

Urban Resilience Engagement Priority

This document is submitted by the Urban Resilience Subgroup to the Programme Board for decision.

INTRODUCTION

The Programme Board is invited to consider, in advance of submitting this request to the GEO Executive Committee, the approval of Urban Resilience as a fourth engagement priority for GEO. This request reflects the considerable advancement of GEO efforts on this topic since 2017, as well as the success achieved in building a strong relationship with United Nations Human Settlements Programme (UN-Habitat).

In 2016, “Urban resilience and human settlements” was one of five proposed candidate engagement priorities for GEO. However, the Executive Committee decided that GEO should initially focus on three engagement priorities, namely, climate change, disaster risk reduction, and sustainable development, in line with the three major international conferences held on those three topics in 2015. The principal concern for urban resilience was that it lacked a clear policy mandate. While the New Urban Agenda (NUA) had been just adopted a month earlier, it was not widely known within the GEO community at the time. The GEO leadership also believed at the time that the GEO Work Programme was better positioned to support the three priorities that were selected.

This paper summarizes the case for recognizing Urban Resilience as a fourth GEO engagement priority. In brief, the rationale for doing so is based on six considerations:

1. The status of the NUA as the key policy driver in the area of urban resilience and sustainable urbanisation;
2. Recognition by UN-Habitat of the value of Earth observations and of GEO’s ability to provide valuable tools and services to support UN Member States;
3. Increased attention to urban topics within the GEO Work Programme;
4. Efforts within the Programme Board to increase coordination among urban-related activities;
5. Growing engagement with GEO of international organizations focused on urban issues; and
6. Benefits to the GEO community and to GEO Members through the incorporation of climate change, disaster risk reduction and sustainable development considerations in urban-related activities.

Recognition of urban resilience as a fourth GEO engagement priority is expected to give greater visibility to ongoing GEO Work Programme activities in these areas and thereby, potentially, to attract additional resources. This, in turn, will help GEO Work Programme activities to develop services to support GEO Members and others to use observations in support of sustainable urbanisation and urban resilience, and thereby result in a positive impact. The two terms are mutually supportive and combined to increase their capability and flexibility to adapt and recover when faced with changes.

1 THE NEW URBAN AGENDA

The NUA was formally adopted by the 167 countries attending the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in Quito, Ecuador on 20 October 2016. It was later endorsed by the United Nations General Assembly on 23 December 2016.

The agreement is built around a set of guiding principles and actions intended to transform how cities are planned, constructed, and managed. The NUA takes account of other key global agreements, including the Sustainable Development Goals (SDGs), the Paris Agreement on climate change, and the Sendai Framework for disaster risk reduction, among others.

While cities occupy a small proportion of the Earth's surface, they are home to more than 50% of the world's population, consume more than three-quarters of the world's natural resources, and generate over 80% of the world's economic production. Further, cities are the sites of the fastest population growth, with more than 2.5 billion new urban residents expected by 2050, most of them in the global south. Thus, cities are where opportunities lie to serve all existing three engagement priorities. For example, cities account for about 70% of GHG emissions and any change in business as usual there would have a great global (positive) impact.

The NUA sets the frame for essential actions on how national, regional, and local governments, as well as civil society organisations and professional associations – separately and by working together – can make the difference in promoting urban well-being. It lays out standards and principles for the planning, construction, development, management, and improvement of urban areas along five main pillars of implementation: national urban policies, urban legislation and regulations, urban planning and design, local economy and municipal finance, and local implementation. This agenda has been endorsed, referenced and used by a variety of organizations worldwide.

2 UN-HABITAT AND THE ROLE OF EARTH OBSERVATIONS

The GEO Secretariat has been working with UN-Habitat since 2017 to develop an understanding of the requirements for urban resilience and sustainable urbanisation, and to convey the message that Earth observations can provide vital support. These efforts have built upon a foundation established by several GEO Work Programme activities, notably GEO Human Planet Initiative (HPI), Global Urban Observation and Information (GUOI), and Earth Observations for the Sustainable Development Goals (EO4SDG).

UN-Habitat has recognized the growing role that Earth observation and geospatial information can play in urban monitoring, reporting processes on sustainable development goals (SDGs) targets and indicators, as well as other aspects within the NUA. As a result of this recognition, the relationship with GEO Secretariat has been further solidified, substantiated by a number of key events also involving other UN bodies. Examples of such events include:

- May 2017 – Kunming (China) Forum on UN-GGIM Cities of the Future: Smart, Resilient and Sustainable (GEO Secretariat attended and supported the Space-based Earth Observation Applications for Resilient Cities);
- February 2018 – 9th World Urban Forum in Kuala Lumpur, Malaysia (GEO Secretariat supported by JRC/EC, EO4SDG and UN-Habitat to introduce urban practitioners to EO-enabled possibilities);
- April 2018 – 9th Global Forum on Urban Resilience and Adaptation (GEO Secretariat and Resilience Brokers set up and moderated a panel session with UNISDR, ESA, JRC, Rezatec and the Mozambique office of USAID);

- May 2019 – UN-Habitat Assembly in Nairobi in May (GEO Secretariat participated with GEO members from Colombia, European Commission, Kenya, and USA, for example); and
- February 2020 – 10th World Urban Forum in Abu Dhabi, UAE (several sessions on EO and GEO with UN-Habitat, EO4SDG, GUOI and HPI).

3 URBAN ACTIVITIES IN THE GEO WORK PROGRAMME

Resilience provides a strong link between the Sendai Framework, the Paris Agreement and the New Urban Agenda, not just the ability to resist and cope with shocks, but also the need to prepare or adapt to climate change. This also links closely to a number of the sustainable development goals (urban challenges relate to ~60-70%¹ of the total 169 SDG targets, while urban resilience constitutes a subset of this). To this end, the work of GEO on SDG 11 (safe and resilient cities and communities), and other SDGs with urban dimensions, is particularly relevant for the New Urban Agenda. The GEO Work Programme also has a strategic focus on climate mitigation and adaptation, using Earth observations to monitor and report on long-term climate change, the resulting implications and how to tackle them.

There are three GEO activities focused explicitly on topics related to urban resilience: GEO Human Planet Initiative (GEO HPI), Global Urban Observation and Information (GUOI), and EO4SDG. In addition, AfriGEO also refers to urbanisation in their Implementation Plan.

GEO HPI is developing Global Human Settlement Layers for the provision of information that can support all the spatial metrics and indicators related to population and settlements, and thus contributes to several goals and targets under discussion in the post 2015 frameworks.

GUOI has as its goals: (1) Improving the coordination of urban observations, monitoring, forecasting, and assessment initiatives worldwide; (2) Supporting the development of a global urban observation and analysis system; (3) Producing up-to-date information on the status and development of the urban system - from local to global scale; (4) Filling existing gaps in the integration of global urban observation with data that characterize urban ecosystems, environment, air quality and carbon emission, indicators of population density, environmental quality, quality of life, and the patterns of human environmental and infectious diseases; and (5) Developing essential urban variables and indicators for sustainable cities for the SDG 11.

EO4SDG has also been working with UN-Habitat and one of the main outcomes of this collaboration is the ongoing development of an Earth observation toolkit for SDG 11, which takes into account the needs of countries and cities. A joint call between GEO and UN-Habitat attracted about 60 Expressions of Interest and an evaluation was carried out for 49 completed responses. The responses represent government (including national statistical offices, municipalities and cities), as well as academia, private sector and non-profit organisations. The responses were highest from Africa (16), Europe (15), Americas (10) and Asia (4), with another group consisting of UN and global organisations (4).

There are also two new Community Activities – Global Observation of Deltas and Estuaries and Night-time Light Remote Sensing for Sustainability – that address urban issues. In addition to these, there are many other GEO Work Programme activities whose work, while not focused on urban areas, produce information relevant to urban resilience, for example, Global Observation System for Persistent Organic Pollutants (GOS4POPs), GEO Vision for Energy (GEO-ENER), and the Data Integration and Analysis System (DIAS).

¹ For example, the City of Barcelona assumes 70%.

A recent call for contributions to a new Community Activity focusing on Climate Change Impacts on World Heritage Cities launched by the Greek GEO Office and UNESCO attracted the interest of more than 80 organizations worldwide (ranging from GEO Members and Participating Organizations to academia and the private sector).

4 COORDINATION OF GEO EFFORTS ON URBAN RESILIENCE

UN-Habitat sent an official letter to the GEO Secretariat on 5 June 2019 requesting GEO's assistance in the development of indicators for reporting on SDG 11. This recognition by UN-Habitat of GEO as an important partner and community for further collaboration represented a key milestone for GEO.

As follow-up to the letter, UN-Habitat was invited to be the guest at a special session at the 15th Programme Board meeting held on 3 September 2019 in Ispra, Italy, together with representatives from EO4SDG, GUOI, and HPI. At the meeting, the UN-Habitat representatives gave a clear and informative presentation which included a detailed request to the GEO community focusing on five key issues: Coordination among GEO Work Programme activities; Co-design with UN-Habitat and their stakeholders; Comparisons among existing tools and data sets; Tailored support to meet UN-Habitat requirements; and Addressing capacity gaps in supporting sustainable use.

In response, the Programme Board established a dedicated task force to ensure that the issues raised would be addressed. Key players, including the urban GEO Work Programme activities and the GEO Secretariat, continued discussions on coordination at the Human Planet Forum in September-October 2019. This task force was able to deliver a first discussion forum within Programme Board on the necessity of focusing on urban scales and on the existing maturity of relevant activities within the GEO Work Programme.

At its 16th meeting in February 2020, the Programme Board upgraded the task force to a subgroup on Urban Resilience, building on the progress achieved by the former. This change recognized the importance and growing maturity of GEO's work in this area and the need to expand engagement efforts to members outside of the Programme Board. The subgroup's mandate is to promote coordination between urban activities of the GEO Work Programme and ensure alignment with the engagement priorities. The subgroup also seeks to enrich the urban resilience focus of the Work Programme, potentially via seeding of new activities from an urban resilience perspective; and to identify opportunities for collaboration between GEO Flagships and Initiatives (and Community Activities when relevant). As well, the subgroup seeks to collaborate with others not yet involved in GEO to achieve the common target of realizing the GEO engagement priorities, within the context of urban resilience. The proper coordination and exchange of information between the GEO WP activities and the Regional GEOs with respect to urban matters is also critical and is therefore also taken into account.

5 ENGAGEMENT WITH OTHER INTERNATIONAL ORGANIZATIONS

Local governments and municipal authorities are beginning to meaningfully engage with Earth observation experts in the urban context. Networks of such actors, for example, C40 and ICLEI, have already worked with GEO, and the Global Resilient Cities Network (GRCN) has recently joined the PB Urban Resilience Subgroup. This interaction presents an opportunity to leverage city-level networks, focusing on raising awareness around EO capacity to build urban resilience, attracting funding and delivering services to individual cities and stakeholders.

Bringing forth Urban Resilience as the fourth Engagement Priority in GEO would further this ongoing engagement, expanding and enriching the relationship between GEO and urban communities, allowing for exploitation of broad communication channels and dissemination of EO-driven activities that are already in place with proven benefits.

6 BENEFITS FOR THE GEO COMMUNITY

All GEO Members face challenges, of varying kinds and to varying degrees, in developing urban areas to become more sustainable and resilient. Earth observations have much to offer in this regard and GEO is well positioned to offer knowledge, methods, services, and tools, co-designed with users, to meet these challenges.

There are numerous application areas for Earth observations, which support the monitoring, reporting and development of plans to tackle environmental issues in cities, such as air pollution, heat islands, flood risk monitoring and water resources management. All of these topics and numerous others are key for urban resilience and sustainable urbanisation because they provide insights and data for past, present and possible future situations in cities.

Potential benefits for GEO Members and their stakeholders include:

- Sharing and learning good practices for urban EO from other GEO Members and Participating Organizations;
- Understanding the needs and requirements of cities in various regions and how to adapt strategies and products to support them;
- Developing methods to improve national reporting under the New Urban Agenda and also to improve reporting at the city level;
- Leveraging the strengths of private sector organizations in expanding the potential for Earth observation-based solutions;
- Learning about and receiving funding from new resource mobilisation opportunities;
- Integrating nature-based solutions that can directly address and contribute to increased urban resilience;
- Improving urban decisions regarding a. planning e.g. informal dwellings, greening of cities (or converse) and transport b. monitoring e.g. air quality c. operational preparedness .e.g. transport, flooding, and emergency response;
- Informing GEO Member policy priorities and research programmes; and
- Enabling activities that were previously not possible and in a cost-effective manner; generating value particularly in developing countries in conjunction with traditional methods or where those do not exist, also for society and industry.

RECOMMENDATION

The Urban Resilience Subgroup recommends that the Programme Board endorse this paper, revised as needed to incorporate comments received from Programme Board members, to be submitted for approval to the GEO Executive Committee at its 53rd meeting (November 2020).