



Photo Credit: Freepik.com

Biosecurity and the SDGs: Bridging a Crucial Gap in the 2025 Agenda

By Jeselyn

With just five years remaining until the 2030 deadline, the global community is gearing up for the 2025 comprehensive review of the [United Nations Sustainable Development Goals](#) (SDGs). Comprising 17 goals and 169 targets, the SDG agenda aims to end poverty and other deprivation through strategies that improve health and education, reduce inequality, and spur economic growth while simultaneously addressing climate change and protecting the planet's ecosystems. Amid those broad ambitions, one critical yet under-recognised issue stands out: biosecurity.

Despite its profound relevance to global health, scientific development, and peace and security, biosecurity is not explicitly mentioned in any of the SDG goals and targets. Yet its core principles and practical imperatives are implicitly woven throughout the SDG frameworks, highlighting the need for more deliberate integration in the years ahead.

Biosecurity in the Shadows of the SDG

The term "[biosecurity](#)" refers to measures and protocols taken to protect, control, and manage biological materials, technologies, and its relevant knowledge responsibly. Its main objective is to prevent the unauthorised access, misuse, loss, or weaponisation of hazardous biological materials. The COVID-19 pandemic exposed the catastrophic potential of biological threats and renewed calls to strengthen global and regional biosafety and

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biosecurity systems. However, despite its pressing relevance, biosecurity continues to be largely overlooked in global development discourse.

Biosecurity could be seamlessly incorporated into the SDG agenda, as it is relevant to many existing commitments. Three of the most pertinent entry points are [SDG 3](#) on Good Health and Well-being, [SDG 9](#) on Infrastructure, Industrialisation, and Innovation, and [SDG 16](#) on Peace, Justice, and Strong Institutions. These correspond to key [global biosecurity concerns](#): pandemic preparedness, biotechnological advancements including dual-use research of concern (DURC), and the threat of bioterrorism.

[SDG 3.D](#) calls for strengthening countries' capacity to manage health risks, which aligns directly with the aims of biosecurity particularly in terms of pandemic preparedness, laboratory safety, and disease surveillance.

SDG 9 and SDG 16 also intersect with core biosecurity concerns. While SDG 9 promotes scientific innovation and infrastructure, it fails to consider the dual-use risks of emerging biotechnologies, such as synthetic biology and gene editing, which can be misused for hostile purposes. [Target 9.5](#) encourages research but lacks safeguards for biosecurity oversight.

Similarly, SDG 16, which addresses terrorism and violence, omits bioterrorism despite its rising threat due to the broader availability of AI-enabled biological tools and knowledge. Strengthening national capacity under [SDG 16.B](#) with biosecurity frameworks and aligning them with global agreements like the Biological Weapons Convention (BWC) could help close a critical gap in global security and development policy.

A Southeast Asian Turning Point

In 2025, ASEAN member states issued the [ASEAN Leaders' Declaration](#) on Strengthening Regional Biosafety and Biosecurity, a landmark political commitment to bolster regional capacity, harmonise standards, and promote peaceful biological innovation. This declaration signals growing recognition that biosecurity is a development issue as much as it is a security issue—touching on health, education, research, and international cooperation.

This regional momentum presents a strategic opportunity for Southeast Asia to become a thought leader in

integrating biosecurity considerations into its implementation and reporting of the SDGs. By aligning national development plans with biosecurity-enhanced targets such as laboratory accreditation, biosecurity training, and disease monitoring, ASEAN states can set a precedent for other regions to follow.

Looking Ahead: Integrating Biosecurity into the SDG Agenda

In the newly released ["ASEAN 2045: Our Shared Future"](#) document, issued under Malaysia's chairmanship, ASEAN has identified biosecurity as critical components of efforts to strengthen regional health systems. It also calls for the strengthening of regional mechanisms, including Biological and Radiological Defence Experts, to bolster preparedness. Hence, the 2025 SDG review presents a timely opportunity to mainstream biosecurity into regional development policy.

To guide this effort, three priorities should be emphasised. First, biosecurity should be explicitly recognised under SDG 3.D and SDG 16.B, with updated indicators that reflect laboratory capacity, implementation of the BWC, and oversight of dual-use research. Second, biosecurity must be embedded within innovation governance frameworks under SDG 9, to ensure that biotechnological development proceeds in ways that are safe, ethical, and peaceful. Third, regional leadership should be promoted and supported to address biological risks through coordinated action and greater investment in institutional capacity.

As the world grapples with increasingly complex biological challenges, embedding biosecurity into the SDGs is no longer optional. It is essential.

SUGGESTED READINGS

ASEAN (2024). "ASEAN Leaders' Declaration on Strengthening Regional Biosafety, and Biosecurity." ASEAN, 9 October 2024.

ASEAN (2025). "ASEAN 2045: Our Shared Future." ASEAN, 26 May 2025.

Mely Caballero-Anthony, Julius Cesar Trajano, Jose Ma. Luis P. Montesclaros, and Jeselyn (2025). "Emerging Biosecurity Landscape in Southeast Asia-Updated Report." RSIS, 17 March 2025.

World Health Organization (2024). "Laboratory Biosecurity Guidance." WHO, 21 June 2024.

CLIMATE CHANGE



Photo Credit: Freepik.com

NEWS & COMMENTARIES

US EPA wants to erase greenhouse gas limits on power plants: Report

The US Environmental Protection Agency (EPA) has drafted a plan to eliminate all limits on greenhouse gases from coal and gas-fired power plants in the United States, arguing that carbon dioxide and other greenhouse gases from power plants that burn fossil fuels "do not contribute significantly to dangerous pollution" or to climate change because they are a small and declining share of global emission.

Reuters/dy

Channel News Asia | 24 May 2025

Global climate predictions show temperatures expected to remain at or near record levels in coming 5 years

There is 80% chance that at least one of the next five years will exceed 2024 as the warmest on record, and 86% chance that at least one of next five years will be more than 1.5°C above the 1850-1900 average.

World Meteorological Organization

28 May 2025

Highways baking at 70 deg C signal a red-hot summer from China to the US

Weeks before the official start of the Northern Hemisphere's summer, signs are emerging that the coming months will be blistering in North America, Europe and Asia.

Bloomberg

The Straits Times | 2 June 2025

'Half the tree of life': ecologists' horror as nature reserves are emptied of insects

While declining insect numbers due to widespread use of pesticides and fertilisers, light and chemical pollution, loss of habitat and the growth of industrial agriculture is well-documented, the same phenomenon is now observed even in regions that have little direct contact with people.

Tess McClure

The Guardian | 3 June 2025

SELECTED PUBLICATIONS

The race to invest in Southeast Asia's green economy

China leads public investment, investing over USD 2.7 billion in clean energy in key ASEAN markets of Indonesia, Philippines, Thailand, Malaysia and Vietnam. China, Japan, South Korea, and Australia all have a variety of climate-related policies and initiatives targeting ASEAN. China's BRI is the most established initiative.

Zero Carbon Analytics

2025

Climate change and the escalation of global extreme heat: Assessing and addressing the risks

Within 12 months from May 1st 2024, 4 billion people — about 49% of the global population — experienced at least 30 additional days of extreme heat (hotter than 90% of temperatures observed in their local area over the 1991-2020 period) due to human-caused climate change.

Climate Central, Red Cross Red Crescent Climate Centre, World Weather Attribution

2025

EVENT & ANNOUNCEMENT

International Day of Clean Air for Blue Skies 2025

The International Day of Clean Air for Blue Skies is commemorated annually in recognition of the fact that clean air is important for the health and day-to-day lives of people, while air pollution is the single greatest environmental risk to human health and one of the main avoidable causes of death and disease globally.

Worldwide

7 September 2025

ENERGY SECURITY



Photo Credit: Adobe Firefly Generated Images

NEWS & COMMENTARIES

Green energy transition at risk from unrestricted data centre development

A study projects the power consumption of data centres servicing the needs of various applications of AI will be 11 times higher in 2030 than in 2023, with a subsequent increase in emissions from 29 MTCO₂-e in 2023 to 166 MTCO₂-e in 2030.

Ketan Joshi

Renew Economy | 15 May 2025

Renewable energy, carbon credits are priority areas of cooperation for Singapore, Philippines: Lawrence Wong

Singapore Prime Minister Lawrence Wong and Philippine President Ferdinand Marcos Jr. agreed that it was important to expand collaboration in renewable energy, with Mr Wong noting that Singapore companies are interested in projects in the Philippines such as solar and wind projects.

Abigail Ng

Channel News Asia | 4 June 2025

Indonesian banks account for 12 percent of SE Asia's coal financing: Report

The 2025 Southeast Asia Fossil Fuel Divestment Scorecard highlights that Indonesia, the Philippines, and Vietnam are the region's biggest recipients of coal project funding, totalling US\$32.48 billion over the past eight years.

Gusty Da Costa

Indonesia Business Post | 4 June 2025

US coal mine expansion to boost exports to Asia

The US Interior Department has approved a plan by Signal Peak Energy to expand coal mining, providing exports for Japan and South Korea. The Interior Department completed the environmental impact statement for the mine expansion according to its new policy to speed such reviews to a maximum of 28 days.

Reuters

The Star | 9 June 2025

SELECTED PUBLICATIONS

Deploying small modular reactors in East Asia: Implications on nuclear governance

This article provides an overview of small modular reactor (SMR) projects in Northeast Asia and recent developments in Southeast Asia. It examines the potential implications of SMR deployment on nuclear safety and security regimes and how countries in the region can play an active role in reshaping nuclear governance.

Julius Cesar Trajano

International Journal of Nuclear Security, Vol. 9, No. 1 | 2025

Energy and AI: World energy outlook special report

This report includes projections for how much electricity AI could consume over the next decade, as well as which energy sources are set to help meet it. It also analyses what the uptake of AI could mean for energy security, emissions, innovation and affordability.

International Energy Agency

2025

EVENT & ANNOUNCEMENT

World Energy Investment 2025: Report Launch

This event launches the 2025 edition of the IEA's annual World Investment Report which reflects on energy investment trends over the last decade, highlighting major milestones and lessons from different energy sectors and regions.

Recorded Webinar

5 June 2025

FOOD SECURITY



Photo Credit: Adobe Firefly Generated Images

NEWS & COMMENTARIES

Gaza 'hungriest place on Earth', all its people at risk of famine, UN warns

The United Nations has warned that Gaza's entire population is at risk of famine, as desperate Palestinians continue to be displaced and starved by the Israeli forces. The process of receiving aid has become chaotic and limited, favouring only the physically strong. Previously organised aid distribution through the UNRWA has also halted, leaving many without food support.

Al Jazeera

31 May 2025

Local production of veggies, seafood fell in 2024, but egg yields grew: Report

According to a recently published report by the Singapore Food Agency (SFA), the local production of vegetables and seafood declined further in 2024, hindering the country's initial target of producing 30 per cent of its nutritional needs by 2030. This was due to a series of disruptions to the local farming sector, with some high-profile players closing down, and others scaling back production over the past couple of years.

Shabana Begum

The Straits Times | 5 June 2025

Sarawak aims to build comprehensive agriculture supply chain to boost food security, cut rice imports

Sarawak is advancing plans to establish an integrated and comprehensive agriculture supply chain that covers every stage from land preparation and cultivation to processing, market access and export, in a bid to strengthen the Malaysian state's food security and reduce its reliance on imported rice. It would ensure long-term resilience in its food and agriculture sector.

Ashley Sim

Dayak Daily | 10 June 2025

Climate modelling in Southeast Asia is critical for food security

Farmers in Southeast Asia rely heavily on predictable weather and seasonal rainfall for crop production, but climate disruptions in recent years are making this more difficult. To ensure food security, governments must adapt farming practices and place greater emphasis on advanced climate modelling to anticipate and respond to changing conditions.

Elyssa Kaur Ludher

Fulcrum | 11 June 2025

SELECTED PUBLICATIONS

Towards digital transformation of agriculture for sustainable development in China: Experience and lessons learned

Amid the competition to enhance the resilience of sustainable food systems, China sets an exemplary model with its achievements in digital agricultural transformation, providing a blueprint for developing countries in Asia and the Pacific. This study highlights the crucial role of digital transformation in agriculture stands in addressing the growing challenges in agricultural production facing the region, leveraging statistical data and case studies.

Shu Wang, et al.

Sustainability, 17(8), 3756 | 2025

Global shocks and local sellers: Kenyan fertilizer markets' response to the fuel-fertilizer-food price crisis

This article reflects how the impacts of global shocks on farmers are transmitted unevenly across markets. The asymmetrical transmission is seen in that increases in international fertiliser prices are more strongly transferred by agro-dealer prices to farmers, relative to reductions in international fertiliser prices. Insights from this study of Kenya's farmers provides a potentially generalisable insights that effective stabilisation policies should account for heterogeneity in market conditions.

Hanna S. Willswerth, et al.

Food Policy, Vol. 133 | 2025

EVENT & ANNOUNCEMENT

RSIS-ISEAS-Yusof Ishak Institute Webinar on "Will the Tariff War Lead to Another Global Food Crisis?"

Food crises have occurred sporadically, about once every 30 years over the past century, and their dynamics have evolved, driven by climate hazards as well as trader speculation. This recorded webinar brought together experts from multiple continents to discuss the important question: will the tariff war lead to another global food crisis? A non-representative pre-webinar poll indicated that majority of the participants saw that such a crisis could possibly occur within the next 3 years.

Recorded Webinar

29 May 2025

HEALTH SECURITY



Photo Credit: Adobe Firefly Generated Images

NEWS & COMMENTARIES

Researchers urge mental health inclusion in extreme heat planning

Researchers highlight a critical gap in global Heat-Health Action Plans, noting that while mental health risks during extreme heat are acknowledged, concrete interventions to protect vulnerable populations are lacking in most plans.

Columbia University's Mailman School of Public Health
News-Medical | 29 May 2025

Exercise improves colon cancer survival, major study shows

A major international trial found that a structured exercise program for colon cancer patients after chemotherapy significantly improved their disease-free survival and overall survival rates, reducing the risk of death by a third.

James Gallagher
BBC | 2 Jun 2025

S'pore researchers to study stem cell transplants in brain for Parkinson's disease in novel trial

Singaporean researchers are launching a novel clinical trial to study the effects of transplanting lab-grown stem cells into the brains of Parkinson's disease patients, aiming to replace lost dopamine-producing neurons.

Lee Yi Ling
The Straits Times | 2 Jun 2025

How social media can 'trigger' eating disorders in young people

A new study reveals a significant correlation between increased social media use and a higher risk of eating disorders among young people, particularly girls, highlighting the negative impact of online content.

Chloe Rabs
The Japan Times | 2 Jun 2025

SELECTED PUBLICATION

Microplastics and mental health: The role of ultra-processed foods

Ultra-processed foods, dominant in high-income countries, are linked to adverse mental health. These foods contain high levels of microplastics from processing and packaging. Given the discovery of microplastics in the human brain, the authors propose that microplastics may partially explain the negative mental health effects of ultra-processed food consumption and suggest a Dietary Microplastic Index for further research.

Nicholas Fabiano, et al.
Genomic Press | 2025

Global, regional, and national burden of inflammatory bowel disease in persons aged 60-89 years from 1992 to 2021

The study analysed global trends of inflammatory bowel disease (IBD) in older adults (60-89 years) from 1992-2021 and forecasts to 2030. While the age-standardised incidence rate increased, prevalence, mortality, and disability-adjusted life years (DALYs) declined. Population growth significantly contributed to the rising burden. By 2030, incidence is projected to rise, but other rates to fall. Regional variations highlighting the need for specific health strategies.

Zhou Zhang, et al.
BMC Gastroenterology, 25, 425 | 2025

EVENT & ANNOUNCEMENT

The 11th International Conference on Public Health (ICOPH) 2025

ICOPH 2025 under the theme "Redefining Public Health: Harnessing Innovation, Collaboration, and Equity to Build Resilient Health Systems" aims to bring together health experts from around the world to explore how emerging technologies e.g. digital health can help build more resilient and equitable health systems capable of addressing future global health challenges.

Bangkok, Thailand
7-9 Aug 2025

BIOSECURITY



Photo Credit: Adobe Firefly Generated Images

NEWS & COMMENTARIES

Mirror bacteria: Reflecting on alternate chirality

The immune systems of people, animals, plants and insects recognize molecules with specific orientations. If those molecules were reflected, as they would be on mirror bacteria, immune recognition would be impaired and basic immune defences could fail. Is this a risk, or is it a breakthrough in technology?

Madeline Barron

American Society for Microbiology | 23 May 2025

Chinese researchers charged with smuggling fungus into US

Two Chinese scientists have been charged with allegedly smuggling a toxic fungus into the United States that they planned to research at an American university. The fungus is classified in scientific literature as a “potential agroterrorism weapon” and causes billions of dollars in losses each year.

Channel News Asia

4 June 2025

Australia PM rules out relaxing biosecurity rules ahead of Trump meeting

Australia will not relax its strict biosecurity rules during tariff negotiations with the United States, Prime Minister Albanese said ahead of a potential meeting with US President Donald Trump at the Group of Seven summit in June.

The Straits Times

6 June 2025

Pharma firm ready to supply Philippines with bird flu vaccine

Global pharmaceutical company Boehringer Ingelheim Philippines Inc. has given assurance that it is ready to supply the local poultry industry with a vaccine against bird flu as soon as it secures the necessary regulatory approval.

Jasper Emmanuel Arcalas

The Philippine Star | 7 June 2025

SELECTED PUBLICATIONS

Dual-use capabilities of concern of biological AI models

This paper argues that AI model evaluations should prioritize addressing those which enable high-consequence risks (i.e., large-scale harm to the public, such as transmissible disease outbreaks that could develop into pandemics), and that these risks should be evaluated prior to model deployment so as to allow potential biosafety and/or biosecurity measures.

Jaspreet Pannu, et al.

PLoS Computational Biology, 21(5): e1012975 | 2025

Dual use and gain-of-function research: A significant endeavour with biosecurity imperatives

This paper argues that all GoF research should be conducted under a robust framework of enhanced BSL controls that explicitly define its dual usability, classify any such enterprise as DURC, engage regulatory oversight, and establish ethical responsibility within the scope and tenor of international law.

James Giordano and Diane DiEuliis

mSphere, 0:e00289-25 | 2025

EVENT & ANNOUNCEMENT

BIOHK2025—The Hong Kong International Biotechnology Conference & Exhibition

From pharmaceuticals and health technology to bioinformatics and environmental biotech, BIOHK2025 covers the full spectrum of biotech disciplines, making it a pivotal event for professionals eager to stay at the forefront of industry developments.

Hong Kong

10-13 September 2025

MIGRATION



Photo Credit: Wikimedia Commons

NEWS & COMMENTARIES

From Pakistan to Spain via the Canaries, smugglers are using longer, more dangerous migration routes

Forty-four Pakistani migrants perished during a 10-day failed crossing in January from Mauritania's coast toward Spain's Canary Islands. The deadly journey cast a spotlight on how globalised and sophisticated smuggling networks on the West African coast have become.

Munir Ahmed and Renata Brito

AP News | 7 June 2025

Nepal-Malaysia migration corridor

In 2023, more than 220,000 Nepalis migrated to Malaysia. Although Malaysia is an attractive destination for Nepali citizens, most suffer gross exploitation in reality.

Andy Hall and Dhurba Mijar

The Kathmandu Post | 8 June 2025

US travel ban takes effect amid LA protests against immigration crackdown

President Donald Trump's order banning citizens from 12 countries from entering the United States has come into effect amid rising political tensions over his administration's harsh anti-immigration policies. Crowds of protesters battled with police and National Guard troops following a wave of arrests by immigration authorities.

Al Jazeera

9 June 2025

Iranian official says legal stay for 800,000 Afghan migrants in Tehran has expired

An estimated 800,000 undocumented Afghan migrants currently living in Tehran are now considered to be in the country illegally and face arrest and deportation. In May alone, the International Organization for Migration recorded the expulsion of more than 15,675 Afghan families from Iran.

Siyar Sirat

Amu TV | 16 June 2025

SELECTED PUBLICATIONS

Between knowledge and assumptions: The migrant in the eyes of the policymaker

Based on analysis of 180 policy documents surrounding key migration reforms in Austria, Italy and the Netherlands since the 2000s, this paper examines dominant assumptions about migrant decision-making across three policy issues: counter-smuggling, asylum reception, and worker attraction.

Katharina Natter, et al.

International Migration Institute | 2025

Facing new migration realities: U.S.-Mexico relations and shared interests

This policy brief provides an account of shifts in unauthorized migration and humanitarian protection trends in recent years, and the role the U.S.-Mexico relationship has played in responding to critical migration challenges.

Ariel G. Ruiz Soto, Doris Meissner and Andrew Selee

Migration Policy Institute | 2025

EVENT & ANNOUNCEMENT

Children and Youth in Asian Migration: Temporalities, Transitions, and Turbulence

For many children and youth, migration can become a significant force influencing their identities, relationships and imagined futures. Childhood and youth thus emerge not as a stable early life stage, but a terrain marked by transition, uncertainty, opportunity and constraint.

Hybrid

11-12 August 2025