Forum: Commission on Science and Technology for Development

Issue: Fostering increased science and technological cooperation between member states

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Introduction

In the 21st century, science and technology(S&T) has become a central driver of global development. They play a crucial role in economic growth, social well-being, and addressing global challenges such as climate change and health crises.

However, there is a huge gap in scientific and technological strength and innovation capabilities among member countries. Developed countries hold most of the core technologies and intellectual property rights, while developing countries often lack research and development (R&D) infrastructure, talent pools and capital investment. This "technology divide" limits the overall progress of global sustainable development. (United Nation, 2024)

As a subsidiary body under the United Nation Economic and Social Council (ECOSOC), the United Nation Commission on Science and Technology for Development(CSTD) devote to promote the construction of scientific and technological innovation systems in various countries, encourage international technology transfer and knowledge sharing, and support the science and technology-related United Nation 2030 Sustainable Development Goals(SDG). (United Nations General Assembly, 2013)

Therefore, this committee focus on fostering increased science and technological cooperation between member states, exploring more opportunities for cooperation and sharing through lasting and effective communication between member states.

Definition of Key Terms

Science and Technology

Science and Technology, under the setting of committee, should have boarder definition related to not only natural science and engineering technologies, but a factor that deeply connected with economic structural transformation, sustainable development, social inclusion, and knowledge sharing.

Science refers to human activities that systematically pursue objective knowledge about nature, society, and its interactions. Science provides theoretical foundation, methodological support and principle insight for technological development.

Technology means turning science knowledge into practical application, tools, methods, processes and systems that can solve practical problems, improve productivity, and promote economic and social development. (United Nations Economic and Social Council, 1999)

Technology Divide

When human society progress from technology level, some countries or regions get the upper hand based on historical opportunities, location advantages, or geopolitical conditions. Thus, a gap, the “technology divide”, emerges between member states at the level of science and technology, including R&D capacity, technological innovation, infrastructure improvement, technology transfer and absorption mechanisms, talent training systems and institutional environment. This gap is not only reflected in the existence of technology, but also in whether the country can continuously get cut-through scientific discovery and whether the technologies can be effectively used. (United Nation, 2024)

Science and Technology Cooperation

Science and Technology Cooperation refers to two or more than two countries willingly collaborate or share in the field of science and technology that they have advanced breakthrough or mature experience in. The method of cooperation could involve in joint research and technology transfer, knowledge sharing, innovation mechanism construction, etc. Countries, through cooperation, can enhance their own development capabilities by learning from each other, improve output, and contribute to the Sustainable Development Goals. (United Nation, 2024)

Research and Development Infrastructure

The research and development infrastructure is a key factor that determines the ability for countries to achieve advanced scientific and technological outcomes. However, the difference in input and current infrastructure between developed and less advanced countries aggravate the gap, leading to less achievement for the UN 2030 sustainable development goal. (United Nations Conference on Trade and Development, 2023)

Technology Transfer

Technology transfer refers to the process that knowledge, skills, procedures, and equipment is transferred from one country or organization to another. The method of such transfer involves in differently. Traditionally, the process is linear from the economic advanced countries to the less advanced ones, but this trend can be reversed these days when economical specialization went on in recent decades. (United Nations Conference on Trade and Development, 2023)

Capacity Building

Capacity-building is defined as the process of developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need to survive, adapt, and thrive in a fast-changing world. For S&T, capacity building focus on the theoretical and physical ability to achieve further scientific and technological breakthrough. (United Nations Academic Impact)

North-South & South-South Cooperation

North Country refers to developed countries, while south country means the developing and least developed ones. North-South cooperation means the developed country offer technology transfer, funding, institutional support to the needed one. South-South cooperation is about peer collaboration, mutual knowledge exchange, shared experience between developing countries. (United Nation, 2024)

“Leaving No One behind” Principle

"Leave No One Behind" is the central, transformative promise of the 2030 Agenda for Sustainable Development. It represents the unequivocal commitment of all UN Member States to eradicate poverty in all its forms, end discrimination and exclusion, and reduce the inequalities and vulnerabilities that leave people behind and undermine the potential of individuals and of humanity. (United Nation, 2024)

Background

Current State of Global S&T Cooperation

Expanding Role of S&T

As previously stated, Science and Technology today serve a crucial role, for not only economic growth but also social development. By offering theoretical foundations and practical tools, science provides methodological theories. This progress in science can facilitate further research. Then, technology applies this knowledge into tangible applications. Ultimately, it can improve productivity, solve practical problems, and increase overall societal well-being (United Nations Economic and Social Council, 1999)

Technology Divide and Unequal Access

Despite the progress in cooperation, a significant technology divide still exist between countries. Specifically, the North counties have significantly high strength in science and technology. The inequality emerges in R&D capacity, innovation infrastructure, and ability in making scientific discoveries. Such differences block the achievement of Sustainable Development Goals about equality and limit the potential for the scientific development of developing countries. (United Nations, 2024)

Capacity Building and Knowledge Transfer

Capacity building and knowledge transfer plays an important role in bridging the technology divide. Countries accepted help, typically less economically developed countries, can strengthen their ability to innovate and absorb cutting-edge technologies. And the helping countries, usually more economically developed countries, can solidify

their relationship with others. The previous section introduced several methods in Capacity building and Knowledge transfer. (United Nations Academic Impact, 2024).

Importance of Enhancing Global Cooperation

Achieving the SDGs

Global S&T cooperation directly contributes to achieving the United Nations 2030 Sustainable Development Goals. It helps equal development of all countries, ensuring the "no country is left behind" principle. (United Nations, 2024).

Inclusive Growth

Inclusive Growth means that governments not only focus on economic advancement but also shed light on social equity. By global cooperations, developed countries can ensure that innovations benefit all countries, all human beings. (United Nations, 2024).

Challenges in Strengthening Cooperation

Balancing National Interests and Global Cooperation

A primary concern for countries to enhance global S&T cooperations is their priority in their own interest. When they have cooperations with other countries, the chance that their crucial information be leaked also increase. Thus, countries often face with trade-off between their safeguarding competitive advantages and the benefit of sharing. A sensible balance needs to be found between self-interest and collaborative responsibility. (United Nations, 2024). (United Nations Conference on Trade and Development, 2023)

Intellectual Property and Data Sharing

Intellectual Property(IP) is a common strategy for developed countries to protect their innovations. It prevents their technology from being stolen. However, it can also block the technology transfer to less advanced countries, which is crucial for global S&T cooperation. Sharing data, especially in scientific fields, can enable collaboration in collective problem-solving, accelerating the overall research speed. Thus, balancing IP rights protection and global sharing is a core challenge in cooperation. (United Nations Conference on Trade and Development, 2023)

Ethical and Regulatory Challenges

Ethical and regulatory considerations are also significant barriers to cooperations. Different countries may have different ethical norms and regulations, and conflicts may happen when countries try to transfer technology and have collaborative research. The cooperation should happen based on the establishment of trust-based partnerships among member states. (United Nations Conference on Trade and Development, 2023)

Major Parties Involved

Commission on Science and Technology for Development (CSTD) & UN system agencies

As previous stated, CSTD is the main body in United Nations Economic and Social Council (ECOSOC) focused on Science and Technology. It plays a central role in accelerating the global S&T progress by fostering cooperations between North and South countries and between South and South countries. The CSTD works closely with UN agencies such as the United Nation Conference on Trade and Development (UNCTAD) to facilitate the international cooperation. It ensures that every country can fully participate in the global knowledge sharing process. (United Nations General Assembly, 2013)

More Economically Developed Countries (MEDCs): The United States

The United States is one of the world's leading forces in science and technology. It has one of the most advanced research and development (R&D) infrastructure and high strength in science discoveries and technology applications. Based on its upper hand position, the U.S. actively international cooperations. However, its high intellectual property protection and national security concerns limit the knowledge transfer and create a monopoly in many technological fields. (United Nation, 2024)

Less Economically Developed Countries (LEDCs): Kenya

Kenya represents the numerous developing countries which try to facilitate their economic growth by science and technology breakthrough. The country has developed technology hubs such as "Silicon Savannah" in Nairobi, which attempts to increase their research and

development infrastructure. However, Kenya continues to face challenges like insufficient funding. Thus, they are still trying to strengthen its cooperation with developed countries and actively participate in South-South cooperation in order to get more progress. (United Nation, 2024)

Previous Attempts to Resolve the Issue

The international community has been aware of the widening technology divide and made numerous attempts to reinforce international cooperation in science and technology. However, although progress has been made, various efforts had a lot of limitations. Here are some main UN initiatives and documents relevant to the problem in question:

- **United Nations Economic and Social Council Resolution 1999/61 (July 1999)**
  This resolution points out the importance of S&T for achieving sustainable development goals and encourage the capacity-building in developing countries. However, the lack of financial aids and institutional practice makes it less impactful.

- **United Nations General Assembly Resolution 68/220 (December 2013)**
  This resolution encouraged the promotion of technology transfer. The resolution led to several capacity-building projects coordinated by UNCTAD and CSTD, including reinforce research collaboration and innovation support mechanisms, but it does not ensure the participation of least developed countries (LDCs).

- **CSTD Annual Sessions (Ongoing since 1992)**
  The CSTD is a platform for reviewing progress in S&T cooperation and for making innovation policies regarding the 2030 Sustainable Development Goals. These sessions reforce communication and opinion exchange, yet implementation remains uneven across regions due to gaps in infrastructure and policy consistency.

- **United Nations Conference on Trade and Development (UNCTAD) Technology and Innovation Report (2023)**
  This meeting highlighted global disparities in innovation capacity and called for stronger South-South cooperation and inclusive technology transfer mechanisms. The report

successfully identified structural issues but noted that global financing and governance frameworks still lag behind in practice.

- **2030 Agenda for Sustainable Development (Adopted September 2015)**
  The SDGs included science, technology, and innovation (particularly in Goals 9 and 17) as an important tool for sustainable growth and partnership. This agenda increased global coordination but continues to face challenges in balancing national interests and global equity.

Possible Solutions

For Solutions, we need to solve the main challenges listed above.

Strengthen North-South & South-South Cooperation. Encourage cooperation between developed and developing countries, and collaboration among developing countries to share knowledge and innovation experiences.

Invest in Capacity Building. Train scientists, engineers, and policymakers, and improve R&D infrastructure to help countries absorb and use advanced technologies.

Promote Technology Transfer & Knowledge Sharing. Start programs in transferring and sharing among countries.

Develop Flexible Intellectual Property Frameworks. Balance protection and access to technology, allowing wider participation in innovation.

Enhance Global Policy Coordination. Try to reduce conflict in regulations, ethics, and standards to ensure smoother and more trustworthy collaboration.

For specific methods, it is leaved up to you delegates to brainstorm, negotiation and drafting. Good Luck!

Bibliography

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United Nations. (2024). *Global cooperation in science, technology and innovation for development.* https://docs.un.org/en/E/CN.16/2024/3

Appendix or Appendices

1. https://docs.un.org/en/E/CN.16/2024/3 (United Nations website)

   This is the latest report of UN in science and technology cooperation. You can find most of the valuable information there.

2. https://unctad.org/system/files/information-document/CSTD2023-2024_Issues02_globalcooperation_en.pdf (United Nations website)

   This is the latest UN CTSD annual meeting issue paper. You can know the real struggles for cooperation these years.