Indonesian Young Academy of Sciences and its Current Diplomacy Roles

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Science diplomacy finds its roots in the field of international relations, where the interests of science and policy converge, and science is employed by policymakers to facilitate and mediate uncertainty issues of global concern, as well as how to resolve the increasing number of conflicts around the world.[1]

The Covid-19 outbreak highlighted the significance of science diplomacy and collaborative work in addressing the pandemic. Globally, there have been 764,474,387 confirmed cases of Covid-19, including 6,915,286 deaths, reported to the World Health Organisation.[2] Though Covid-19 vaccines being widely available in high-income countries since mid-2021, the vast inequality of vaccine access was highly problematic. Only a quarter of people in low-income countries received at least one dose, resulting in unnecessary loss of lives.[3] This situation was further exacerbated by the dissonance between political leaders' rhetoric and decisions, which also prioritise policies benefiting capital accumulation.

It seemed an uncertain situation faced by many countries, including the scientific community worldwide. Indonesian scientists were also grappling with such paradoxical and uncertain circumstances during the pandemic. Hence, the Indonesian Young Academy of Sciences (ALMI) felt the need to contribute to resolving complicated cases and policies in responding to Covid-19. ALMI is an organisation for prominent young Indonesian scientists, established in 2016 as an autonomous organ of the Indonesian Academy of Sciences (AIPI).

ALMI aims to promote a culture of scientific excellence and the advancement of science in Indonesia. It has four missions: first, to promote the progress of frontier science through interdisciplinary collaborations among young Indonesian scientists. Second, to inculcate a scientific temper and scientific culture of excellence among the younger generation in Indonesia. Third, to encourage the integration of science in shaping public policy-making processes. And fourth, to be part of the global young academy movement, forging connections and collaborations with young academies worldwide.

ALMI has been actively promoting strategic academic programs to achieve its missions, mainly through four organisations of working groups: *Frontier of Science*, *Science and Society*, *Science and Policy*, and *Science and Education*. While the term "science diplomacy" may not be explicitly stated, ALMI members actively engage in activities that embody its principles, reflected in many academic activities and collaborations with foreign partners through conferences, research, and bilateral meetings exchanging knowledge and experiences. The effectiveness of ALMI's role in changing situations depends on the specific context and outcomes of these engagements, which can vary in their impact and influence.



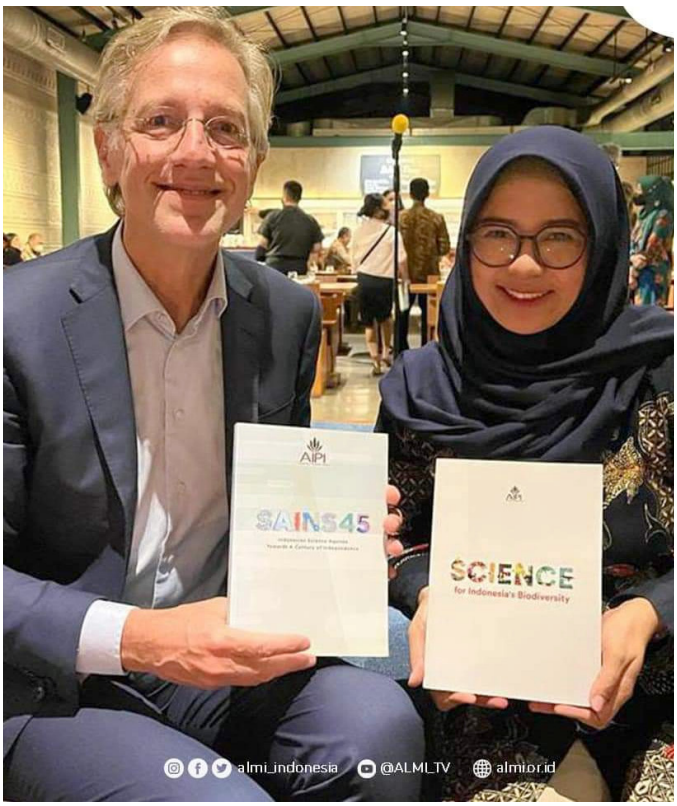
The 1st Indonesian Congress of Young Scientists, Jakarta, 3 December 2022

Science for Humanity

With the increasing globalisation of science, policymakers are looking for new avenues for the advancement of society. The demand for international cooperation is ever-expanding and science diplomacy plays a crucial role in facilitating this process. Science diplomacy is vital for societal growth, especially in dealing with the objectives of science for humanity. *Science in diplomacy* means that science provides support for policies, law, innovation, and strategic plans with scientific inputs. Through *diplomacy for science*, diplomacy facilitates international scientific cooperation, while *science for diplomacy* is the meaningful use of science as a soft power to enhance international cooperation.

Furthermore, scientific diplomacy means enabling scientific researchers to influence foreign policy with science-based evidence and advice. The most obvious examples are found in international negotiations on global issues such as climate change, food security or energy. Science and scientific expertise aid in decision-making in foreign policy: to achieve its purposes, diplomacy must make effective use of science.[4]

ALMI plays a crucial role in advising, synthesising solutions, and issuing public statements (press releases or public discussions) related to finding solutions for problems. Collaboration among young scientists is regularly carried out in several countries. For instance, a delegation of ALMI member scientists attended a special invitation to a meeting with the Minister of Education of the Kingdom of the Netherlands, Prof. R. H. Dijkgraaf, in Jakarta on 21 July 2022. ALMI worked voluntarily to seek more effective collaboration by visiting and having meaningful discussions with the Royal Netherlands Academy of Arts and Sciences (KNAW) at its headquarters in Amsterdam, Netherlands, on 28 September 2022.



Prof. R. H. Dijkgraaf, Minister of Education of the Kingdom of the Netherlands and ALMI President, July 2022

Besides, collaborative programmes such as the Week of Indonesia-Netherlands Education and Research (WINNER) program display the efforts of Indonesian and Dutch governments and scientists to build commitment and collaboration among young Indonesian scientists. The last WINNER took place in Utrecht and Jakarta from 18-20 October 2022, with the theme for the conference being "Learning and research collaboration for sustainable blue, green and digital economies and societies". The fourth edition of WINNER will be held under the theme of "Enhancing knowledge connectivity for regional impact" from 10-12 October 2023.

Young Indonesian scientists regularly engage with various countries, including those within the Southeast Asian region and the United States. Examples include the Indonesian-American Kavli Frontiers of Science Symposium, a joint program organised by the Indonesian Academy of Sciences (AIPI) and the US National Academy of Sciences (NAS). These annual symposia bring together some of the very best young scientists to discuss exciting advances and opportunities in their fields in a format that encourages informal collectives and one-on-one discussions among participants.

ALMI at Global Level

ALMI's vital role as an organisation of young scientists is not just being a resource person or being involved in international scientific agendas but also actively arguing fundamental strategies for addressing global challenges that must be resolved through research and policy. That is why ALMI needs to become a reference for research and scientific-based policy strategies.

The issue of climate justice, the global impact of the Russian and Ukrainian wars, socio-economic impoverishment, and attacks on academic freedom, ALMI has officially voiced in the 2022 Worldwide Meeting of Young Academies and Joint Conference with the InterAcademy Partnership, November 2022 (Arizona, USA). ALMI is fully aware that the political situation has turned into an authoritarian tendency in many countries, which affects science and scientists. Therefore, ALMI has also been defending scientists' rights and academic freedom since these are fundamental values in promoting science for not merely policy changes but also progressive and meaningful science for humanity.

Hence, becoming a part of the Global Young Academy (GYA), network with Scholars at Risk (SAR) and member of the International Science Council (ISC), will further strengthen the role of ALMI globally in promoting science. ALMI, in its statement to ISC members (2023), stated, "*…by collaborating and expanding networks for advancing sciences, this would enable us to bring the progressive message for social and ecological justice. In solidarity, we are really eager to promote science for advancing human civilisation. ALMI will be ready for taking this challenge, together with all members of ISC.*"

For ALMI, it emphasises the importance of science diplomacy to build bridges between science, technology, and innovation, as well as national interests and global challenges. Advanced technology has played a significant role in shaping and regenerating nature and altering the environment. Transforming and regenerating the earth will bring massive benefits to future generations.

Concluding Remarks

Indonesia's strategic role as the leader of the G20 in 2022 for a year, driven by the political commitment to mastering technology and innovation, is one of the priorities for the Indonesian government during the 2019-2024 period. This role serves as a unique opportunity to enhance Indonesia's influence in advancing science for the betterment of global civilisation.

Indonesia's challenges as a tropical country, including issues such as massive deforestation and the destruction of natural resources through the expansion of mining capitalism and the palm oil business, greatly impacted its efforts to protect biodiversity. It creates socio-economic impoverishment and ecological threats, disturbing the delicate balance of nature and its sustainability. However, a wide array of technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), and data analytics, can be leveraged to create, expand, and monitor the effectiveness of sustainable development and environmental protection, including building the advanced health system.

In this context, science refers to the approach to enhance multi-, inter- and trans-disciplinary collaborative works with multiple stakeholders to benefit people and the planet and ensure prosperity for all parties. ALMI, a young scientific community, could continuously strengthen cooperation to enhance science and technology contributions, with the aim of leaving no one behind. Senior Diplomat Makarim Wibisono emphasised the importance of involving scientists in foreign diplomacy from an early stage. This is because science diplomacy can be a second path involving non-governmental actors such as scientists, NGOs and journalists. "The role of the second line is also capable of successful diplomacy," said Makarim.[5]

During the first Indonesian Young Scientist Congress (KIMI), ALMI stated, "Science is a way of humanity, be brave and progressive." This statement signifies the call for scientists to fortify their expertise, foster collaborations, and demonstrate unwavering commitment through their scientific endeavours. The objective is to drive transformative changes in civilisation that prioritise compassion and ecological sustainability for the well-being of our shared planet.



Annual Meeting of ALMI, Jakarta, December 2022

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