GSR-23 Consultation Brief

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Selected area:
Identifying the right incentives required to ensure the introduction of emerging ICT technologies and business models.

1 Introduction

The rapid advancement of information and communication technologies (ICT) is revolutionizing the global business environment, including the operations of international organizations such as UNEP. However, adopting new technologies and business models can be a daunting task. To overcome these challenges and promote the integration of emerging ICT technologies and business models, it is crucial to identify appropriate incentives that can encourage UNEP to invest in and adopt new technologies. This consultation report delves into some of the critical factors that UNEP has applied to incentivize programs to introduce innovative ICT technologies and business models through citizen science, private data, early warning services, and alignment partnerships.

By embracing the ICT technologies and business models, UNEP has dramatically increased its actionability and interoperability. It provides holistic, thematically & technically overarching, and cohesive mechanisms to guide actions from UNEP divisions, member states, stakeholders, and civil society to **jointly deliver One UN Map that keeps the world environment under review, which powered by a demand-driven and federated data eco-system to everyone, everywhere at any time.**

2 What are the potential benefits of adopting emerging ICT technologies and business models?

The adoption of emerging information and communication technologies (ICT) and business models is an essential process to establish favorable conditions and enable the development of agile science policy-making, adaptive scenario planning, collaborative actions, sustainable financial mechanisms, and cohesive partnerships. This can be achieved through transparent data access, credible data insights, and responsive data intelligence, which facilitate informed decision-making and effective implementation of policies and initiatives.

3 What are the barriers to adoption?

- Tremendous gaps in access to technology, infrastructure, and services in developing countries and Global South.
- Risk of technology failure.
- lack of technical expertise.
- Ineffective governance and management structure.
- Polices and frameworks are far from being grounded in reality with much volatility in the political system.
- The public lack understanding of science.
- No upscale capability due to very limited partnerships.

4 What's the right incentives to encourage the adoption of emerging ICT technologies and business models?

To incentivize the UNEP, along with its partnership network, member states to adopt emerging ICT technologies and business models, several measures have be taken. These include:

4.1 Citizen Science

UNEP has used citizen science to engage people worldwide in monitoring the environment and identifying potential challenges that emerging ICT technologies can address. UNEP launched the "World Environment Situation Room" (WESR)[1] in 2019 to provide real-time environmental data and analysis to policymakers, researchers, and citizens. As a federated platform, it provides the citizen science portal to mobilize collective

[1] World Environment Situation Room available at: https://wesr.unep.org/

actions on the ground to leverage emerging technologies such as satellite imagery, machine learning, and big data analytics to monitor global environmental trends and identify potential risks and opportunities.

4.2 Private Data

UNEP leverages private data obtained from environmental monitoring process or citizen science initiatives among the many, to better understand the impact of pollution or climate change on a particular community or region. This information can then be used to develop innovative ICT technologies and business models, such as predictive analytics or early warning systems, that can help mitigate or prevent environmental risks.

Furthermore, by demonstrating a commitment to protecting the privacy and security of private data, UNEP can build trust with its stakeholders and attract investment from private sector partners interested in collaborating on innovative ICT initiatives. This, in turn, can lead to additional incentives such as funding or access to cutting-edge technology resources that can support UNEP's adoption of emerging ICT technologies and business models.

4.3 Alignment Partnership

Alignment partnerships involve collaboration with member states, stakeholders, and organizations sharing common objectives and values. Such partnerships can incentivize the adoption of new technologies by fostering public-private sector collaboration. Governments can work with businesses to offer technical expertise, funding, and resources to facilitate technology adoption, mitigating the risk of technological failures and creating a supportive environment for testing new technologies.

In the case of World Environmental Situation Room (WESR), UNEP has adopted a bottom-up collaboration approach with the network of Resident Coordinators and UN country teams, as well as a range of relevant partners in the public and private sectors to achieve the WESR objectives, including four core partnerships.

- With data providers through **One Global Partnership as the foundational architecture,** including GRID - CENTERS, UNEP-WCMC, WRI, space agencies and others;
- Across the UN System, UNEP is partnering with UN Statistics Division, the UN-GGIM, UNDOCO, FAO, and many others.
- Across the private and public sector through leading scientific, technical and medical publishers for the availability of the latest peer-reviewed environmental research and the UN Science Policy Business Forum for bringing science and policy together.
- "Acting as One" technical committee within UNEP which not only supports the WESR but will also provide a link with how the environmental dimension of development is delivered on the ground, including through the GCF and GEF portfolio.

4.4 Early Warning System

The UNEP Early Warning System (EWS)[2] is a state of art analysis and future directions. It becomes the powerful tool for member states, otganizations and global communities to enhance their scientific and evidence based policy making through embracing the ICT technology and consolidate their science-policy interface. The service provides credible and timely environmental analyses and information for sustainable development decision-making. It monitors and reports on global environmental trends, offers early warning of emerging threats, and supports disaster risk reduction through observations, scenarios, vulnerability assessment, and climate services.

4.5 Global Environment Monitoring System

The Global Environment Monitoring System (GEMS)[3] is a holistic mechanism for encouraging the ICT through providing data-driven evidence, facilitating and incubating ICT based collaborations, driving demand for green technologies, and encouraging policy action.

The GEMS monitoring service is a collaborative effort by the global community to obtain necessary environmental data for effective management, established following the recommendations of the 1972 UN Conference on the Human Environment in Stockholm. The program is committed to ensuring the highest possible data quality and comparability across different monitoring networks. The GEMS programme activity center (PAC), similar to UNEP, operates primarily through specialized agencies of the UN system, such as FAO, ILO, UNESCO, WHO, and WMO, as well as relevant intergovernmental organizations such as IUCN.

4.6 Cross-cutting Technology Support and Capacity Building

For organizations to embrace new technologies, they require access to relevant technical expertise. Cross-cutting technology support and capacity building enable the adoption of ICT technology by providing technical expertise, lowering costs, raising awareness, fostering networking opportunities, and promoting innovation.

UNEP's Early Warning Assessment Division includes a specialized unit that delivers impact through several specialized models. These models include implementation with regional offices, GEF cross-cutting capacity development, GCF climate information & early warning systems, and GCF readiness. These models address the

[2] Early Warning System available at: https://wedocs.unep.org/handle/20.500.11822/32230

[3] Global Environment Monitoring System available at: https://wedocs.unep.org/handle/20.500.11822/35879

core mandate of enhancing the science-policy interface, as set out in UNEP's Mid-term strategy, PoW, Rio+20, and the Bali strategic plan.