

**INTERSESSIONAL PANEL OF THE UNITED NATIONS COMMISSION
ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)**

**Lisbon, Portugal
6-7 November 2023**

Contribution by Philippines
to the CSTD 2023-2024 priority theme on “Data for Development”

DISCLAIMER: The views presented here are the contributors' and do not necessarily reflect the views and position of the United Nations or the United Nations Conference on Trade and Development

INPUTS FROM THE PHILIPPINES

PRIORITY THEME 1: DATA FOR DEVELOPMENT

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

1. What are the major contributions and risks of data in relation to the achievement of the 2030 Agenda for Sustainable Development?

On policies

- Availability of relevant and quality data allows for analyses that may support evidence-based policymaking or support proposed changes in current policies that affect the rate of development of societies. A data feedback loop should be in place to determine the effectiveness of existing policies and to fine-tune parameters of these policies to meet the expected improvements in society.
- The effectiveness of existing policies may drift through time and so a data sensing framework should be in place to quantify and monitor each policy's effectiveness and to raise alarms if the measured effectiveness index for each policy goes below a set threshold.
- Availability of data helps recognize the discrimination amongst race and gender and can be used for improved inclusivity in policy-making.

On civil defense

- With the availability of quality environmental data, the weather bureau is able to provide more accurate predictions about weather disturbances that lead to safety of the citizens and properties.

On security

- Ethical dilemmas may arise in data collection, especially in research involving personal and sensitive data, or human subjects in general. Thus, ensuring ethical data practices is essential to avoid harm and maintain trust.
- A need to strengthen cybersecurity capabilities of the country to mitigate threats to data integrity and availability, and disruption of critical services and compromises to national security.
- Ensure the responsible handling of personal and sensitive information to protect individuals' rights.
- For accurate policy decisions and resource allocation, ensure the accuracy and reliability of data.

The Philippines, through the Department of Science and Technology (DOST), provides research and development support to various sectors in industry, energy, and emerging technologies. These sectors produce big data which is stored in big storage servers and cloud infrastructure and run by high-performance computers using AI to provide meaningful information for decision-making, identify solutions to the challenges facing sustainable development, and engage stakeholders. However, AI data and systems raise new types of ethical issues and risks that include the impact on decision-making, employment, labor, social interaction, health care, education, media, access to information, digital divide, personal data and consumer protection, and the environment. These risks include data bias, data privacy, data security, and data inequality.

Sample contributions of data in various sectors and SDGs in the Philippines:

On disaster risk reduction and management (mainly SDG 11)

- **GeoRisk Philippines** - a government-led multi-agency initiative to serve as the central resource of information on natural hazards and risk assessment. It is both a (i) governance platform that spurs collaboration among different sectors, provides direction and guidance for decision makers in a transparent, systematic and efficient manner and (ii) an ICT and geospatial platform that promotes the use of technology to access data and analyses.

The project is formally known as the *“Geospatial Information Management & Analysis Project for Hazards & Risk Assessment in the Philippines”*. The application's purpose is to locate where the natural hazards are in the Philippines and to assess the strength of its threat. The availability of hazard-related information allows land developers, property owners and buyers, real-estate investors, local government units, national government agencies and communities, plan and prepare for natural hazards. The government initiative can serve the non-life insurance industry to

assess risks for earthquakes, floods, and other natural calamity-related insurance products. While not exactly providing catastrophe risk modelling, it would identify risks to support initial underwriting assessments. It is envisioned to be the Philippines' central source of information for accurate and efficient hazards and risk assessment to help the government increase the nation's resilience to natural hazards. (More information at <https://georisk.gov.ph/>)

- **PlanSmart Ready to Rebuild web application** is an automated planning tool that aids disaster rehabilitation and recovery initiatives, most especially in the vulnerable areas. The application leverages on the existing GeoRiskPH Integrated Platform that can systematically generate a rehabilitation and recovery plan using calculation tools and producing consolidated results into a pro-forma planning document template. Through PlanSmart, the size of the population that can be affected by a disaster could be determined through accurate information including hazard assessments and reports. It gathers pre-disaster baseline data and post-disaster impact assessment. It could also help in identifying key stakeholders for rehabilitation and recovery such as local government units, electric cooperatives, water utilities, and NGOs that need to be organized and mobilized when a disaster hit. Lastly, PlanSmart provides a menu of funding sources for various projects, programs, and activities to ensure efficient financing of resilient recovery. (Links to videos about the application: bit.ly/PlanSmartIntroductionVideo; bit.ly/PlanSmartPHOverview)

On agriculture (mainly SDGs 2 and 13)

Project SARAI (Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philippines) is an action-research program working towards reducing climate risks by providing agricultural stakeholders with site-specific crop advisories. It anchors on sustainability through multi-level partnerships starting from farming communities up to national agencies. In 2021, the ultimate goal is to have established regional and community-level SARAI hubs where farmers can easily go to for up-to-date information, and to report initial farm conditions. Project SARAI aims to craft crop advisories which are targeted for rice, corn, banana, coconut, coffee, cacao, sugarcane, soybean, and tomato. The crop advisories focus **on integrating local weather data and drought forecast with farm management activities**, specifically nutrient and water management, and proactive pest and disease monitoring. (More information at sarai.ph)

On health (mainly SDG 3)

- Data significantly contributes to the promotion of human well-being such as through the Philippines' RxBox, a Telehealth System. The RxBox program aims to develop a locally-manufactured, medical-grade telemedicine device and demonstrate its usefulness in target Rural Health Units / Local Health Centers in GIDA (geographically isolated and disadvantaged areas) municipalities nationwide. With the telemedicine device capable of capturing medical signals through built-in medical sensors, the RxBox can reduce the overall cost of healthcare by enabling health workers to diagnose, monitor, and treat patients within the rural health facility. It includes blood pressure monitor, pulse oximeter, electrocardiogram, fetal heart monitor, maternal tocometer, and temperature sensor. Through the data being transmitted, specialists can assess the diagnosis even from afar. This was also beneficial during the COVID-19 outbreak where monitoring of patients' vital signs could be done remotely. (More information at rxbox.chits.ph/).

On earth observation (SDGs 11, 13, 14, 15)

For disaster mitigation, agricultural monitoring, forest and environmental surveillance, mariculture, urban-change detection, and other similar activities

- The Philippine Earth Data Resource and Observation (PEDRO) Center established a satellite Ground Receiving Station (GRS) facility in ASTI with direct access to a broad range of optical (high-resolution, multispectral) and Radar (cloud-penetrating, day-night-imaging) satellite data missions. The facility receives and provides space-borne imagery to different government agencies for use in various operational and research activities in the areas of disaster mitigation, agricultural monitoring, forest and environmental surveillance, mariculture, urban-change detection, and other similar activities. The facility receives daily imagery and data from the Philippines' microsatellites which perform several applications based on its mission that includes environmental monitoring and disaster mitigation. Aside from the operations aspect, PEDRO also undertakes research in

relation to satellite and other wireless communication to further develop capability and capacity in the area.

2. How can developing countries benefit from the data revolution while considering risks?

Developing countries must have or adopt a globally accepted framework for securing and managing data. They should also build the capacities and upskill their human resources on infrastructure that will support data acquisition, storage, management, and analysis. Policies that are relevant to the current issues posed by the risks of using these data should also be developed by these countries. There should be an opportunity to establish regulatory frameworks in the country that align with international standards to implement strong privacy laws and cybersecurity measures to protect data subjects' privacy and even related research data and information.

In all of these, developing countries may work with each other (also promoting South-South and Triangular Cooperation) and with developed countries. Benchmarking on the best practices, learning from the lessons of one another, and seizing opportunities for partnerships would also create an enabling environment and ecosystem for developing countries to benefit from the data revolution while considering risks. Safety measures through standards and policies, with consideration of the developing countries, should be in place.

3. What national and international policies and support measures can help address the challenges of the developing countries in the area of data relevant for sustainable development, including scientific and research purposes, data quality, data capabilities and data governance, while taking into account the multiple dimensions of data?

National

- **Republic Act No. 10175 or Cybercrime Prevention Act of 2012** - The law aims to effectively prevent and combat such offenses by facilitating their detection, investigation, and prosecution at both the domestic and international levels, and by providing arrangements for fast and reliable international cooperation.
- **Republic Act No. 10173 or Data Privacy Act of 2012** (to ensure data security, integrity, and accuracy) – The law aims to protect the fundamental human right of privacy of communication while ensuring free flow of information to promote innovation and growth. The government recognizes the vital role of ICT in nation-building and its inherent obligation to ensure that personal information in information and communication systems in the government and in the private sector are secured and protected.
- **Open Data Philippines** (ODPH) – while not a law, the Philippine government launched the Open Data Philippines portal (<https://data.gov.ph>), which aims to make government and relevant data freely accessible to the public. This may help address challenges in accessing available data for scientific and research purposes. It also promotes transparency, innovation, and data-driven decision making to foster sustainable development in the country.
- The Philippines' **Computing and Archiving Research Environment (COARE)** Facility offers three main services: **High-Performance Computing (HPC), Storage, and Science Cloud**. These services are crucial to the research and scientific community where most of the stakeholders are scientists and researchers from the academe, government, and research organizations. COARE offers these services to provide clients a platform for easy storage, analysis and sharing of scientific data that can serve as input to various discovery or high-impact research or contribute to scientific-based policy and decision-making. The COARE started out as a project funded under the DOST's Grants-in-Aid Program. Its aim was to enable multiple data integration from ASTI-initiated projects and collaborative projects with other agencies that have high requirements for data storage and high-performance computing. Multiple data integration is essential when combining results from researches especially in scientific domains. (More information at asti.dost.gov.ph/projects/coare/)

- The Philippines' Department of Science and Technology supported and spearheaded the project "**Smarter Philippines through Data Analytics, R&D, Training and Adoption (SPARTA)**", which aimed to train RSEs, students, and faculty in data science and analytics and provide necessary online education, R&D and infrastructure to enable the industry and foster smart governance practices. The project has supported 50,466 enrollees from 2019 to 2023. The course is divided into six (6) pathways namely: data associate, data steward, data analyst, analytics manager, data engineer and data scientist. In addition to these pathways, there were also 3,544 trained for the microspecialization pathways on the following areas: Analytics Project Management, Finance and Risk, Human Resources, Urban Planning, Data Governance, Operational Analytics, Data Visualization, Research Methods, Statistical Techniques, Computing and Methods and Algorithms.
- Graduates of the SPARTA were also given opportunity to implement their respective projects through the "**Good Governance through Data Science and Decision Support Systems (GODDESS)**" program. The GODDESS program provides assistance for the development of appropriate systems and technologies to address the specific needs of the National Government Agencies (NGA), LGUs, academic and research institutions and MSMEs and enable them to adapt data driven governance and evidence-based management. The data used in these projects came from the identified NGAs and LGUs to assist them in data-driven decision making. Project supported were on traffic management, garbage monitoring and management, tariff collection, senior citizen and PWD management/support, rice gene analytics and management, to name a few.
- The Philippines' **National Broadband Plan** aims to provide faster, more efficient, and equitable broadband connectivity for the Philippines, including its remote areas. The National Broadband Plan was developed to address the longstanding issue of Internet connection quality in the Philippines. In line with the Philippine Digital Strategy, the NBP zones in on the actual broadband technology solutions the country needs. As broadband access is melded into public institutions and services, the government will actively promote its use while assessing and adjusting to the needs of newer users, specifically in the rural areas. Local content developers can expect government support in creating and promoting their applications by implementing policies and providing incentives. There will also be outreach programs that will help the adopting public understand the practical benefits of broadband access, anywhere from educational to commercial.
- The Philippine Statistics Authority (PSA) under the National Economic Development Authority (NEDA) shall primarily be responsible for the implementation of the objectives and provisions of Republic Acts (RA) 10625, R.A. 11055, and R.A. 11315. It shall plan, develop, prescribe, disseminate, and enforce policies, rules and regulations, and coordinate government-wide programs governing the production of official statistics and general-purpose statistics. It also is designated as the official repository of SDG indicators in the Philippines.

International

- For international policies, various AI Policies on Ethics and Governance are currently available. One of which is the UNESCO Recommendation on the Ethics of Artificial Intelligence which is a significant contribution to the global discussion on the ethical implications of AI, and therefore highly relevant for data in general. It provides a framework for developing and using AI in a way that is aligned with human values.
- The OECD AI Principles on the other hand, focus on how governments and other actors can shape a human-centric approach to trustworthy AI. While the World Health Organization (WHO) AI Policy provides ethical implications of AI in health. It provides a framework for developing and using AI in a way that is aligned with human values and that promotes the health and well-being of all people.
- There is also an "*Ad Hoc Committee on Cybercrime*". Through its resolution 74/247, the General Assembly decided to establish an open-ended ad hoc intergovernmental committee of experts, representative of all regions, to elaborate a comprehensive international convention on countering the use of information and communications technologies for criminal purposes, taking into full consideration existing international instruments and efforts at the national, regional and international levels on combating the use of information and communications technologies for criminal purposes, in particular the work and outcomes of the open-ended intergovernmental Expert Group to Conduct a Comprehensive Study on Cybercrime. A series of meetings and substantive sessions has been conducted.

4. In your country's view, what role could CSTD play in respect of data for development, including in the context of the Global Digital Compact?

The CSTD could be a platform to promote the principles, objectives, and proposed actions laid out in the Global Digital Compact. It should be an avenue for Member States to discuss about matters relating to digital technologies, data, and related innovations. CSTD should be an open forum that would create an environment conducive for multilateral cooperation such as in the following:

- Completion of local digital data that requires basic infrastructure, connected objects, delivery platform, application, and services that are secured;
- Harmonization of efforts and initiatives across all sectors (industry, academe, and government) aligned to government directives and sustainable development goals;
- Openness such that communities make their data truly accessible, transparent, usable, and secured. Making our data transparent and accessible would allow its utilization for planning, designing, and transforming of services;
- Transferability such that tools and technological approaches are open-source transparent, and standardized. They can be used by communities across different countries, no matter the size or capacity;
- Initiating policies that could deploy technologies to promote data availability; and
- Promotion of AI ethics and governance aligned with shared global values.

Moreover, the CSTD can facilitate collaboration and discussions on the following:

- a) **Policy Recommendation.** CSTD may provide policy recommendations and guidance to other Member States on harnessing digital technologies to achieve the Sustainable Development Goals (SDGs) while mitigating their potential harms. This includes developing strategies for digital inclusion, data governance, and cybersecurity.
- b) **Capacity Building.** CSTD may facilitate capacity-building initiatives to enhance the digital skills and knowledge of government officials, civil society organizations, and businesses. This will help them better understand and navigate the complexities of digital technologies and their impact on society and the environment.
- c) **Data for Development.** CSTD may work with relevant government agencies and organizations to promote the responsible collection, management, and use of data for development purposes. This includes ensuring that data is used ethically and in a manner that respects privacy and human rights and compliant to national data privacy statutes.
- d) **Equitable Access to Digital Infrastructure.** CSTD may advocate for policies and initiatives that aim to bridge the digital divide in the Philippines, ensuring that all citizens, especially marginalized and vulnerable populations, have safe and affordable access to digital technologies and the internet.
- e) **Research and Analysis.** CSTD may commission or support research and analysis on the implications of digital technologies on various aspects of sustainable development in the Philippines, including healthcare, education, agriculture, and environmental protection.
- f) **Data Privacy and Protection.** Safeguarding the rights of individuals in the digital age, CSTD may assist in the development of data privacy protection policies and regulations that may be a model for various Member States, which aligns with international standards and best practices.
- g) **Multi-stakeholder Collaboration.** CSTD may facilitate multi-stakeholder dialogues and partnerships involving government agencies, civil society, academia, and the private sector to jointly address the challenges and welcome the opportunities presented by digital technologies.
- h) **Audit, Monitoring, and Reporting.** CSTD may monitor the progress of digital initiatives and their impact on sustainable development among Member States. Regular reporting and assessment can help identify areas of improvement and inform policy adjustments.