 2020 United Nations Biodiversity Conference (CBD COP15) in Kunming, China, from Oct 15 to 28.

To quote Elizabeth Maruma Mrema, CBD's acting executive secretary: “I know that the world is eagerly waiting out there for demonstrable progress towards a clear, actionable and transformative global framework on biodiversity.

“They want a framework that can be implemented at all levels, namely, at global, regional levels, national and subnational levels. They want a framework that builds upon the existing Biodiversity Strategic Plan 2011-2020 and its accompanying Aichi Biodiversity Targets



Conservationists, who believe that biodiversity loss is as harmful as climate change, are desperate for a biodiversity accord that will carry the same weight as the Paris climate agreement.
-File pic

and a framework that aligns with the 2030 Agenda for Sustainable Development.”

To which I'd add that we must ensure that we are not going to be disappointed again 10 years down the road. Sir Robert Watson, a close friend and my successor as chair of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystems Services (IPBES), says it well:

“The continued loss of biodiversity is not only an environmental issue. It risks undermining the achievement of most of the UN sustainable development goals. It is central to development, through food, water and energy security. It has significant economic value, which should be recognised in national accounting systems.

“It is a security issue insofar as loss of natural resources, especially in developing countries, can lead to conflict. It is an ethical issue because loss of biodiversity hurts the poorest people, further exacerbating an already inequitable world. And it is also a moral issue, because we should not destroy the living planet.”

Ten years ago, nations promised to at least halve the loss of natural habitats, ensure

sustainable fishing in all waters, and expand nature reserves from 10 to 17 per cent of the world’s land by 2020. But many nations have fallen behind, and some have done little to police the protected areas that were created. “Paper reserves” can now be found from Brazil to China.

Some inroads have been made.

Several species in Africa and Asia have recovered (though most are in decline) and forest cover in Asia has increased by 2.5 per cent (though it has decreased elsewhere at a faster rate). Marine protected areas have also widened. Many countries now have in place their National Biodiversity Strategic Action Plans to combat biodiversity loss. However, it is a case of one step forward and two steps backward.

The problem in part is awareness, or the lack of it. We need higher levels of political and citizen will to support nature. Conservationists, who believe that biodiversity loss is as harmful as climate change, are desperate for a biodiversity

As someone quipped recently, we wouldn’t want to be the first species to document our own extinction.

accord that will carry the same weight as the Paris climate agreement.

Countries must be bold enough to commit to lofty goals, such as setting aside 30 per cent of their land and seascapes to Protected Areas for future generations.

At the Earth Summit in Rio de Janeiro, Brazil, 30 years ago, where the CBD was first agreed, Prime Minister Tun Dr Mahathir Mohamad committed to preserve 50 per cent of its landmass

under forests. The 2016 statistics suggest that 55.3 per cent, or 18.28 million hectares of forests in Malaysia, are still intact.

However, as noted previously, we should object to backsliding, such as the Selangor government’s plans to remove protection for a large forest reserve and permit a mixed development project. French President Emmanuel Macron recently noted that the climate issue cannot be solved without a halt in biodiversity loss.

Hopefully the preparatory meeting in Rome this week lays out the framework to reinvigorate actions at the global, regional, national and local levels to transform economic, social and financial systems in order to reduce biodiversity loss and put biodiversity on a path to recovery.

As someone quipped recently, we wouldn’t want to be the first species to document our own extinction.



Appreciate Social, Environmental Benefits Of Protected Areas

20 Feb 2020

The CBD has turned out to be the most important international legal instrument addressing PAs.

SETTING aside ecologically-important lands and marine areas within protected areas (PA) was among the more contentious issues that confronted governments at the 1992 Earth Summit in Rio de Janeiro.

The issue was a central focus in negotiations of the Convention on Biological Diversity (CBD), one of the three UN treaties signed at the Summit by then-Prime Minister Tun Dr Mahathir Mohamad and other leaders.

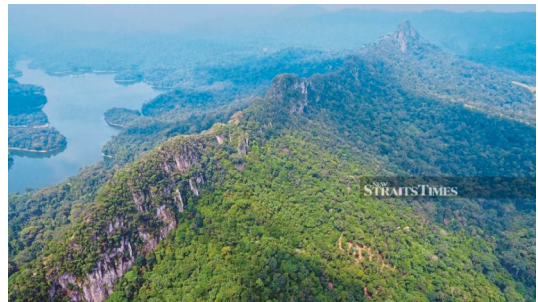
PAs are defined by the International Union for Conservation of Nature as "a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values".

And the CBD has turned out to be the most important international legal instrument addressing PAs.

The CBD calls PAs the cornerstone of biodiversity conservation. They maintain key habitats, provide refuge, allow for species migration and movement, and ensure the maintenance of natural processes, helping to secure the well-being of humanity.

PAs provide livelihoods for nearly 1.1 billion people, drinking water for over a third of the world's largest cities, and support global food security. Well-managed and connected PAs are key to both mitigation and adaptation responses to the climate change threatening the planet.

In February 2004, CBD member nations adopted one of the most comprehensive and specific PA commitments ever: the Programme of Work on Protected Areas. The PoWPA is both a "blueprint" for PAs and a commitment to develop



Protected Areas are fundamental to conserving biodiversity, to securing vital ecosystem services like clean water and storm protection, to local livelihoods, to climate change adaptation, and to achieving the Sustainable Development Goals. - NSTP file pic, for illustration purposes only

participatory, ecologically representative and effectively managed national and regional PA systems, spanning national boundaries where necessary.

Last year's landmark IPBES Global Assessment found that PAs represented one of the few bright spots with respect to progress against the globally agreed Aichi biodiversity targets (2010-2020).

The Aichi agreement called for at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine environments to be conserved, and effectively and equitably managed, in ecologically representative, well-connected systems.

National commitments to create new or expand existing PAs amount to more than 3.9 million square kilometres on land and over 13 million square kilometres in the oceans. If those commitments are fulfilled, coverage is expected to exceed the Aichi targets.

So, what is the current situation in Malaysia? Records show 490 PAs nationwide — 271 in the peninsula, 173 in Sabah, 66 in Sarawak,

roughly 4.6 million hectares, or about 14 per cent of the country.

Thus, there are many tasks ahead for Malaysia and all her citizens. Sadly, the news in Malaysia today is far from encouraging.

The Selangor government, for example, plans to remove protection for the 931-hectare Kuala Langat North Forest Reserve and permit a mixed development project.

This PA reserve comprises a type of peat swamp forest — one of the most valuable

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So, what is the current situation in Malaysia? Records show 490 PAs nationwide — 271 in the peninsula, 173 in Sabah, 66 in Sarawak, roughly 4.6 million hectares, or about 14 per cent of the country.

ecosystems in Selangor — home to more than 2,000 Temuan Orang Asli and critically endangered species.

I urge all Malaysians to appreciate the social and environmental benefits of PAs, to ensure the effective participation of indigenous and local communities, and that through our governments we evaluate, improve and finance effective PA management.

We need governments to see PAs as strategic long-term investments in their economies and the well-being of citizens. Indeed, a recent report estimated a yield in societal benefits valued at \$100 for every \$1 invested in creating and managing PAs.

PAs are fundamental to conserving biodiversity, to securing vital ecosystem services like clean water and storm protection, to local livelihoods, to climate change adaptation, and to achieving the Sustainable Development Goals.



Millions Spent On Importing Vaccine When They Can Be Made In The Country

14 Feb 2020

Despite progress in research and development in science and technology, agriculture and biodiversity in recent decades, Malaysia is lagging behind as it is dependent on international manufacturers for vaccine supplies.

It is time Malaysia invests in the medical biology sector, and research and development in health science.

Despite progress in research and development in science and technology, agriculture and biodiversity in recent decades, Malaysia is lagging behind as it is dependent on international manufacturers for vaccine supplies.

Millions are spent to import the vaccines when they could be engineered locally.

Speaking to the New Straits Times, former United Nations secretary-general's Scientific Advisory Board member, Emeritus Professor Tan Sri Dr Zakri Abdul Hamid, said Malaysia had much potential in the area.

"Research and development initiatives are not new for us. We have a long history at the Institute of Medical Research in scientific and sustained research into causes, treatments and prevention of diseases for decades.

"Malaysia has a pocket of expertise in the molecular biology sector and we should not hesitate to take on new challenges.

"We can carry out testing and develop vaccines and cures. We have ample space to study, explore and experiment viruses and bacteria to find cures, anti-virals and vaccines."

He said the advancement of science and technology and high-tech facilities in laboratories in the country could enable it to make new discoveries.

"The government should consider this."

For the Covid-19 outbreak, Zakri said scientists from all over the world were looking for a medical breakthrough, or vaccines to combat the virus, but nothing had been achieved.

With a vaccine research centre here, he said Malaysia could assist in research and development for vaccines.

"It's a timely proposal for Malaysia."

Zakri, who is the founding chair of the Intergovernmental Platform on Biodiversity and Ecosystem Services, said with the research centre, Malaysia could learn from countries that had similar centres, like Indonesia or Iran.

He said the cost involved in setting up a large-scale research and development centre might be expensive, but worthwhile in the long run because it was for the interest and survival of mankind.

"It could take years, but it's worthwhile. In the 1990s, when technology was not this advanced, a Malaysian professor, Datuk Dr Lam Sai Kit, from Universiti Malaya discovered the Nipah virus with a little help from Singapore in 1998.

"The virus had claimed more than 100 lives when it first struck both countries"

He said with some of the best researchers and world-class laboratories and facilities now, the country should excel.

Bernamea reported yesterday that Dr Lam had said developing a vaccine safe for human use typically took years, but there was a reason to believe that it would be speedier this time around.

"Advances in technology make it possible to come up with candidate vaccines in a matter of weeks, unlike traditional methods, which take years."

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**Research and
development
initiatives are not new
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history... in scientific
and sustained
research into causes,
treatments and
prevention of diseases
for decades.**



Enforce Wildlife Trade Ban Worldwide

11 Feb 2020

Demand for 'exotic foods' driving precipitous global loss of endangered species.

WE welcome China's recent decision to temporarily ban the trade in wildlife, one of several measures being taken to control the spread of the novel coronavirus. A permanent ban, however, would help to both protect human health and end the appalling illegal wildlife trade.

China's demand for wildlife products, used in bogus traditional "medicines" or as exotic foods, is driving a precipitous global loss of endangered species.

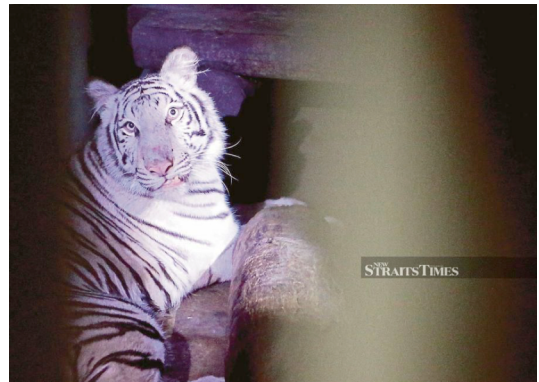
It also routinely endangers humanity's health in the process. More than 70 per cent of emerging infections in humans are estimated to have come from animals, particularly wild animals.

World Health Organisation (WHO) experts say there's a high likelihood the novel coronavirus came from bats.

Malaysia gained a notoriety of sorts in 1998 when the Nipah virus swept across a section of the country and Singapore and killed more than 100 people. Although it has caused few known outbreaks in Asia, it infects a wide range of animals and causes severe disease and death in people, making it a public health concern.

Pigs were found to be the virus hosts, but they were believed to have caught it from fruit bats.

According to Distinguished Professor Datuk Looi Lai Meng of Universiti Malaya, the initial transmission of the virus from bats to pigs was through a contamination of pig swill by fruit bat excretions. The bats had migrated to cultivated orchards and pig farms due to the fruiting failure of forest trees during the El Nino-



Demand for 'exotic foods' driving precipitous global loss of endangered species. - NSTP file pic, for illustration purposes only

related drought, as well as man-made fires in Indonesia, in 1997-1998.

As Looi stressed: "Environmental management (such as deforestation and haze) has farreaching effects, including encroachment of wildlife into human habitats and the introduction of zoonotic infections into domestic animals and humans."

In a recent interview, Dr Ben Embarek of the WHO said "we are coming into contact with species of wildlife and their habitats that we were not with before... Therefore, we have a number of new diseases linked to new contacts between humans and previously unknown viruses, bacteria and parasites".

A recent analysis of nearly 32,000 land-based vertebrate species showed around 20 per cent were bought and sold on the global wildlife market — legally or illegally. The wildlife products industry, a large component of China’s economy, has been blamed for driving several species to the brink of extinction.

China’s approach to managing the Wuhan crisis is nothing short of exemplary and deserves

the highest marks, e.g. total lockdown on affected cities and provinces, and building a 1,000-bed hospital within 10 days.

Hopefully, the crisis will have passed by October, when the Chinese city of Kunming is scheduled to host the 15th meeting of the Conference of Parties to the Convention on Biological Diversity (CBD COP15).

Sadly, an important negotiating meeting,

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Hopefully, the crisis will have passed by October, when the Chinese city of Kunming is scheduled to host the 15th meeting of the Conference of Parties to the Convention on Biological Diversity (CBD COP15).

scheduled in Kunming this month, had to be relocated to the United Nations’ Food and Agricultural Organisation facilities in Rome — due ironically to the novel coronavirus sourced to a Chinese market selling exotic wildlife as food.

On the other hand, China has demonstrated its concern for biodiversity in concrete ways before.

Experts credit China’s ban on the import of ivory, after years of

international pressure, as having helped ease the threat of elephant extinction.

Today, even China’s state-controlled media outlets have denounced the country’s uncontrolled wildlife market.

Let’s hope the authorities act as they did on ivory and make the ban on wildlife trade permanent. And such a ban must not just apply in China but in Malaysia and worldwide, too.



The Case Of Split Education Ministries

29 Jan 2020

Although both ministries are two sides of the same coin, each has its own tasks.

UPON assuming the interim post of Education Minister some three weeks ago, Prime Minister Tun Dr Mahathir Mohamad recently declared that he's open to all possibilities, including reverting back to the old system of having two separate ministries on education, namely the Education Ministry and the Higher Education Ministry.

Although both ministries are two sides of the same coin, each has its own tasks. Primary and secondary school education in this country is already complex and varied: national schools, national-type schools, private schools and religious schools.

The challenges are overwhelming. Tertiary education has its own set of features.

According to Prof Mohd Jamil Maah of the University of Malaya, trends in higher education are parts of a giant jigsaw puzzle, which comprise: globalisation and internationalisation; university autonomy; benchmarking via global standard; flexible education; changing roles of the university—socioeconomic impacts; rising cost of education; attract and retain talents; financial challenges; and, graduate employability.

Academicians in universities are not only expected to produce graduates for the job market, but they are also required to generate new knowledge through research and publication, and contribute towards producing new products and processes for economic gains, possibly in collaboration with the private sector.

In tabling the 2020 Budget in October last year, Finance Minister Lim Guan Eng announced the allocation of RM564 million to enhance Malaysia's Research and Development



Academicians in universities are not only expected to produce graduates for the job market, but they are also required to generate new knowledge through research and publication. FILE PIC

(R&D) Framework.

“Besides this, the government will establish a Research Management Agency (RMA), with an allocation of RM10 million to centralise and coordinate management of public research resources,” he said.

As in previous practice, most of this R&D funding is channelled to public universities to enhance R&D through collaborations with agencies, both locally and overseas, for high-impact research and innovation.

This is a welcome gesture despite the budgetary constraints that the country is facing. Putting a substantial amount of R&D money into public research universities is common worldwide.

In fact, in some countries, there are dedicated ministries of higher education and research established to foster R&D. These

include Algeria, France, Indonesia, Jordan, Tunisia and the United Arab Emirates. And in Japan, there's MEXT — the Ministry of Education, Culture, Sports, Science and Technology.

The proposed RMA should naturally be placed under this new ministry.

However, its mandate and modus operandi should be open, transparent and fair, and not to the detriment of other ministries, in

particular those that house R&D institutes in their midst, such as the Agriculture Ministry with the Malaysian Agricultural Research and Development Institute); the Health Ministry with the Institute of Medical Research (IMR); and the Primary Industries Ministry with its Malaysian Palm Oil Board, Malaysian Rubber Board and Forest Research Institute Malaysia.

The Energy, Science, Technology, Environment And Climate Change Ministry also has its own allocation for R&D, mainly catering to the needs of the private sector. In fact, many of the ministries have their own R&D budget, although they are not as big as the one allocated to public universities.

Although the intention is noble but in the main, it creates duplication and unnecessary silos among the ministries.

Think how big the potential and how positive the impacts would be if all these funds could be pooled together under the RMA.

We would then be able to initiate multi-million ringgit "Grand Challenges" projects to solve problems facing our country today, such as those named under the 17 Sustainable

The demise of R&D in Malaysia was well documented in three recent seminal works: the 2011 National Science and Research Council's assessment on the performance of public research assets; the OECD Reviews of Innovation Policy in Malaysia published in 2016; and, a study along the same lines by the Economic Planning Unit released in 2017.

Development Goals to include climate change, biodiversity loss, emerging and re-emerging diseases, water and sanitation, food security and renewable energy.

We used to be world leaders in R&D at one time. The Rubber Research Institute of Malaysia used to be the global hub of rubber scientists when researchers at the institute made many breakthroughs that were eventually utilised by the rubber

industry. The IMR is one of the other centres of excellence in R&D, well known for its research in the diseases of the tropics.

The demise of R&D in Malaysia was well documented in three recent seminal works: the 2011 National Science and Research Council's assessment on the performance of public research assets led by Prof Khalid Yusoff and Prof Jalani Sukaimi; the OECD Reviews of Innovation Policy in Malaysia published in 2016; and, a study along the same lines by the Economic Planning Unit released in 2017.

All these studies pointed out on the need to break down the silos among various government agencies, better collaboration between academia and researchers in research agencies, and eventually, cooperation between these two groups of players and the entrepreneurs, as well as innovators in the private sector.

The proposed Higher Education and Research Ministry would provide the solution and relief to the pent-up frustration prevailing among many academicians, researchers and industry players in the country today.



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EMERITUS PROFESSOR TAN SRI DR. ZAKRI ABDUL HAMID

*Fifth Holder of the Tun Hussein Onn Chair (THOC)
in International Studies at ISIS, and
Distinguished Professor and Founding Director
of the International Institute of Science Diplomacy and Sustainability (IISDS)*

Emeritus Professor Tan Sri Dr. Zakri Abdul Hamid is the Fifth Holder of the Tun Hussein Onn Chair in International Studies at the Institute of Strategic and International Studies (ISIS) Malaysia, and the Distinguished Professor and Founding Director of the International Institute of Science Diplomacy and Sustainability (IISDS) at UCSI University.

He has had a distinguished career in science as a researcher, educator, administrator and diplomat. From 2010 to 2018, Professor Zakri was the Science Advisor to the Prime Minister of Malaysia. He is the founding Chair of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and was a member of the UN Secretary-General's Scientific Advisory Board.



In view of the strategic role of science diplomacy in resolving many of today's world agenda on sustainability, international trade, and business, just to name a few, there is the growing need to build the right talents in the field.

In this book, Professor Zakri expounds the concepts of "science diplomacy" and "sustainability" in a layman manner, and advocates that professionals and youth, policy makers as well as diplomats need to be equipped with requisite talents and scientific knowledge to be effective in their roles. He argues that the world is also constantly on the lookout for constructive advice on the many issues, which are mostly science-based, that confront humanity.