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Space for Youth

Note by the Secretariat

The present document contains the overview and the outcome of the Space for Youth Competition organized by the United Nations Office for Outer Space Affairs in collaboration with the Space Generation Advisory Council (SGAC).

Overview

The purpose of this conference room paper is to introduce the work of the United Nations Office for Outer Space Affairs on youth engagement.

At the United Nations level, youth development and youth engagement are cross-cutting issues in the 2030 Agenda for Sustainable Development. The role of Youth has also been acknowledged at the United Nations level through Security Council Resolutions 2250 (2015) and 2419 (2018), acknowledging that young people play an important and positive role in the realization of sustainable development, in the prevention of crises and in the advancement of peace.

In September 2018, the UN Secretary-General launched an UN-wide 'Youth 2030' strategy to recognize, inter alia, young people's positive contributions as agents of change.

The Strategy aims to facilitate increased impact and expanded global, regional and country-level action to address the needs, build the agency and advance the rights of young people in all their diversity around the world. The Strategy works to ensure their engagement and participation in the implementation, review and follow-up of the 2030 Agenda for Sustainable Development as well as other relevant global agendas and frameworks.

The Strategy also recognizes that young people's empowerment, development and engagement is an end in itself, as well as a means to build a better world. The United Nations cannot achieve its mission without partnering with young people and ensuring they are not only heard but understood, not only engaged but empowered, and not only supporting but leading global efforts and processes. Young people need to be full-fledged partners in the United Nations work to build a better world for all, as they are both beneficiaries and partners.

As the United Nations' gateway to space, the United Nations Office for Outer Space Affairs works, on behalf of all countries, to provide space solutions to real-world problems. Through such efforts, the Office works to enhance the global access and use of space to accelerate the achievement of the United Nations' 2030 Sustainable Development Agenda. The Office, as the only United Nations entity dedicated to space affairs, is a global convener of the space community at the United Nations-level. Through this role the Office is working closely with stakeholders from across the space community to bring the benefits of space to everyone, everywhere.

In the field of youth engagement, the Office's primary stakeholder is the SGAC. SGAC is a non-governmental organization and professional network which aims to represent university students and young space professionals to the United Nations, space agencies, industry, and academia. With over 13,000 members and alumni, SGAC is active in over 110 countries, promoting the voice of youth in the space sector.

The project called "Space for Youth Competition" (hereafter called the competition), outlined below is proposed in the context of supporting the first priority of the Youth Strategy, namely "Engagement, Participation and Advocacy to Amplify youth voices for the promotion of a peaceful, just and sustainable world". The outline is presented as an overview of the collaboration between the Office and SGAC focusing on making an initial contribution towards the implementation of the United Nations Youth Strategy.

Space for Youth Competition Outline

- The Office, in collaboration with the SGAC, developed the competition to engage global youth to amplify youth voices into pertinent global conversations about space affairs.

- The Objectives of the competition are to engage youth in the global discussion by gathering examples of space supporting Sustainable Development Goals and to bridge youth interested in space field to the members of the United Nations Committee on the Peaceful Uses of Outer Space. It is also a stimulus to policy decision makers to learn the perspectives of youth on how space is supporting Sustainable Development Goals.

- The competition invited youth to submit three-minutes videos for the 1st round of the competition. Each applicant had to respond to the following questions in their videos, by focusing on one SDG of their choice;1) In your opinion, how can space contribute to the SDGs in general?; 2) In particular, how has space contributed to one SDG of your choice? Provide example(s) from activities you are familiar with.; and 3) How could these examples be built upon and expanded in the future?
Over 135 video entries were submitted to the competition globally and 28 moved on to the second round. For the 2nd round a full paper consisting of 1000 words expressing in details their ideas on the videos submitted for the 1st round were asked to submit.

- The selected papers are showcasing examples of how space science and technology is accelerating achievement towards the Sustainable Development Goals.

- The selected papers will be published online on the dedicated Space for Youth webpage of the Office. The abstracts of these papers will be published through this conference room papers.

Selected papers

5 papers were selected from Greece, India, Italy, Serbia and the Philippines on "SDG4 Quality Education", "SDG 6 Clean Water and Sanitation", "SDG 13 Climate Action", "SDG 15 Life on Land" and "SDG 16 Peace, Justice and Strong Institutions". The

followings are the abstracts of the selected papers listed accordingly to the SDG numbers. The full text can be accessed from the link below.

http://www.unoosa.org/oosa/en/ourwork/topics/space4youth/index.html

SDG4 “Quality Education”
Mr. Ramasamy Venugopal, International Astronomical Union's Office of Astronomy for Development

Abstract

Education is one of the principal Sustainable Development Goals (SDG) because it can have a spill over effect on the other goals. An educated society stands a better chance at reaching the SDGs.

Space education, a top priority for most nations, focuses on technical education for employment in space and related sectors. However, space (topics) can also be leveraged to improve general educational outcomes. Space, being universally fascinating, can be a key catalyst in education. Several projects have already used space topics and contexts to teach literacy, numeracy, programming etc. Here the end goal is not to impart an education in space but rather use the excitement of space to better teach a standard curriculum. Space topics are also well suited to instil tolerance and empathy, especially relevant in our highly globalized world with multiple breaking points.

A proposed plan to leverage the potential of space topics is to create an open-source, online repository containing space contextualized examples to teach various subjects. Over time, with more users, evaluations and studies can be carried out in classrooms across the world in order to uncover the most effective ways of leveraging space topics to improve educational outcomes.

SDG 6 “Clean Water and Sanitation”
Ms. Giuliana Rotola, Leuven Centre for Global Governance Studies

Abstract

Space technologies have a pivotal role in the achievement of the SDGs and are the key to a successful implementation of the 2030 Agenda. The most useful space applications for supporting the SDGs are related to Earth Observation satellites, but EO is only one element that contributes to the SDG process.

I will analyze how Sustainable Development Goal 6, which aim is to ensure availability and sustainable management of water and sanitation for all, can be good evidence of the actual relationship between space applications and sustainable development. More specifically, I will take into consideration space technologies designed for human space missions, which are meant for reusability and self-sufficient life in the long-term. Such applications, if transferred to terrestrial projects, could enable the creation of more sustainable activity conditions.

To expand these examples in the future, the potential embedded in space assets should be accessible for all the countries. The creation of new approaches will be essential to remove existing barriers and to solve issues that prevent countries from making progress towards and finally achieve SDGs.

SDG 13“Climate Action”
Ms. Milica Milosev, Team 54 Project International

Abstract

The complexity that climate change brings and its impact on critical areas such as agriculture, water and land management, disaster recovery, energy, health, education, peace and prosperity, security and economy is well documented. Future solutions will require advanced technological approaches, which space-based technology provides. Space-based technology can contribute to SDG 13 through the creation of a space-based application called SpaceClime. With this advanced technology we will be able to create platforms that can integrate with operating systems from the orbiting

satellites, which can assist in building a better Advance Climate Early Warning System. This System can be incorporated into the existing digital communication platforms to help strengthening our adaptation approach and disaster reduction risk protocol whenever environmental events occur. With the support of relevant stakeholders in developed nations, the SpaceClime app can be the gateway for developing nations to have access to shared beneficial satellite data.
SpaceClime is our idea for a space-based technological application that integrates geospatial information from satellite into land based digital communication that can assist in effective communication during and after ecological events.

SDG 15 “Life on Land”
Mr. George Profitiliotis, National Technical University of Athens

Abstract
Sustainable development is usually defined as the development that meets the needs of the present equitably, without compromising the ability of future generations to meet their own needs. Sustainable development is viewed as a principle with three pillars: the natural environment, human society, and the economy.
The 17 United Nations Sustainable Development Goals (SDGs) are directly related to these pillars. Space is an enabler that can contribute to the implementation of the SDGs, as the utilization of space assets can accelerate the transition towards a sustainable development paradigm.
In particular, space-related assets are invaluable in achieving the realization of SDG #15, Life on Land. Not only remote sensing and geolocation are already providing a powerful infrastructure to monitor and assess the extent of deforestation, desertification, and biodiversity loss, but also other novel technologies developed for living in space -such as controlled and efficient greenhouses, and technologies for reclaiming resources from waste and for cultivating useful microorganisms- can prove catalytic and decisive in preventing and reversing these deteriorating phenomena in the future. These technologies are already maturating; a proper knowledge transfer strategy may be able to accelerate their application in addressing some of the most pressing sustainability issues of our time.

SDG 16 “Peace, Justice and Strong Institutions”
Mr. Arthur Nielsen, Madaris Volunteer Program

Abstract
This paper examines the role of the design thinking approach in promoting long-term peace through space and peace affairs education among the youth in Datu Piang, Maguindanao and in other vulnerable communities in the Philippines. In an attempt to strengthen the promotion of peacebuilding through education in Datu Piang, I piloted the design thinking methodology in my host school's Science classes last March 2019 to engage the students in designing peacebuilding initiatives that were both human-centered and sustainable.
One such initiative was the collective participation of the students to propose design developments to Diwata-1, the Philippines' first microsatellite, so that it could be used to track armed rebels and prevent instances of human trafficking for exploitative labor, two issues that persist to threaten our country’s quest for long-term peace. Given the level of interest and engagement that this activity generated among the students, this paper explores two scalable strategies on how to incorporate design thinking in the school's peacebuilding curriculum so that more space and peace youth ambassadors from the community will be engaged in our country's efforts to achieve Sustainable Development Goal 16: Peace, Justice, and Strong Institutions

Winners of the competition

The Office proudly announce, and congratulate the success of the following three winners of the competition.

- Ms. Milica Milosev (SDG13) ,Serbia
- Mr. George Profitiliotis (SDG15), Greece
- Mr. Arthur Nielsen Demain (SDG16), the Phillipines

(listed accordingly to the SDG numbers)

The three winners will participate in the 27th Workshop on Space Technology for Socio-Economic Benefits on the theme "Ensuring inclusiveness through space-based applications and space exploration" organized by the International Astronautical Federation (IAF) and supported by the Office. The Workshop will be held in Washington D.C., the United States, from 18 to 20 October 2019 in conjunction with the 70th International Astronautical Congress (IAC).

This competition has enabled the Office to expand and develop its youth activities by collaborating with various partners to advance young people’s related empowerment, development and engagement and the Office further wishes to enlighten the importance of youth involvement in the outer space area.