Summary of Game Changers from Data and Information Roundtable

High level Summary

Key Game Changers:

1) An open global water information platform/system that integrates data to ensure that actionable information is freely accessible, consistent, comparable and interoperable at scale and supports preparedness and resilience.

2) Freely accessible (Impact based) Early Warnings for All based on globally consistent water information which is in line with UN SG's call for early warning for all.

Benefits:

- Financing and development can be directed to most vulnerable (and marginalized).
- Financing is more effective when based on data and information
- Long term change in infrastructure and management can be supported with evidence.
- People are protected against floods, droughts, water scarcity and effects of water pollution
- Creating trust

Catalysing Actions:

- Data and info should be used to save life and livelihoods and mitigate the impacts of slow and fast onset disasters as public good.
- Warnings and reports should be understandable by the civil society and usable by policy makers for decision making.
- Mapping of vulnerability and impacts of potential hazards in terms of Social-economic losses at a local scale, to build awareness, accountability, and trust.
- Setting up a funding/financing mechanism at global scale for improving monitoring and forecasting capacities.
- Reformation of the UN architecture (stop fragmentation of data and initiatives), agree on one set of data and information sharing standards.
- We need Legal provisions to be in place.

Session modalities: 24th Oct 2022, UN HQ -New York, Stakeholder Consultation

Roundtable 3 - Data and Information:

Moderator: Ms. Carolina Tornesi MacKinnon (World Youth Parliament for Water)

- **Key speakers**:

  Mr Stephan Uhlenbrook (Director, WMO)

  Mr Vimal Mishra (Indian Institute of Technology, Gandhinagar)

  Ms Caitlyn Anne Hall (Young Hydrologic Society)

Rapporteur : Ms Sulagna Mishra (Scientific Officer, WMO)

Summary of the Roundtable Discussion

The third Roundtable focused on the data and information accelerator of the UN-Water SDG6 Global Acceleration Framework. The moderator, Ms. Carolina Tornesi MacKinnon opened the session with a brief introduction to the theme of the roundtable, importance of water data and information, and invited the three key speakers to present their five-minute presentations before opening the floor for stakeholder interventions.

Key messages from the speakers:

Stefan Uhlenbrook from the World Meteorological Organization made a presentation around the status and use of data and information in different sectors of water – including monitoring, forecasting, WASH, and water quality. Stefan emphasized that strengthening of monitoring networks for improved water data is crucial. He also focused on the need to build capacities to change data to useful information, and making the information available and accessible to end users through a global data portal. Stefan highlighted the need for Early Warning Initiatives and the 10x return on investment it brings along.

Caitlyn Anne Hall from the Young Hydrologic Society started with a note that "we have enough water data" and stressed on accessibility of the data as the main bottleneck. She stressed that the data is often not open, usable, formats are interoperable. She urged that local legislators and policy makers should be taken on board and the issue of what and how much data to be collected should be handled in a bottom-up approach. She emphasized that data (and metadata) should be assessable to all stakeholders, for which to happen we need a shift of culture and move towards sharing of global equity.

Vimal Mishra from Indian Institute of Technology, Gandhinagar stressed on the need to make early warning systems (EWS) robust and reliable. He mentioned that the awareness of the existing EWS and their impact on the ground level is not significant. He emphasized on the need to include stakeholders and provide impact based early warning as well as vulnerability maps at local scales. He reiterated that the quality of the information and the warning produced should be usable. He also mentioned the need for data to map i. ground water – surface water interactions, ii. water quality and water quality dynamics, as well as iii. cryosphere water resources.

General Summary from Speakers and Stakeholder interventions

A key idea that arose from the roundtable was developing and providing a **globally consistent water information system**. The establishment of such a system would ensure that data are effectively transformed into operational information - thereby providing crucial support to water managers and decision-makers. Furthermore, the information produced would be consistent, comparable, and interoperable on a global scale. Stakeholders underscored the advantage of harnessing pre-existing methods and tools to provide a global water information system in a timely and effective manner. The WMO's Hydrological Status and Outlook System (HydroSOS), which provides assessments regarding both water quantity and quality, coupled with a pioneering annual summary of water resources, was posited as a potential valuable foundation for the development of a global water information system. Stakeholders also suggested that a global water system of this kind should possess multi-scale holistic parameters, including social behaviour and source-to-sea coverage.

In conjunction with the establishment of a global water information system, stakeholders expressed the value of developing a **global water data portal**: a one-stop shop for all relevant water-related information – not solely limited to hydrological variables but including complementary derived information such as social parameters. The portal should provide geospatial information and possess functions which allow users to perform operations to produce tailored information (geographically specific, indicator-specific, etc.). Moreover, stakeholders expressed the value of the portal

incorporating results from on-the-ground surveys, which can collect an array of insights, such as linkages between mental health and water stress. Stakeholders suggested that information of this kind could be shared via the portal and made accessible and comparable over time.

Stakeholders also highlighted the importance to **Identify best practices / develop guidelines for optimizing the use of existing and new data, and products.** An approach highlighted by stakeholders was citizen science and community engagement to encourage greater data collection and strengthen observation networks. The prime message pressed home by stakeholders was that open science in water should be encouraged via unimpeded exchange of scientific knowledge, tailored evaluation mechanisms, fair data-sharing standards, and the obligation of publicly funded projects to collect and share data. Furthermore, platforms designed in this manner are valuable in providing a space for communities to discuss issues at a range of scales and connect with actors/organizations to help address water issues faced. In addition, stakeholders underlined the value of developing a framework which ensures innovative research and new technologies are validated and operationalized swiftly.

Stakeholders also expressed that the **disaggregation of existing data** was crucial in providing more targeted information to end-users. Additionally, remotely sensed data can support on-the-ground collection and augment intergovernmental reporting - the backbone of decision-making. In summary, stakeholders stressed that combining bottom-up and top-down approaches is pivotal for immediate and efficacious action.

A cardinal point raised by stakeholders was the development of an **impact-based EWS for all**. The EWS system called for by the UN Secretary-General is expected to provide a significant return on investment (tenfold is the current estimation). To achieve this propitious outlook, stakeholders expressed the importance of incorporating vulnerability maps and socio-economic hazard assessments within the system to foster awareness, accountability, and trust. Moreover, stakeholders suggested the EWS should include both groundwater and surface water parameters and crucially, the warnings and reports provided by the system should be accessible and understandable to civil society and actionable for decision-makers. The development of tools integrating **source-to-sea assessments** was underscored by stakeholders as advantageous in providing holistic analysis capable of feeding seminal global water information systems and early warning initiatives.

The combined collection and mapping of **WASH financial flows (WASH accounts)** was raised by stakeholders as a necessary methodology to provide an evidence base for enhanced planning, monitoring, and managing of WASH services and initiatives.

Stakeholders urged for the need for **effective communication** that ensures information and indicators produced by the proposed global hydrological systems and platforms are comprehensible to civil society in order to cultivate awareness and enable policy and decision-makers to act swiftly and decisively.

Stakeholders emphasized the value of **optimizing the collection and storage of data and information**. In partnership with global data collection endeavours, attention must be placed on bottom-up approaches involving the engagement of local representatives. By connecting a network of local organizers and encouraging the employment of a coherent data storage and collection method, the planning of local projects and resource allocation can be enhanced.

Stakeholders accentuated the importance of establishing a **systematic funding system at a global scale** for improving monitoring and forecasting capacities. An illustration provided of such a system was the WMO-pioneered Systematic Observations Financing Facility (SOFF).

The defragmentation of data and initiatives was outlined by stakeholders as a vital objective to ensure coordination and coherence across the international water sector. In conjunction with this objective,

stakeholders called for **reformation of the UN architecture** and the creation of international water law standards and the proliferation of consistent data-sharing terms.

Stakeholders suggested that the instruments of **international cooperation** such as law and governance structures need to be harnessed to encourage countries to freely exchange important water information and sow the seeds for greater cross-border cooperation.

List of Stakeholder Organisations that contributed to the Roundtable

UNESCO

WHO

IPCC

WB

IDB

Food and Agriculture research

UNESCO – IHP

DHI

IAHS

WHO-UNICEF

Make Mother Matter

Women for Water

NASA/GRACE mission

IHE Delft

BfG – Germany

Global Water Fund

Geneva Water Hub

UK – Member representative

UNEP

Luke, Jose, Alica, Aneet Gill, Mark, The startup for harnessing atmospheric water