

Science Council of Asia
Future Strategic Plan 2023

October 2023

Science Council of Asia (SCA)

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The Science Council of Asia (SCA) issued the Future Strategic Plan in 2016. The world is changing rapidly with new emerging sciences and technologies, the global issues of climate change, and the COVID-19 pandemic. Therefore, the SCA aims to rebuild a strategic plan at this stage where the emerging advances in science and technology are integrated. The term “science” implies here an inclusive perspective of Social, Natural and Biological Sciences.

1. Role of Science Council of Asia

1.1 Overview of Science Council of Asia

The Science Council of Asia (SCA) is a non-profit organization established in 2000 and aims to enhance scientific cooperation, advance science and drive sustainable progress as well as to provide an inclusive platform for promoting scientific exchange among scientists in all academic fields in Asia. As of October 2023, the SCA consists of 31 member organizations from 18 countries and regions, i.e. Bangladesh, Cambodia, People’s Republic of China, Chinese Taipei, India, Indonesia, Japan, Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, the Philippines, Singapore, Sri Lanka, Thailand and Viet Nam. The SCA Secretariat is located in Japan. The SCA does not collect any membership fees, which distinguishes the SCA among the international academic organization community.

The SCA’s main and significant activity is to organize an annual international conference, with presentations of research papers and workshops, focusing especially on bilateral and multilateral research collaborations and providing a unique networking opportunity not limited to academics. Twenty-one (21) conferences have been successfully organized since the first annual conference held in Bangkok, Thailand in 2001. The latest one was held in India, (online mode) in 2022.

In today's complex society, the SCA is expected to play a crucial role in scientific progress in Asia and the world. The SCA is fully aware of the importance of enhancing the voice of academia in Asia to contribute effectively and strategically through a positive and responsive attitude toward the global voice. The member organizations believe that the SCA functions as a strong and integrated platform, not merely to consolidate but to carefully represent the diversity of academic voices in Asia.

1.2 Outline of the Past Activities and Reforms

The SCA has been constantly reviewing its management and activities to maximize its scientific and social influence. In 2007, the SCA adopted the “Communique of the 7th Conference,” and shared the views pursuing its further contribution to policy advice and closer member cooperation.

At the 8th Conference in 2008, the first strategic plan for 2008-2011 was adopted, at the 9th Conference in 2009, the “New Framework Committee” was set up, and at the 10th Conference, the report by the Committee was endorsed, which had no target year. Subsequently, at the 11th Conference in 2011, new activity guidelines were approved, and the statutes and by-laws were amended accordingly.

At the 15th Conference in 2015, the Committee on Future Strategy of Science Council of Asia was established and commissioned to deliver inputs to a mid- and long-term strategy for the SCA’s future at the 16th Conference. The following strategic objectives for actions in the “Science Council of Asia Future Strategic Plan 2016” were adopted.

- Since the importance of Asia in the global sustainable development has increased, the SCA should strengthen its scientific advice function with inter- and trans-disciplinary insights through participation in some international fora to expedite social innovation in the member countries and the region.
- For the scientific development of Asia as a whole, the SCA should strengthen cooperation with scientific organizations in Asia, including non-members, as well as specialized research institutions, and networking among member organizations through various channels, while maintaining its current unique framework.
- To enrich its scientific advice and increase its social impact, the SCA should further strengthen the contents of Conferences and workshops, addressing globally as well as regionally for wider audience and participation in relevant problems through bi- and multi-lateral science cooperation. In particular, cooperation with other international organizations and young academies should be pursued further.
- The SCA should improve the visibility of its scientific activities and achievements, further enhancing academic outreach activities, including the publication of research papers in international academic journals.
- The SCA should take the role of Asia’s regional platform for international academic endeavors in various disciplines as well as in inter- and trans-disciplinary issues.

Over the past seven years since 2016, keeping in mind its role, the SCA has worked actively to implement the strategic plan, providing momentum to the scientific progress in Asia and the world at large mainly through the following Conferences with themes relevant to the latest global issues.

- 17th Conference hosted by the National Research Council of the Philippines, Department of

Science and Technology (NRCP-DOST) in Manila, the Philippines, in 2017

- 18th Conference hosted by the Bangladesh Academy of Sciences (BAS) and the Science Council of Japan (SCJ) in Tokyo, Japan, in 2018
- 19th Conference hosted by the Myanmar Academy of Arts and Science (MAAS) in Nay Pyi Taw, Myanmar, in 2019
- 20th Conference hosted by the China Association for Science and Technology (CAST) in Guangzhou, China and the online mode*, in 2021
- 21st Conference hosted by the Indian Council of Social Science Research (ICSSR) by the online mode* in India, in 2022

*Due to the COVID-19 pandemic.

1.3 SCA's Past Contribution to the Region

Since the period of its forerunner, the Asian Conference on Scientific Cooperation (ACSC), the SCA has contributed to scientific development at national and regional levels, as well as scientific endeavors against various problems for almost a quarter century through forming networks of the academic organizations in the region. In 2000, the ACSC, which was a gathering of some prominent scientists in Asia, was progressively reformed into a non-profit international scientific organization. This was a transformation of such magnitude that made its management and activity more stable, and strengthened its contribution to society.

One of its distinctive features is that the hosts for the SCA Conferences are rotated among the member organizations. Through an experience of organizing a Conference, a host organization can obtain the latest information on scientific development in the region, create and strengthen networks with other organizations, and improve its competence in science advice through active involvement with government policymakers. Another unique feature of the SCA is that a host organization decides the Annual Conference theme. This enables a host organization to show the relevance of their theme to other organizations, scientific community and the public, explaining that prospective discussions at the Conference would be applicable not only to their country but also to the other countries/regions as a whole. Since the 13th SCA Conference in 2013, the SCA has issued conference declarations related to imminent scientific issues in Asia and various global challenges that Asia takes part in, with more concern in the global discussion toward the solution.

Furthermore, the SCA has built closer ties with other international organizations and networks, such as International Science Council (ISC) and Future Earth. For example, the Regional Center for Future Earth in Asia convened Future Earth sessions at the 17th Conference in 2017 and the 18th Conference in 2018, and representatives from the International Science Council (ISC) were invited to present their activities at the 20th Conference in 2021. The Future Earth Global Secretariat South Asia Hub chaired one of the parallel sessions with the theme, "Socio-technological transformation and Future

Earth: theories and applications” at the 21st Conference in 2022.

The SCA has contributed to enhancing the scientific advice capacity of the member organizations and to strengthening the implementation of Asia-wide scientific undertakings in various forms.

1.4 Rebuilding Strategies

Since 2016, the Future Strategic Plan has functioned as a pillar of SCA activities, stating the outlook of the world and issues responsible for SCA in some terms. It will continue to stand centrally for the SCA activities for years to come.

Meanwhile, the circumstances in Asia and the world are evermore drastically changing, and at the same time, SCA’s mission and activities are required to progress accordingly. With that in mind, it is needed to consider updating the Future Strategic Plan based on such external and/or internal factors, which enables the SCA to continue opportune activities. In general, periodic revision, approximately once every five or six years, is desirable.

Between 2016 and 2023, many social issues and new scientific topics have appeared, typified by global sustainability, digital transformation, science-based policy, open science, freedom and responsibility in science and so forth. Therefore, it is appropriate to rebuild strategies, considering those issues and topics at present, and enhance the SCA activities accordingly.

2. Challenges and Opportunities

2.1 Global Sustainability: Climate Change, Natural Disaster and Diversity

With utmost efforts, we are trying to achieve Sustainable Development Goals (SDGs) articulated by the United Nations 2030 Agenda. Issues such as climate change, natural disasters, and diversity such as biodiversity and cultural diversity, in particular, are calling for our immediate attention and the imperativeness of the issues is well shared among the SCA community to encourage best practices. Even though climate change is widely recognized, “the exact timing and severity of physical effects/risks are difficult to estimate. The large-scale and long-term nature of the problem makes it uniquely challenging, especially in the context of economic decision making¹”. Reliable scientific information is required to improve analysis of the risks and opportunities, and expedite proper investments as to global sustainability.

¹ Task Force on Climate-related Financial Disclosures et al., 2017. *Recommendations of the Task Force on Climate-related Financial Disclosures*.

To address these global issues, we should set a value on localized actions under local-fit strategies. Motivations, purposes and approaches for the issues may differ up to layers of stakeholders from countries/regions, organizations to individuals. Various actions should be involved in a systemic concept, looking at overall and elemental behaviors with an awareness of and respect for diversity.

COVID-19 has had multi-layered/faceted economic, social and cultural effects and revealed the implicit challenge that each layer acts seeking different objectives and benefits, and it is arduous to govern those different actions holistically. In the process of recovery from the impact of COVID-19, science is expected to shore up the comprehensive governance, while pious efforts would be made to re-set humanity's relationships with the planet in ways that recover a self-sustaining environment and which will require engagement from the whole spectrum of the sciences.

We should recognize that with the rapid economic growth in Asia, the environmental burden caused by the Asian countries and regions has also increased. Therefore, it is imperative to reaffirm our recognition that our socio-economic activities significantly affect global sustainability and bear our responsibility for concrete actions.

2.2 Converging Science and Technology in Digital Transformation

The convergence of science and technology has become noticeable in tackling complex problems of climate change and COVID-19. Digital transformation (DX) has also great potential for better life and society, especially in this “untact” era. However, they can also multiply already-existing problems, such as inequalities, power struggles, erosion of civil rights, and governance capacities. Naturally, data can be easily and irreversibly accumulated, and information imbalance is prone to occur. The underlying technologies of DX, such as Artificial Intelligence (AI), Internet of Things (IoT), and Smart Materials, also have the risk of creating new disparities, ethical issues and legal problems relevant to data ownership and privacy, and being used for a purpose other than their intended purpose as well.

The four-year-long negative impacts of COVID-19 on the people seemingly brought us an opportunity to further advance DX, and consider how to develop DX for the benefit of the humanity, creating new appropriate guidelines and regulatory frameworks.

2.3 Science in Policy and Public Discourse

The scientific wisdom of academia is essential for the policymakers to formulate persuasive and effective policies. Science can and should play a pivotal role in providing input, which contribute to the evidence-driven, logic-based and thus, more convincing policies for society. These days, the significance of bottom-up and indigenous knowledge and findings from the local level, including

non-professional scientists and citizens has also grown. Academia has the responsibility to strengthen constructive dialogue with society, and enhance the role of science in policy through public discourses.

Since COVID-19 was an unknown entity, many people were confused and influenced by the informational uncertainty. Although trust in business and media discourse has declined during the pandemic, COVID-19 has reminded us of the importance of advocacy for the scientific knowledge and communication as a reliable, and trustworthy contributor for the improvement of science-based policies.

2.4 Changing Practice in Science and Scientific System

Science has a function of providing a global public good, which means its benefit should be enjoyed by people all over the world. In this regard, the concept of open science and actions thereof are on the increase.

We also concurrently have to pay careful attention on topics such as intellectual properties as industry requests. As aforementioned, data can be easily and irreversibly accumulated and information imbalance tends to occur. One of the crucial barriers to promote open science is that the uneven distribution of knowledge and information can be increased between those who can access the digital infrastructure and those who cannot. Now building a balanced scheme with appropriate governance for the scientific system is one of the pressing global challenges.

2.5 Freedom and Responsibility in Science

The ongoing social transformation in many societies creates and highlights diversity of values in manners that have never existed before. Acknowledging and leveraging the diversity of values is important in science as they are in wider society. We, therefore, need to redefine the responsibilities of science with considerations of equity, diversity, and inclusivity in science as well as in actions that promote and safeguard scientific freedom fairly and also expedite responsible conduct.

3. Goals and Targets

3.1 Global Sustainability

To realize sustainable development, achieving SDGs and building resilient society in many regions by 2030 are the big challenges. Asia, in particular, is facing multiple issues concerning sustainable development. Despite the continuous economic growth and focus, it is estimated that about 300

million people are still extremely poor in South Asia, East Asia and the Pacific². There are regions in Asia that are suffering from the consequences of climate change, severe environmental pollution and substantial economic and social inequalities. It is essential to work together for the global sustainable growth, acknowledging that each country/region has own challenges and onuses, and localized actions need to be respected.

To tackle these complicated issues, efforts should be made to break barriers between different fields and disciplines, including arts, humanities, social sciences, natural sciences, biology, and engineering. A cross-field, multi-disciplinary, integrated open platform should be established to facilitate broad discussions over science-related public policies among scientists, entrepreneurs, investors, government officials, media, and the public as a whole. Through the comprehensive platform, it is expected to derive a scientific solution on how to manage and converge diversified actions in harmony for maximum effects and benefits.

3.2 Digital Transformation

Digital transformation (DX) is one of the keys not only to improving socio-economic and cultural activities but also to effectively tackling various global issues including COVID-19, climate change, natural disasters and so forth. Also, it is crucial to recognize the flip side of DX, which surfaced during the pandemic, such as the risk to further expanding the digital divide. DX should be implemented in a human-centric manner so that anyone can access and enjoy the benefit of innovations, science and technology as a wholesome package. We should consider appropriate measures, regulations and a new international framework that take into account fundamental human rights and capacity building with an acute sense of ethics and fairness among scientists with relevant stakeholders.

3.3 Science-based Policy

The importance of scientific knowledge in science-based policymaking has been reaffirmed and alarmed/alerted by COVID-19. The achievement and experience of science during the pandemic should be utilized and leveraged to address other significant challenges. To strengthen this function, it is necessary to revalidate the initiatives in citizen science and integrate their wisdom.

We should communicate more closely with the policymakers and the general public to properly understand what challenges are being faced and how science can contribute to the solutions, not the problems. International policymaking should reflect global, regional and local science-based knowledge and collaboration.

² World Bank et al. 2021. *World Bank Annual Report 2021*. The word “extremely poor” means living below \$1.90 a day.

3.4 Open Science

The role of science or open science as a global public good is advancing, and open innovation and open data strategies are also expanding in business and industry. No one as a citizen is left behind in the process but in a manner which is globally inclusive, with a voice for all, sensitive to diverse perspectives, and with ideas, evidence and data circulating freely, quickly and efficiently. Science is evolving and will continue to evolve, however, the knowledge accumulated in laboratories and libraries has to become more accessible and more accountable to citizens and societies. In this regard, it is important to manage and publish data in accordance with the FAIR Data Principles.³

At the same time, we have to pay attention to the protection of intellectual properties, and the risk of new disparities that may be caused by the information imbalance. To expedite open science, it is essential to keep the balance between the public good and intellectual properties under global governance scheme. Each scientist needs to possess and share perspectives on how their outcomes should be disseminated and utilized.

3.5 Scientific Responsibility

The realization of an inclusive society is also an important point of view in the development and implementation of science and technology. In today's diverse society, science should be progressed, respecting diversity in opinion, freedom and values of all people, without discrimination based on age, gender, race, ethnicity or religion. Scientists recognize the scientific responsibility in the contemporary context in the global sense that science should be advanced, protecting and promoting fairness and morality.

The SCA is an inclusive platform that respects the autonomy of each academy. To tackle current challenges and realize sustainable development, it will be necessary for the national and regional academies to expedite working together based on solid relationships. The SCA has contributed to not only exchanging knowledge and information about science and technology, but also deepening mutual relations among members. The SCA should continue to serve and function as a platform that contributes to realizing sustainable and inclusive society.

4. Initiatives in Short Term

4.1 Membership and Building an Inclusive, Open Community

³ The acronym FAIR means findable, accessible, interoperable, and reusable. The FAIR Principles define the criteria for handling sustainable research data.

The SCA is comprised of 31 organizations from 18 member countries and regions in Asia. It has been providing a fair, desirable space where diversified scientists discuss regional issues, creating a stimulating network. Because membership dues are not required, it enables scientific organizations to join easily. In addition, the SCA has two particular characteristics. First, it covers all academic disciplines, including social sciences and humanities. Second, more than one organization from one country can join the SCA. This aspect of the SCA enables members to have inter-disciplinary discussions aiming at science-based solutions, which is a notable advantage of the SCA.

The number of SCA member academies has not increased in recent years. To achieve the Goals and Targets fully and effectively, it is important to further widely share the challenges and findings with as many Asian Academies as possible. For this reason, the SCA should work to build a more extensive community and welcome new academy members. For example, non-member academies of non-represented countries and regions are encouraged to be invited to an annual conference as observers so that they can be aware of the benefits of becoming a member of the SCA. It is also advocated to welcome academies from a wide range of scientific fields, which will contribute to fostering inter-disciplinary exchange and comprehensive scientific discussions.

4.2 Academic Conferences

The scheme of the annual conference is recommended to refine as follows to enhance cooperation and further foster relationship with society.

- i **More diversified:** Not limited to the academia but all sectors and stakeholders, including policymakers, businesses, and media to be invited to interact.
- ii **More flexible:** Annual conference can be held both online and offline in a hybrid style, for better, more open access to the world beyond Asia.

To attain more inclusive discussion, we will make further efforts to promote diversity of gender, age, region and academic discipline balance, such as encouraging the involvement of female and young scientists in the conference.

On top of that, it is recommended for the future host organizations to convene sessions concerning the Goals and Targets mentioned in Chapter three. The SCA should regularly check the progress of implementation of the Future Strategic Plan annually at the Management Board Meeting and/or General Assembly, and articulate challenges for the following year(s) in a conference declaration for specific actions, by more carefully analyzing the outcomes of the Conferences through participants' survey to maximize output.

4.3 Scientific Consultation

An open network opportunity is also recommended to be arranged by the host organization of the

annual conference to facilitate global governance, which is indispensable for realizing sustainable development and an inclusive society. In addition, the SCA should consider how to harness the discussion from the conference to the international and/or regional policymaking. To build a trusted relationship between science and politics, conferences can create effective impact, should academic conferences be designed and implemented in style to accelerate a constructive dialogue between academies and policymakers, for example.

4.4 International Collaboration

The SCA has been the inter-disciplinary conference body since its inception. Recently, Inter- and trans-disciplinary activities and initiatives which involve various stakeholders have become more important.

Strengthening the collaboration with other international organizations and networks, not only ISC and Future Earth, but also Inter Academy Partnership (IAP) and Association of Academies and Societies of Sciences in Asia (AASSA) would be extremely positive for solving common issues in Asia and the world, and enhancing the SCA's initiative in promoting and disseminating Asia's scientific achievements as well as cooperating with global effort.

4.5 Publications and Publicity

The SCA website should be more frequently updated to include recent activities such as symposiums and seminars of member organizations, their publications and so on. Member organizations are encouraged to contact the SCA secretariat for that purpose, for the better communication and visibility of the activities.

For further development, enhancement of communication among member organizations is recommended. Members are encouraged to disseminate information and achievements related to academic events through the annual conference and the SCA website, which will consolidate the role of SCA as a platform for scientific exchange in Asia.

Appendix 1: Brief History of SCA

SCA started with 16 scientific organizations from 10 countries in 2001, namely:

China (CAST), India (ICSSR), Indonesia (LIPI, Ministry of Education & Culture (now BRIN)), Japan (SCJ), the Republic of Korea (NAS, KAST), Malaysia (ASM, MOSTE (now MOSTI), the Philippines (NRCP, PSSC), Singapore (NSTB (now A*STAR)), Thailand (TAST, NRCT (now SST)), and Vietnam (MOH, MOST).

Since then, the number of member organizations has increased as follows. As of October 2023, SCA is comprised of 31 organizations from 18 countries and region.

- At the 2nd Conference in 2002, LESTARI from Malaysia, PAMS from the Philippines, and SST from Thailand became members.
- At the 4th Conference in 2004, MAS from Mongolia became a member.
- At the 11th Conference in 2011, BAS from Bangladesh became a member.
- AT the 12th Conference in 2012, ITC and RAC from Cambodia, MAT from Myanmar, NAST from Nepal, NASSL and NSF from Sri Lanka, and VAST from Vietnam became members.
- At the 14th Conference in 2014, Academia Sinica from China: Taipei, and MAAS from Myanmar became members.
- The 15th Conference in 2015, INSA from India, and PAS from Pakistan became members.

Appendix 2: Acronyms and Abbreviations

- AASSA: Association of Academies and Societies of Sciences in Asia
- ACSC: Asian Conference on Scientific Cooperation
- ASM: Academy of Sciences Malaysia
- A*STAR: Agency for Science, Technology and Research
- BAS: Bangladesh Academy of Sciences
- BRIN: National Research and Innovation Agency
- CAST: China Association for Science and Technology
- FE: Future Earth
- IAP: InterAcademy Partnership
- ICSSR: Indian Council of Social Science Research
- INSA: Indian National Science Academy
- ISC: International Science Council
- ITC: Institute of Technology of Cambodia
- KAST: Korean Academy of Science and Technology
- LESTARI: Institute for Environment and Development, Malaysia
- MAAS: Myanmar Academy of Arts and Science
- MAS: Mongolian Academy of Sciences
- MAT: Myanmar Academy of Technology

- MOH: Ministry of Health, the Government of Vietnam
- MOST: Ministry of Science and Technology, the Government of Vietnam
- MOSTI: Ministry of Science, Technology and Innovation, Malaysia
- NAS: National Academy of Sciences, Republic of Korea
- NASSL: National Academy of Sciences of Sri Lanka
- NAST: Nepal Academy of Science and Technology
- NASTEC: National Science and Technology Commission
- NRCP-DOST: National Research Council of the Philippines, Department of Science and Technology
- NSF: National Science Foundation
- PAMS: Philippine Association of Marine Science
- PAS: Pakistan Academy of Sciences
- PSSC: Philippine Social Science Council
- RAC: Royal Academy of Cambodia
- SCA: Science Council of Asia
- SCJ: Science Council of Japan
- SDGs: Sustainable Development Goals
- SST: Science Society of Thailand under the Patronage of His Majesty the King
- TAST: Thai Academy of Science and Technology
- VAST: Vietnam Academy of Science and Technology