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ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)**

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Contribution by Türkiye

to the CSTD 2023-2024 priority theme on “Global cooperation in science,
technology and innovation for development”

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PRIORITY THEME 2: Global cooperation in science, technology and innovation for development

United Nations Commission on Science and Technology for Development (CSTD)

Dear CSTD Member,

The [26th CSTD annual session](#) selected “Global cooperation in science, technology and innovation for development” as one of the priority themes for its 27th session (2023-24 period). This theme addresses SDG 17 “Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development” at the 2030 Agenda.

Although the contribution of science, technology and innovation (STI) to the achievement of other sustainable development goals (SDGs) is discussed in every session of the CSTD, SDG 17 itself has not been specifically addressed for several years in the Commission. Interaction among CSTD members has resulted in several pilot programmes for international collaboration in STI. However, there is a need to consider from a broad strategic perspective the question of international collaboration in STI, including its digital dimensions. Under this priority theme the Commission could discuss the status of global STI cooperation (including coordination and funding) in knowledge creation and dissemination, the diffusion and sharing of technology and alternative modes of technology creation and distribution such as open-source approaches.

Under this theme, the Commission will examine how STI organizations at the global and regional levels collaborate better to scale up their impact on key development challenges; how to ensure that the international STI agenda is aligned with the development priorities of the Global South and includes adequate mechanisms for cooperation and sharing; and finally what could be the role of the CSTD in coordinating and imparting directionality to international STI collaboration and technology sharing.

The CSTD secretariat is in the process of drafting an issues paper on the theme to be presented at the CSTD inter-sessional panel meeting to be held in the second half of October 2023 in Portugal. In this context, we would like to solicit inputs from the CSTD member States on this theme. We would be grateful if you could kindly answer the following questions based on your experience in your country or region.

1. What STI cooperative mechanism(s) at global or regional levels has your country joined in?

As the Ministry of Industry and Technology, we want to implement high-impact projects that will improve our country's technological competence within the scope of the "National Technology Move". With the strategies we have prepared in this context, we are making breakthroughs that will encourage value-added and high-tech production.

We are preparing our country for the European Green Deal and the Carbon Neutral target. In this context, sectoral and technological roadmaps that we have prepared together with our stakeholders to reduce emissions in iron-steel, aluminum, cement and fertilizer production are completed.

As the Ministry, we carry out projects on various issues with UNDP and the World Bank, and we continue to work on new projects.

We support the green transformation of Organized Industrial Zones through our financing program with the World Bank. We are establishing model factories to promote the digital transformation of the industry with new investments and supports. We are starting the "Digital Road" project with the United Nations Development Organization. On the other hand, we are participating in the EU's Digital Europe Program as of 2023.

We strengthened our international cooperation in line with the 2023 Industry and Technology Strategy targets. We are organizing the Aviation, Space and Technology Festival (TEKNOFEST), the biggest technology event in Türkiye and the region.

We ensure widespread and effective development of R&D and innovation activities through cooperation mechanisms such as technology development zones, R&D and design centers and clustering.

We continue to strengthen our entrepreneurship and innovation infrastructure. We published the National Technology Entrepreneurship Strategy and our Turcorn100 program in order to create an ecosystem that enables the development of qualified human resources and encourages entrepreneurship. For a generation that is interested in science and technology; We set up experiment workshops and science centers, organize sky observation events, software and game development camps.

We are working with the European Union, the United Nations and the World Bank due to the earthquakes in Kahramanmaras.

We participate in the work, programs and projects of all international, multilateral and regional organizations and formations that our country is associated with.

We are working to develop cooperation with other countries in the fields of industry, technology, innovation, entrepreneurship, regional development and investment, and to create new areas of cooperation.

We organize Joint Economic Commission Meetings, High Level Cooperation Council Meetings, Joint Economic and Trade Council meetings and other meetings with other countries in Science, Technology, Innovation and other fields.

We cooperate with other countries in various fields by signing cooperation agreements in Science, Technology, Innovation and other fields.

Relations with other countries and international organizations continued in 2022-2023, deepening. Some of the activities we carried out in 2022 and 2023 regarding our collaborations are as follows:

- Joint Economic Commission meeting was held with Malaysia, Congo, Mongolia, Angola, Iran, United Arab Emirates, Senegal, Cameroon, Ghana, Gambia, Thailand, Cambodia, Azerbaijan, Bosnia and Herzegovina, Romania, Belarus, Greece, Russia, Serbia, Montenegro, Kazakhstan, Bahrain, Lebanon, Moldova, Northern Macedonia, Hungary, Tajikistan
- Experience sharing and technical cooperation on various issues with Serbia, Hungary, Greece, Kosovo, Netherlands, Albania, Kosovo, France, Ukraine, Greece, Netherlands, Kazakhstan, Poland, Azerbaijan, Serbia, United Kingdom, the Turkish Republic of Northern Cyprus, Belarus, Finland, Tajikistan and Switzerland has been made.
- Within the scope of the G20 Summit held in Bali-Indonesia, "Memorandum of Understanding on Cooperation in the fields of Research, Technology and Innovation" was signed at the intergovernmental level.
- Joint Economy and Trade Council meeting was held with Germany, France, Finland, Spain, Malta and Lithuania.
- High Level Strategic Cooperation Commission meeting was held with Spain, Ukraine, Pakistan, Iran and Hungary.
- High Strategic Committee meeting was held with Qatar.
- A Framework Agreement on Cooperation in the field of High Technology and Aviation Industry was signed with Ukraine.

- "Memorandum of Understanding on Cooperation on the Establishment of a Technology Development Zone in Baku", "MoU on Cooperation in the fields of Model Factory, Lean Transformation and Efficiency", and "The Protocol of Intent on Expanding the Access to Finance of Micro Small and Medium Enterprises" were signed with Azerbaijan.
- In addition, Memorandums of Understanding were signed with various countries in the fields of Science, Industry and Technology.
- It is planned to sign agreements with some countries.
- Became a member of the Global Partnership on Artificial Intelligence.
- A memorandum of understanding was signed between TÜBİTAK and Germany for the Falling Walls Lab event.

As the Ministry of Industry and Technology, and our affiliates the Small and Medium Enterprises Development Organization (KOSGEB), and the Scientific and Technological Research Council of Türkiye (TUBİTAK), we are determined to continue our cooperation with other countries and organizations.

2. To what extent the existing cooperation programmes are aligned with the development priorities of participating developing countries?

It is important to conduct a thorough needs assessment in developing countries to identify their specific development priorities. This assessment should involve engagement with relevant stakeholders, including governments, civil society organizations. By understanding the specific challenges and priorities of the participating countries, cooperation programs can be tailored to address their most pressing needs.

Many developing countries have national development plans that outline their long-term objectives and priorities. Cooperation programs should align with these plans to ensure synergy and maximize their impact. By integrating their activities with national strategies, cooperation programs can contribute more effectively to the achievement of development goals.

The involvement and ownership of participating developing countries in the design and implementation of cooperation programs are crucial. It is essential to engage with local stakeholders, including government agencies, research institutions to ensure that their perspectives and priorities are considered. This participatory approach increases the likelihood of alignment between cooperation programs and development priorities.

Cooperation programs should focus on building the capacity of participating countries to address their development priorities effectively. This can involve knowledge transfer, skill development, technology transfer, and innovation support. By strengthening the capabilities of local institutions and individuals, cooperation programs can enhance the alignment between their activities and the development priorities of participating countries.

Regular monitoring and evaluation of cooperation programs are essential to assess their impact and ensure alignment with development priorities. By tracking progress and collecting feedback from participating countries, adjustments can be made to improve the relevance and effectiveness of the programs.

The Ministry of Industry and Technology of the Republic of Türkiye carries out cooperation programs at bilateral, regional, and global levels based on this approach.

3. What are the main outcomes of such mechanism(s)? And what are the impacts of the resultant cooperation on your country? Pls. include the gender dimension.

International collaboration in STI can lead to the creation and dissemination of knowledge, scientific research, and technological advancements. This can result in the exchange of ideas, expertise, and best practices, fostering innovation and enhancing the quality and relevance of

research and development efforts in Türkiye. Increased knowledge creation and dissemination can contribute to addressing development challenges, including those related to sustainable development goals (SDGs).

Collaboration and cooperation in STI can facilitate technology transfer and diffusion, enabling Türkiye to access and adopt new technologies and innovations developed in other countries. This can enhance Türkiye's capacity for technological development and application across various sectors, leading to increased productivity, competitiveness, and economic growth. Technology transfer can also contribute to addressing development gaps and promoting inclusive development by improving access to essential technologies and services in vulnerable communities.

International cooperation in STI can provide opportunities for capacity building and skills development in Türkiye. Collaboration with STI organizations at the global and regional levels can enable knowledge exchange, training programs, and educational initiatives that enhance the expertise and capabilities of researchers, scientists, engineers, and other professionals. This capacity building can contribute to improving the quality and relevance of research and innovation activities, promoting sustainable development in Türkiye.

International STI collaboration mechanisms can foster policy alignment and coordination between Türkiye and other countries or regions. Such coordination can lead to the formulation and implementation of effective policies, strategies, and programs that promote inclusive and sustainable development.

International cooperation in STI can have both direct and indirect impacts on women's empowerment. It can provide opportunities for women scientists, researchers, and innovators to participate in collaborative projects, exchange knowledge, and access resources. Additionally, cooperation in STI can contribute to research, technology development, and innovation that address the specific needs and priorities of women and girls. Digital transformation provides new avenues for the empowerment of women and girls.

Indicators shows that females are less likely than males to have an education in science and tech-related fields. Considering the Higher Education Council database (2020-2021 academic year), 29.4% of the students studying in the ICT field are female in Türkiye. There is also a difference between males and females in STEM employment.

4. What are the main difficulties member countries have encountered or are facing when implementing the cooperation mechanisms?

Implementing effective cooperation mechanisms in STI often requires significant financial resources. Many member countries, especially those from the Global South, may face constraints in allocating adequate funding for research and development, technology transfer, and capacity-building initiatives. Limited resources can hinder the establishment of collaborative networks, joint research projects, and technology-sharing programs.

Bridging the knowledge and technology gaps between countries can be a significant challenge. Member countries may differ in terms of their scientific and technological capabilities, access to infrastructure and resources, and capacity to innovate. Addressing these disparities and promoting meaningful collaboration requires efforts to enhance knowledge exchange, technology transfer, and capacity development, particularly in areas of critical importance to sustainable development.

Developing effective institutional and policy frameworks to support international cooperation in STI can be complex. Member countries may face challenges in aligning their national policies, legal frameworks, and regulations with international cooperation initiatives. Harmonizing diverse legal and regulatory systems, streamlining administrative procedures, and ensuring intellectual property rights protection are among the issues that may need to be addressed.

Effective coordination and governance structures are essential for successful cooperation mechanisms. Member countries may face difficulties in establishing and managing

collaborative networks, coordinating activities among various stakeholders, and ensuring accountability and transparency in decision-making processes. Balancing the interests and priorities of different countries, organizations, and stakeholders can be a complex task.

Facilitating technology transfer, particularly from developed to developing countries, can be challenging due to issues related to intellectual property rights, licensing agreements, and commercialization. Member countries may face difficulties in negotiating fair and equitable terms for technology transfer, protecting intellectual property, and ensuring access to essential technologies for development purposes.

Strengthening national capacities in STI is crucial for effective cooperation mechanisms. Member countries may face challenges in building the necessary human resources, skills, and capabilities to engage in collaborative research and innovation. Investing in education, training, and skills development programs is vital to address these challenges and enhance the participation of member countries in international STI cooperation.

5. In respect of achieving the objectives and goals, what are the factors contributing to the success or failure of the cooperation mechanism(s) that your country has joined in?

Clear and well-defined objectives and goals are essential for any cooperation mechanism to be successful. When the purpose and expected outcomes of the cooperation are articulated, it becomes easier to align efforts and measure progress towards shared objectives.

The level of commitment and active engagement from all participating parties is crucial. Successful cooperation requires a genuine willingness to collaborate, share resources, and work towards common goals. When all stakeholders are actively involved and contribute their expertise and resources, the chances of success are higher.

Clear and effective communication channels, both formal and informal, play a vital role in cooperation mechanisms. Regular communication, information sharing, and coordination among the participating parties help in building trust, resolving issues, and ensuring alignment towards common objectives.

Sufficient resources, including financial and technical support, are essential for the success of cooperation mechanisms. Adequate funding enables the implementation of activities, research, capacity building, and the development of necessary infrastructure. Availability and equitable distribution of resources can significantly impact the effectiveness of cooperation.

Cooperation mechanisms are more likely to succeed when there is a clear understanding of the shared benefits and mutual interests among the participating parties. When all stakeholders perceive tangible benefits and value in the collaboration, they are more likely to actively contribute and remain committed to the cooperation mechanism.

Building trust among participating parties is crucial for successful cooperation. Transparency, fairness, and inclusivity in decision-making processes contribute to building trust and fostering a sense of ownership among stakeholders. When all parties feel heard, respected, and included, collaboration is more likely to be effective.

Regular monitoring, evaluation, and accountability mechanisms help track progress, identify challenges, and make necessary adjustments. These mechanisms provide opportunities for learning, improving performance, and ensuring that commitments and responsibilities are met by all participating parties.

6. In your country's view, what role could CSTD play in coordinating and imparting directionality to international STI collaboration and technology sharing?

CSTD could serve as a coordinating body, bringing together various STI organizations at the global level to foster collaboration and coordination. It could facilitate the exchange of best practices, experiences, and knowledge among member states, enabling them to align their STI agendas and initiatives with the development priorities of the developing countries. By providing

a platform for dialogue and cooperation, CSTD can help maximize the impact of global STI efforts.

CSTD could develop guidelines and frameworks that promote effective international collaboration in STI and technology sharing. These guidelines could outline principles, standards, and best practices for sharing knowledge, technologies, and innovations. By establishing common frameworks, CSTD can facilitate cooperation, reduce duplication of efforts, and ensure that STI initiatives are aligned with sustainable development goals and the needs of developing countries.

CSTD could play a role in facilitating the transfer of technology between countries, particularly from developed to developing countries. It could establish mechanisms and platforms to enable technology sharing, such as databases or portals that provide information on available technologies, expertise, and funding opportunities. CSTD could also explore the use of open-source approaches, where appropriate, to encourage the diffusion and sharing of technology.

CSTD could advocate for increased investment in STI and technology sharing, particularly in the Global South. It could work towards mobilizing resources, including financial support and technical assistance, to support collaborative STI projects and initiatives. By highlighting the benefits and potential of international STI collaboration, CSTD can encourage governments, organizations, and stakeholders to prioritize and allocate resources for sustainable development through STI.

CSTD could establish mechanisms to monitor and evaluate the effectiveness and impact of international STI collaboration and technology sharing initiatives. It could develop indicators, metrics, and assessment frameworks to measure progress and identify areas for improvement. By monitoring and evaluating these initiatives, CSTD can provide evidence-based recommendations and guidelines for enhancing their effectiveness and ensuring they are aligned with development priorities.

Please indicate contact person(s) responsible for projects/policies and international collaboration in this context in case we need clarification on the inputs.

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Please send your responses and any further inputs on the theme to the CSTD secretariat (stdev@unctad.org) by **15 August 2023**. We look forward to receiving your valuable inputs.

Sincere regards,
CSTD secretariat