DEAL Launch Event Bulletin

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## Big Data for the Planet Breakfast and Ministerial Dialogue: The Next 50 Years: 4 March 2022

The increasing complexity and severity of environmental challenges and the triple planetary crisis of climate change, biodiversity loss, and pollution require Big Data, which refers to data sets that are too large or complex for traditional data-processing application software to deal with. Recognizing this, the fourth session of the UN Environment Assembly (UNEA-4) in 2019 committed to support a global environmental data strategy by 2025. Out of this commitment came the Data for the Environment Alliance (DEAL), which was first announced by the Government of Estonia at the Glasgow Climate Change Conference in 2021 and formally launched at UNEA-5 in early 2022. This 4 March high-level event was organized by the UN Environment Programme's (UNEP) Science-Policy-Business Forum (SPBF) on the sidelines of the UNEP@50 Special Session of UNEA. The Big Data for the Planet Breakfast and Ministerial Dialogue convened in Nairobi, Kenya, with both in-person and virtual participation.

A Big Data Revolution for the Planet

Shereen Zorba, Head, Global Secretariat, UNEP SPBF, moderated the event. To meet environmental targets, she called for more robust science-based decision making, stronger accountability, and greater transparency and inclusion. She stated that "we cannot manage what we cannot measure," and urged creating better access to reliable, real-time data to articulate more clearly the impact of human actions.

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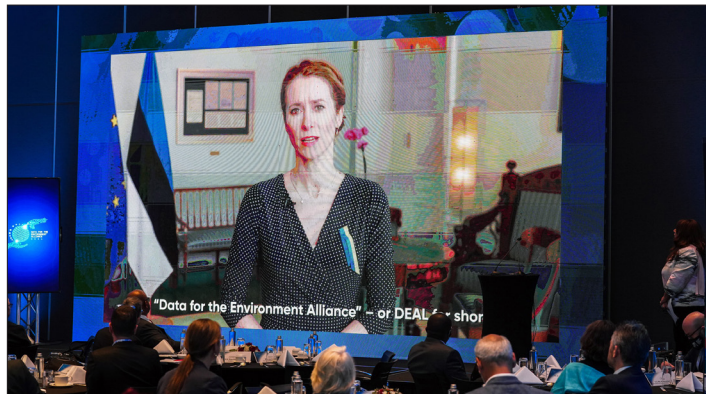
Kaja Kallas, Prime Minister of Estonia

Kaja Kallas, Prime Minister of Estonia, said addressing the world's greatest environmental challenges requires a globally uniting, data-driven approach. She said high-quality, transparent, accessible, interoperable, and authentic data is needed to ensure policymakers can make smart decisions. She cited the current "fractured world" with respect to environmental data, with different systems and frameworks, and made the case for a global strategy. She said the first international cooperation projects under DEAL are already underway in Kenya and Montenegro, with financial support from Estonia. She explained the projects will focus on data related to climate change and early warning systems.

Kaupo Heinma, Deputy Secretary General, Ministry of the Environment, Estonia, said DEAL is a member State-led initiative that: links state and non-state actors; promotes cooperation and synergies on environmental data and solutions with the latest technology; and aims to inform the various multilateral environmental agreements. He said Estonia will host a technical workshop on DEAL in the coming months in Tallin.

Sonja Leighton-Kone, Acting Deputy Executive Director, UNEP, discussed why Big Data and technology innovation are at the heart of UNEP@50 and UNEP's Medium Term Strategy. She said we have transformed into a society where digitizing information is critical, and that Big Data helps member States make important decisions, demonstrates the need for investing in the environment, and helps level the playing field with respect to accessing information.

Alexandre Caldas, Chief, Country Outreach, Technology, Innovation and Big Data, UNEP, noted UNEP's recent launch of the first phase of the World Environment Situation Room

(WESR)—a Big Data knowledge platform that aims to transform global governance and multilateral environmental action. He said while the right data can lead us in the right direction, the wrong data can lead us in the wrong direction.

Dialogue and Policy Insights: Florika Fink-Hooijer, Director General for the Environment, European Commission, said openly accessible data is key to addressing the triple crisis of climate change, biodiversity loss, and pollution. She highlighted, *inter alia*: Horizon Europe, which is a funding programme for research and innovation; Destination Earth, which aims to simulate a high-precision digital model of the Earth to model, monitor, and simulate natural phenomena and related human activities; and digital passports for products, with information on carbon and environmental footprints, and on the content of recycled materials and hazardous substances. She said data does not have to be costly and data held by citizens will help ensure no one is left behind. She urged improving data management and governance through technology transfer.

Demétrio do Amaral de Carvalho, State Secretary for the Environment, Timor-Leste, said sharing information can help communities with limited resources cope with environmental challenges. Using the current COVID-19 pandemic as an example of what can be learned from sharing data, he said updated COVID-19 information shared by health organizations helped his country design mitigation strategies before peak impact.

Where We Are and Where We Need to Be

Yana Gevorgyan, Secretariat Director, Group on Earth Observations, discussed the ways in which harnessing the Big Data revolution can put us on track to meet environmental targets. She said earth observations provide policymakers with robust tools to make informed decisions, implement coherent policies, and monitor and measure their effectiveness. She said we live in the "golden age" of earth observations. She explained while public sector investments helped create such innovations as Destination Earth, private sector participation is important as well.

Laurence Monnoyer Smith, Director, Space Climate Observatory (SCO), discussed challenges and opportunities

Remote panel (L-R): **Yana Gevorgyan**, Secretariat Director, Group on Earth Observations; **Gensuo Jia**, Deputy Director General, CAS, International Research Center of Big Data for the Sustainable Development Goals; and **Laurence Monnoyer Smith**, Director, SCO

in aggregating, packaging, and using Big Data to fight climate change. She said the SCO is an international alliance of 36 space agencies collaborating to design and support climate applications based on satellites and local socioeconomic data. She explained it provides state-of-the-art tools that transform data into solutions for adaptation and mitigation and help scale local monitoring to the international level. She highlighted Littoscope, an SCO project that identifies flood risks in coastal areas and assesses sea level rise, extreme events, and socioeconomic risks for the region.

Gensuo Jia, Deputy Director General, Chinese Academy of Sciences (CAS), International Research Center of Big Data for the Sustainable Development Goals, discussed the ways in which international cooperation can advance the sharing and use of science and knowledge. He said large-scale, cross-cutting issues require Big Data, and that while a significant amount of data emerges every second, it is isolated, not comparable, and not ready to be used for monitoring purposes. He called for new solutions for monitoring and assessment. Jia cited CAS's cloud-based virtual Earth system, and said CAS engages in joint studies and training programmes in Southeast Asia and Africa, among other regions.

Dialogue and Policy Insights: Franz Perrez, Ambassador for the Environment and Head of Delegation, Switzerland, said DEAL is particularly relevant at this time, given recent UNEA decisions on, for example, the establishment of a science-policy panel on chemicals and waste.

Gyubin Hwang, Spokesperson, Children and Youth Major Group at UNEP, underscored the need for transparency, noting data belonging to companies and governments is often inaccessible. He said governments have a responsibility "to work with, not for, the private sector" to develop regulations that protect citizens' rights. He called for inclusive, data-driven governance that enables individuals to participate in systems.

The Solutions that Will Take Us There

Empowering Technologies, Tools, and Innovation: Hichem Maya, Managing Director, Consumer Packaged Goods, Google, discussed the ways in which technology can transform the uptake of and access to Big Data, as well as obstacles that need

Hichem Maya, Managing Director, Consumer Packaged Goods, Google

to be overcome for optimal technology access. Citing Google's commitment to sustainability and carbon neutrality, he said his company was "walking the talk." He presented Google Earth Engine – a collection of real-time imagery that provides actionable insight to what is happening on the ground. He described how it helps monitor and predict floods and droughts, as well as provides the data to organizations so they can act on supply chain disruptions, crop management, and impacts on farmers. He said Google is working with Unilever to determine whether or not palm oil plantations are grown on deforested land to ensure palm oil is sustainably produced.

Edan Dionne, Vice President, Corporate Environmental Affairs, IBM, noted IBM's collaboration with UNEP, using marine litter as a case study. She cited the use of modeling and artificial intelligence to identify plastic pollution along coastal areas, and the need to accelerate scaling up of this modeling.

Charity Wayua, Senior Research Manager, IBM Research Africa, identified the need to ensure technology is equitable, accessible, and ethical, and discussed using existing data to help determine priorities, particularly in Africa. She questioned whether the collection, analysis, and interpretation of data – and building models – are representative of realities on the ground, and said every country must have a seat at the table. She pointed to research labs in Kenya and South Africa that tap into local talent so that young men and women can participate in, among other things, climate risk impact modeling.

Interventions from the audience related to:

- an eight-year-old implementing a recycling system at school and measuring what was collected;
- how to reconcile the contradictions between sharing technology and safeguarding patent rights, and between expensive-to-procure data and its free release for the public good;
- the continuing inability to fix problems that have been with us for decades; and
- the need to change management and thinking and work in new ways to ensure a successful digital transformation.

Participants also touched on: measures or regulations to ensure emerging economies are protected from exploitation in the environmental protection space; ensuring DEAL is operational in time for the Stockholm+50 conference at the beginning of June; how to get universities to share their information and data; and gaps in ocean observation information, particularly in Latin America and the Caribbean.

Financing and the Role of Business: Christopher Hurst, Director General, European Investment Bank (EIB), discussed the need to better finance access to information and Big Data, especially in developing countries. He described EIB's use of data to monitor its projects, such as measuring forestry projects and land take around mining projects. He underscored the need for high-performance digital infrastructure that is safe from cyberthreats, and said countries require assistance in this regard.

Jürgen Weichenberger, Chief Data Scientist, Accenture, said industry is leading the digital transformation. He underscored the need to encourage working with entire sectors to create

Nqobizitha Mangaliso Ndlovu, Minister of Environment, Climate, Tourism and Hospitality Industry, Zimbabwe

transparency and accountability along the whole value chain, not just in terms of carbon emissions, but resource efficiency as well.

Dialogue and Policy Insights: Nqobizitha Mangaliso Ndlovu, Minister of Environment, Climate, Tourism and Hospitality Industry, Zimbabwe, asked how platforms such as DEAL can be used to ensure high-performance digital platforms in developing countries. He called for focusing on skills exchange and bridging the digital divide.

Terhi Lehtonen, State Secretary, Ministry of the Environment and Climate Change, Finland, concurred that earth observations build the foundation for knowledge-based decision making. She said open and fair data must be the gold standard for Big Data. She emphasized the need for: long-term monitoring of biodiversity and ecosystem services; and adequate data on environmental trends to design and implement the best policies and measures to achieve change. Lehtonen mentioned LUMI – a supercomputer for artificial intelligence – and the Finnish Ecosystem Observatory, which will help realize the goals of the post-2020 global biodiversity framework and the 2030 Agenda for Sustainable Development.

Mohamed Abdelraouf, Chair, Major Groups and Stakeholders at UNEP, underscored the need to: focus more on local conditions; complement the data the private sector collects; and ensure local populations, including farmers and Indigenous groups, are involved in analyzing data.

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