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International cooperation in using space for sustainable development: Towards a 'Space2030' agenda (1)

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SPACE SUPPORTING AFRICAN CIVIL SOCIETIES: SECURITY, PEACE, AND DEVELOPMENT THROUGH EFFICIENT GOVERNANCE SUPPORTED BY SPACE APPLICATIONS

Abstract

This study investigates the vast potential for space technology and applications in supporting African governance to strengthen civil society, bolster democratic processes, and allow for socio-economic development across the continent in line with Africa's development goals. It analyses the potential benefits of e-governance for African countries and describes how space-based applications can be employed in implementing e-governance solutions, and offers a comprehensive description of e-governance, existing e-governance systems, African challenges relating to e-governance challenges, and how these solutions can be implemented within Africa to assist the continent in realising the African Union's (AU) Agenda 2063 goals. As such, the first part of this study defines governance and explores how good governance is integral in achieving the United Nations (UN) Agenda 2030 Sustainable Development Goals (SDGs) and the AU's Agenda 2063 aspirations. It then looks at the various governance structures in place across Africa at a continental level to provide an overview of the frameworks informing governance within Africa, as well as the specific challenges which need to be overcome to ensure good governance. An analysis on the current governance levels in Africa is presented and areas where improvements are necessary are identified. The second part focuses on e-government and e-governance by assessing the e-government readiness levels across Africa in summarising key findings from the United Nations E-Government Survey from 2018. Specific barriers to e-government, both abroad and within Africa, are analysed after which specific case studies of innovative e-government applications are identified and discussed, to identify objectives and strategies African countries should consider when implementing their own e-governments. New trends and emerging technologies in e-government are then discussed, from a perspective of how they can be leveraged to maximise the socio-economic benefits within Africa. It then investigates how the digital divide and lack of internet connectivity within Africa can be addressed by new technologies and commitments from both terrestrial and space actors. The opportunities afforded by rapidly growing satellite constellations being deployed to increase connectivity levels and reduce the costs thereof are then analysed in detail and the various planned constellations are assessed on a technical level. The final part focuses on using Earth Observation and remote sensing data to assist with e-governance activities across sectors including healthcare, education, agriculture, water and sanitation, and emergency responses. It is also discussed how African countries can obtain such data using in the interest of minimising costs and maximising benefits.