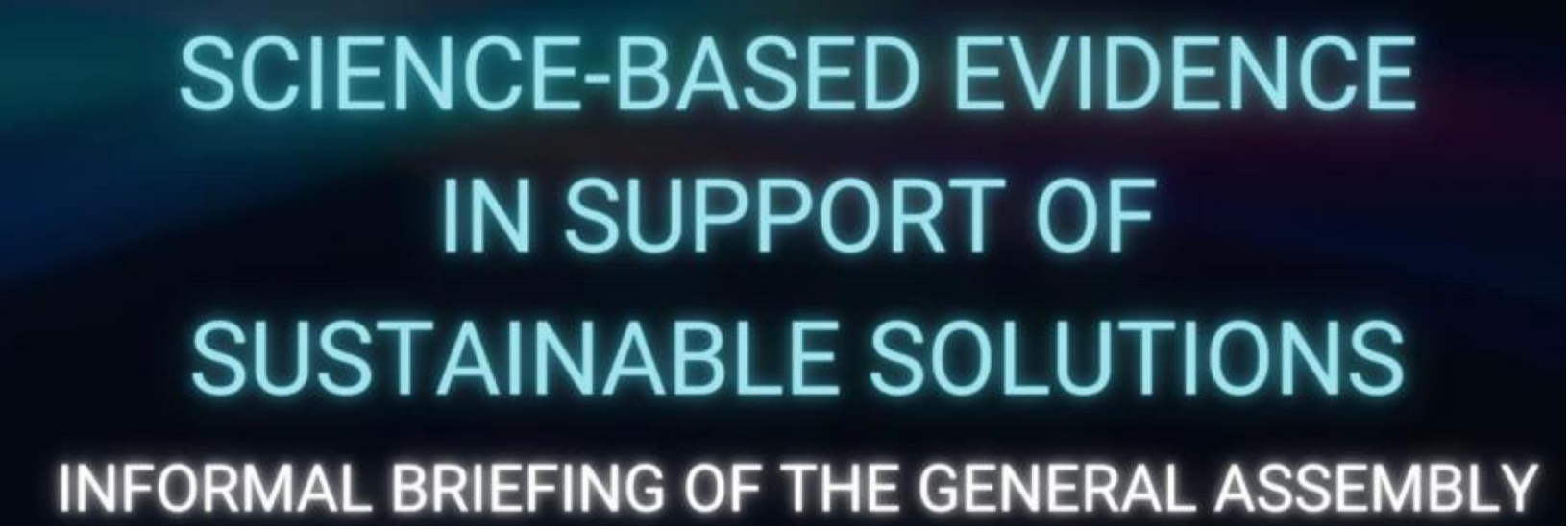

SUMMARY OF THE PRESIDENT OF THE GENERAL ASSEMBLY

7 February 2023

Aligning with the motto *"Solutions through Solidarity, Sustainability and Science"*, the President of the United Nations General Assembly convened a science briefing to inform sustainable development related negotiating processes in the Assembly on February 7th at UN Headquarters. The briefing focused on science-based evidence in support of sustainable solutions. Three panels addressed the following topics: The work of the Global Commission on the Economics of Water in panel. A second panel discussed Climate, Conflict and Cooperation. The afternoon session addressed Early Warning for Pandemic Preparedness in panel three.

The informal briefing offered scientific decision support for Member States to contribute to the UN 2023 Water Conference on 22-24 March 2022, the negotiations for the outcome document for the high-level meeting on pandemic prevention, preparedness and response, and preparations for the SDG Summit in September 2023, as well as the Summit of the Future in 2024.

In addition, members of the Independent Group of Scientists shared an update on the 2023 Global Sustainable Development Report. After each panel, first respondents, Member States, Observers of the General Assembly, international organizations, and stakeholders were given the floor for reactions and questions.

Morning session

In his opening remarks, the President of the General Assembly recalled the value of science to identify impasses and chart out concrete solutions to global challenges. Science also supports the membership in finding compromises. Identifying if negotiation outcomes are relevant and transformative can be supported through scientific analysis. Therefore, science is a leitmotif and cornerstone for decision-shaping throughout the 77th session of the Assembly. A proper validation mechanism for sustainable development is missing in the UN system yet and should be designed to support Member States deliberations on a permanent basis. The 7 February briefing can be seen as a blueprint for science-based decision support in the future.

Panel 1 on The Economics of Water

On behalf of the Global Commission on the Economics of Water, its Co-chair H.E. Mr. Tharman Shanmugaratnam, Senior Minister and Coordinating Minister for Social Policies of Singapore; H.E. Ms. María Fernanda Espinosa, Former Minister of Foreign Affairs of Ecuador and President of the 73rd session of the UN General Assembly; and Mr. Aromar Revi, Director of the Institute for Human Settlements of India and Co-Chair of the UN Sustainable Development Solutions Network gave a comprehensive overview of their current work. The Commission – established in May 2022 –, will submit its report at the UN 2023 Water Conference, proposing transformation in the way water is being valued and managed in order to achieve goals and objectives enshrined in the 2030 Agenda, the Paris Climate Agreement, and the Convention on Biological Diversity.

The Commission members reminded of the ongoing water crises: humanity breached the planetary boundaries for water for the first time in our history, altering the global water cycle. At the end of this decade, demand for water is expected to exceed supply by 40%. Imbalance is coupled by widespread and more frequent local crises: droughts and floods are impacting the same regions; freshwater resources are increasingly becoming contaminated. Over 2 billion people still lack access to safely managed water; one child under the age of 5 dies every minute because of diarrhea.

Water crisis is closely linked to climate and biodiversity crises, with each one reinforcing the other. They are tied to how we produce and consume, how we govern and finance them, and what we really value. As much as global water crisis imperils the achievement of the integrity of the 2030 Agenda; since water connects all the Sustainable Development Goals (SDGs), it is water security that can accelerate the achievement of them all. For the time being, this is yet a large unrealized development and economic potential, factoring in the trade-offs between water, food and energy.

Despite the current water crisis, humanity has the tools to put water management back on track, from data and information to scientific knowledge, technology, capabilities and finance. The key is to organize capacities and resources to conserve and manage water locally and globally in a sustainable manner and coordinated with efforts to fight climate change and biodiversity loss.

For that, it is essential to get the pricing of water right. Today's systems often benefit the better-off people in many societies, but that's not because pricing water is harmful to the poor. The right pricing approach, accompanied by targeted subsidies enable investments in making water broadly and equitably available across the entire population. The next decade will be critical to take bold action to restore the global water cycle and allowing it to support economy, trade and growth.

Among other recommendations, the Commission members suggested that the global water cycle is being considered as a Global Common Good. A sustainable, just and equitable water future requires higher levels of collective ambition on valuing water; reshaping the interaction of the public and private sectors; developing, sharing and using technologies widely; building the right capacities; and mobilizing resources, including financing. Improved governance should strengthen a holistic and integrated approach to water and accelerate SDG implementation from local to the global level, building on whole of government efforts.

All these points underpin why building on a strong and transformational Water Action Agenda for the outcome of the 2023 SDG Summit and the 2024 Summit of Future outcome is crucial.

As respondent, the Special Envoy for Water of the Kingdom of the Netherlands spelled out that the UN 2023 Water Conference should not end with voluntary commitments only. The follow-up mechanism shall ideally build on an enhanced intergovernmental coordination, finding a "UN home" for water, with stronger links to the work of the General Assembly and point beyond the timeline of the conference. Financing should open the way to transformation with a stepped-up involvement of the international financial institutions and multilateral development banks.

The link was made to tracking and verifying information on water across Member States; creating a global water information system, and networks of education and capacity development to bring science and data closer to water policy making. Along with a science-based validation mechanism, these are "game changers" proposed at the October 2022 stakeholder consultation convened by the President with 1,200 representatives from science, civil society and the private sector back-to-back with the preparatory meeting of the UN 2023 Water Conference.

Several intervening Member States called for establishing the post of a UN Water Envoy and made reference to a joint letter addressed to the Secretary-General, co-signed by more than 150 of them.

Panel 2 on Climate, Conflict and Cooperation

In the second panel, the presenters Aaron Wolf, Professor at Oregon State University in USA, Dinara Ziganzhina, Director of the Scientific Information Centre of the Interstate Commission for Water Coordination in Central Asia from Uzbekistan, Charles J. Vörösmarty, Professor at the Advance Science Research Center, City University of New York in USA, and the respondents Makane Moïse Mbengue, Professor of International law at the University of Geneva in Switzerland and Susanne Schmeier, Professor of International Water Law at IHE-Delft in the Netherlands, spoke about the current situation and prospects of water related conflicts, the importance of developing International Law and institutional capacities for water management and cooperation, as well as the integration of science in water diplomacy.

In his presentation, Prof. Aaron Wolf presented the current statistics according to which there are 313 international basins shared by 2 or more countries, covering almost half of earth surface. About 40% of world population lives within these basins and 80% of freshwater flow originates in the basins that are shared by 2 or more countries. He warned that although violence over water is not widespread (of the 1800 interactions between states for over a 60-year period, two third have been cooperative, and the international water related treaties - about 800 - are generally adhered to), the likelihood and intensity of conflicts are increasing at sub-national, national, and transboundary levels.

Prof. Wolf explained that water and politics influence each other both positively and negatively. Water can exacerbate tensions but can also be a pathway for dialogue and peacebuilding. Finally, water is not just a natural resource – it also has an emotional and spiritual value, as it is tied to sovereignty, history, power, and traditions. This perspective over water helps elevate the conversation to analyzing the fundamental values that touch all human beings.

To mitigate and prevent water-related conflicts, institutions, robust agreements, and river-based organizations are essential. Elaborating on this topic, Dinara Ziganshina explained that International Law and diplomacy play a significant role in providing a normative frame for inter-state relations in managing international water resources and basins. The two key principles in International Water Law – the "no significant harm" and "equitable and reasonable use", both of which are evasive, require a stronger regime of cooperation between states, outlying more precise duties such as regular exchange of information, joint monitoring and research mechanisms, early notifications on planned measures, cooperation in emergency situations etc.

She went on to describe that river bodies are the oldest organizations that have been at the upfront of technical and diplomatic interactions between states. Currently, there are more than 120 river basin commissions across the world, with diverse functions to fit the needs of a particular basin. They are tailored to provide technical capacity and expertise, as well as assist with science-based, solution-oriented decisions in their basins, providing assessments and strategies for future development. However, these river bodies also face challenges related to the lack of representation, narrow mandate, and insufficient funding.

Dinara Ziganshina called for more integrated solutions for a multilateral approach in order to ensure effective international water cooperation and diplomacy. Besides the two global water conventions, namely the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention, which is serviced by UNECE) and the 1997 Convention on the Law of the Non-Navigational Uses of International Watercourses (Watercourses Convention), and a multitude of regional and local agreements and regulations, much more can be done in the development of international water law to regulate contemporary water issues, improve cooperation and address climate change implications.

National implementation of water instruments is key. Treaties such as the UNECE Water Convention are essential in assisting countries with their implementation obligations while also providing means for dispute prevention and resolution. Many of those means have an interface with science through impartial fact-finding commissions and investigations activities. However, better integration of scientific expertise in judicial settlement is needed. International water law could benefit from further development to address these challenges and gaps.

Prof. Charles J. Vörösmarty focused on the importance of sound infrastructure engineering and water management cooperation to protect the ecosystem. He explained that trends in planning of global water infrastructure show a significant expansion of traditional engineering such as dams, reservoirs, treatment facilities, intra-basin transfers and irrigation works – with a heavy toll on the ecosystem and the environment. To forcefully manage these challenges, appropriate measures for financial investments, improving technological capacities and transboundary cooperation are needed, along with better real-time monitoring of data and research in the state of global water resources and governance.

The establishment of a Global Collaboration for Science and Diplomacy was advanced as a possible solution to global water management and cooperation. Such a Collaboration would serve as a network facility to support interaction among experts, involving a broad consortium uniting

UN Member States, agencies, researchers, practitioners, engineers, and educators coming together in a knowledge hub for more integration and harmonization of perspectives.

Prof. Makane Moïse Mbengue pointed out that science-based evidence is a sine-qua-non for sustainable, efficient water cooperation and diplomacy, allowing for the prevention of disputes over shared waters, ensuring their equitable and reasonable use. To achieve that, he called for strengthening the science-policy interface in water diplomacy, develop mechanisms that provide technical assistance to implement water-related instruments and enhance capacity building in developing countries in relation to science-based water diplomacy.

Finally, concluding the panel presentation, Prof. Susanne Schmeier argued that ahead of the Water Conference in March 2023, as a matter of priority, the international community must go beyond the "absence of conflict" paradigm and mobilize for more joint activities, focused on resilience, to fully benefit from water cooperation.

Afternoon session

Panel 3 on Early Warning for Pandemic Preparedness

The panel on Early Warning for Pandemic Preparedness was led by Dr. James Golden, Chief Data Officer of the Rockefeller Foundation, USA, Dr. Niamh B. O'Hara, Research Assistant Professor SUNY Downstate Health Sciences University and CEO and Co-founder of Biotia, USA, and Dr. Rafael Maciel-de-Freitas, Researcher in Public Health Instituto Oswaldo Cruz, Fiocruz, Brazil and Institute for Tropical Medicine, Germany, outlining the major developments that had taken place in their field of research.

Dr. Golden explained that there was an urgent need to establish Early Warning Systems for Pandemic Preparedness particularly because of the correlation of the global health and social protection systems, as well as economies, as revealed by the COVID-19 pandemic. Moreover, Dr. Golden warned that a number of essential infectious disease monitoring programs had been dismantled, and that this could prove to be detrimental especially at a time when climate change is contributing to a rise in the number and intensity of public health emergencies. He also stated that there is yet to be significant coordinated action for global bio-surveillance and pandemic early warning systems and that this could potentially risk more backsliding on the progress made on achieving the SDGs. Dr. Golden explained that early warning systems would improve access to data and information and thereby influence better-informed policymaking with an emphasis on prevention.

Data philanthropy was a key concept raised during the panel, which refers to private companies sharing data for public good, as well as storing and sharing of data in a sovereign and equitable way. In essence, ground-truth data would be obtained from community-driven data. This would allow for the integration of commercially generated corporate data to be made widely available for non-competitive institutions, especially the scientific community to be used for early warning systems. Dr. Golden highlighted the importance of establishing a global network of researchers connected through an open-source data science platform capable of quantifying, modeling and

ultimately solving climate and health problems at any scale. Early warning systems are set to retain data on questions including climate, land and water use, mobility and travel, social determinants epidemiological and microbial genomics.

The presentation of Dr. O'Hara mainly focused on the role of genomics and the continued need for data sharing. Dr. O'Hara explained that all living objects including pathogens contain genetic material and that a genome collectively refers to genetic material in an organism. Hence, by studying genomes, helps to identify and understand pathogens in how viruses are drug-resistant or are evolving. Dr. O'Hara further presented a graphic representation of genomic data on the spread and evolution of SARS Co-V 2, as a means to demonstrate how this data can be utilized to inform public policy, safety protocols and also providing diagnostics for the production of vaccines. Data sovereignty was another key concept put forth by the panel, referring to the idea that data is subject to the laws and governance structures of the nation where it was collected.

Dr. O'Hara highlighted some of the Global Genomics Networks that have been engaged in bio-surveillance of pathogens facilitated by WHO and the Hub for Pandemic and Epidemic Intelligence, who have been building an AI platform and campus for innovation, and a network in over 150 countries to carry out surveillance work. Dr. O'Hara also shed light on the Pathogen Watchtower Programme by Biotia with support from the Rockefeller Foundation to fund viral surveillance of avian migratory hotspots in Chile, and co-infection of malaria and viruses in patients in rural communities in Nigeria. Dr. O'Hara also noted that about 17 % of all infectious diseases are vector-borne, meaning they transmit pathogens between humans or between animals and humans.

Reflecting on practical applications of bio-surveillance, Dr. Maciel-de-Freitas shared the main findings of his research in Brazil. For instance, a bio-surveillance system for detecting the spread of dengue had been developed to gather data from mosquito traps over a five-year period from 2017-2022. The data bank had compiled data from 80,000 mosquito trap inspections, and while it is considerably reliable, the panelists noted that the data collection needs further expansion to include findings from the city, state, national and global levels. Referring to the transmission of Zika in Brazil, while chemicals, pollutions or malnutrition could be factors, Dr. Maciel-de-Freitas said an early warning system would have helped put the data together and identify micro-regions with higher incidence of Zika cases and microcephaly in newborns.

As first respondent: Dr. Soojin Jang, the Head of Antibacterial Resistance Lab at the Institut Pasteur South Korea referred to one of her projects, which includes researchers taking samples from toilets at hospitals, universities, markets and other public spaces to look for what type of pathogens are in communities and, on a wider scale, to check levels of anti-bacterial resistance in Asia. Supporting the presentations delivered by the panelists, Dr. Jang suggested that "targeting antibiotic resistance can also benefit from an early warning system," adding that multi-layers of data need to be included, especially from local and community sources. The second respondent was Dr. Maria Almiron, Unit Chief of Health Emergency Information and Risk Assessment at the WHO Regional Office for the Americas and she highlighted opportunities for a global early warning system, as well as challenges. Dr. Almiron stated that while new technologies can be used, such as AI, it is ultimately human resources that contributes to the data, and there might be barriers from a lack of political will or limited financing. Highlighting areas for future development Dr.

Almiron called for the modernization of the information system to improve the quality and availability of data.

Briefing on the Global Sustainable Development Report

The mandate of the group of 15 independent scientists appointed by the UN Secretary-General stems from the Rio+20 process, spelled out in the 2030 Agenda and reconfirmed by the 2016 ministerial declaration of the High Level Political Forum, to prepare a report every four years that provides decision-makers with the latest input of science in support of the review process of the implementation of the SDGs. An advanced, unedited version of the 2023 Global Sustainable Development Report (GSDR) will be a dedicated input to the 2023 SDG Summit.

On behalf of the group of scientists: Dr. Nancy Shackell, Research Scientist from the Bedford Institute of Oceanography (Canada) and Dr. Asa Persson, Research Director and Deputy Director of the Stockholm Environment Institute (Sweden) gave an overview of the expected results and findings of the 2023 edition.

The report has been drafted in the context of social vulnerabilities and multiple compounding risks in today's Anthropocene scene, which include climate change, biodiversity loss, geopolitical conflicts, financial instability, COVID19 and natural disasters. Based on the entry points from the first GSDR in 2019, building on the outcome of extensive regional consultations, and adding a new lever of capacity building, the latest report focuses on transformations needed through science to achieve the SDGs. It aims at keeping a focus on the integrated and holistic perspective of the SDGs to avoid trade-offs and spillovers, while using a Theory of Change that could help accelerate actions of member states at key phases.

Since 2015 and 2019 progress in overall implementation of the SDGs has been slowing down, with several goals showing reversed progress, and there are still negative trends on environment and inequality related goals. The weakest links of implementation are in the areas of financing and budgeting, accountability and international cooperation. The report portrays a sense of urgency but also preserves hope for a positive outlook. There is ample room for decision makers in all sectors to simultaneously prepare for change and actively shape the future, up to 2030 and beyond. There are new science-based tools and data, including scenario modelling to identify synergies, spillovers and tradeoffs among the SDGs. Change and innovation are not to be expected linear.

An inclusive model of science-policy interface should address complex and interlinked challenges, leading to global cooperation and enhanced multilateralism, focusing on implementation actions. The report's fifth chapter is a "Call to Action for transformation" to building strong and resilient systems against new crises and shocks when implementing Agenda 2030. It recommends the establishment of an SDG Transformation Framework for Accelerated Action by 2024; building capacity of state and non-state-holders; using levers in an integrated way to overcome impediments along the S-curve; interventions that capitalize on synergies and minimize spillovers and trade-offs; measures to accelerate implementation. Along these, also the recommendations of the 2019 GSDR report remain valid. In summary, against the backdrop of changes and shocks in the last few years, the 2030 Agenda and its SDGs continue to stay a valid compass for humanity's future.

Responding to the presentation, H.E. Mr. Fergal Tomas Mythen, Permanent Representative of Ireland to the UN and Co-Facilitator of the preparation of the SDG Summit (also on behalf of the other Co-Facilitator Qatar) shared an assessment of these preliminary findings, which will guide the Co-Facilitators in their task. He pointed to the importance of balancing challenges and urgency with hope to get the SDGs back on track, based on the way ahead outlined by the GSDR. The draft political declaration of the Summit is being prepared in the spirit of making "the SDG push" a reality. Public awareness is important to hold governments to account, also with regards to moving away from silos, understanding linkages and exploring the interconnectedness of the goals.

In the subsequent exchange four Member States and an international agency intervened, the latter offering knowledge in the peaceful application of nuclear energy. Questions were asked on how to avoid working in silos and making progress on interlinkages. The challenges of SDG financing were underlined. All questions were addressed in the room: interlinkages carry a huge untapped potential for policy making, and a good outcome of the SDG Summit would be to mainstream the planning of SDG implementation into whole of government planning. Overcoming bottlenecks in financing should take into account not only volumes of capital, but also de-risking investment and unsustainable finance, benefiting from multidisciplinary initiatives. The financing needed to implement the SDGs is only 1,1% of the financial assets of private financial institutions currently available.

As co-chair of the Science, Technology and Innovation (STI) Forum under the aegis of ECOSOC, the United Kingdom offered to link the briefing's deliberations to the preparation of the upcoming session of the Forum in May.

In his closing remarks, the President of the General Assembly underlined that today's briefing aims at advancing the mentioned science-policy interface. Scientific data and methodology should offer solutions and give a positive outlook even for difficult political discussions and help develop multilateral cooperation. The creation of a scientific support mechanism for deliberations of the General Assembly that helps factoring in externalities and costs (including on non-action) proves beneficial not only for water, but for all policy areas in the UN.

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