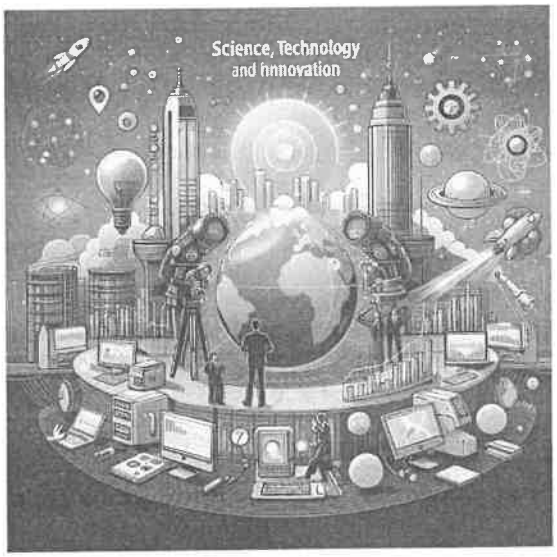
PARLIAMENT OF UGANDA

HARNESSING SCIENCE, TECHNOLOGY, AND INNOVATION (STI) FOR A MORE PEACEFUL AND SUSTAINABLE FUTURE



149TH INTER PARLIAMENTARY UNION (IPU) ASSEMBLY AND RELATED MEETINGS

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1. INTRODUCTION

Harnessing Science, Technology, and Innovation (STI) is essential to fostering a more peaceful and sustainable future. The integration of these elements can drive solutions to pressing global challenges, including climate change, resource scarcity, and social inequality. STI offers an opportunity to tackle contemporary challenges including insecurity and has the potential to create lasting solutions to a more peaceful and sustainable future. This paper explores the role of STI in promoting sustainability and peace.

2. STI in Uganda

Uganda has revitalized efforts to deploy STI as a catalyst for profound economic and social transformation as evidenced in the National Development Plan (NDP III 2020/21 -2024/25) under program 14 (Innovation, Technology Development and Transfer). The goal of this program is to increase development, adoption, transfer and commercialization of Technologies & Innovations through the development of a well-coordinated STI eco-system. Despite the efforts, the Global Innovation Index (GII) indicates that Uganda is not investing significantly in STI. The 2019 GII ranks Uganda at 102 out of the 129, while Kenya, Rwanda, and Tanzania were ranked 77, 94 and 97 respectively. The highest ranked country in Africa is South Africa at 63[1](Cornell University, INSEAD, and WIPO, 2019).

3. The Role of STI in Promoting Peace, and Sustainability

STI can play a role in the following ways:

1. Sustainable Development Goals (SDGs): The importance of STI in achieving sustainable development is clearly emphasized among the 17 SDGs[2]. For instance, Goal 9 focuses on building resilient infrastructure

[1] https://development.finance.go.ug/science-and-technology

[2] United Nations. (2015). Transforming our world: the 2030 Agenda for Sustainable Development. United Nations.

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and fostering innovation, which are crucial for sustainable economic growth.

2. Technological Innovations: STI can promote innovations that drive peace and security in the world. Investments in renewable energy technologies, such as solar and wind, are pivotal in reduction in reliance on fossil fuels, reduction in greenhouse gas emissions, creation of jobs, promotion of economic resilience, mitigation of climate change impacts and promotion of energy security (IRENA 2020)[3].

3. Agricultural Innovations: Advances in agricultural science, such as precision farming and genetically modified organisms (GMOs), have the potential to increase food security while minimizing environmental impact. Likewise, sustainable intensification of agriculture can help feed a growing global population while preserving ecosystems (Tilman[4] et al)

4. Conflict Resolution and Communication Technologies: Innovations in communication technology, particularly social media and mobile platforms, can facilitate dialogue and conflict resolution[5]. These platforms enable marginalized voices to be heard, fostering greater inclusivity in peace processes.

5. Education and Capacity Building: STI can enhance educational opportunities, which is crucial for peacebuilding. Educated populations are generally more resilient to conflict and better equipped to engage in democratic processes[6]. It is emphasized that education plays a critical role in promoting peace and social cohesion.

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[3] IRENA. (2020). Renewable Power Generation Costs in 2019. International Renewable Energy Agency

[4]Tilman, D., Balzer, C., Hill, J., & Befort, B. L. (2011). Global food demand and the sustainable intensification of agriculture. Proceedings of the National Academy of Sciences, 108(50), 20260-20264

[5] Waisbord, S. R. (2013). Watchdog Journalism in South America: News, Accountability, and Democracy. Columbia University Press.

[6] UNESCO. (2014). Teaching Respect for All: Values, Diversity, and Equality in Education. United Nations Educational, Scientific and Cultural Organization.

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6. Health Innovations: global health technologies, including vaccines and telemedicine, contribute to peace by improving health outcomes and reducing the likelihood of conflicts driven by health crises. The World Health Organization[7] has underscored the importance of health security in maintaining social stability.

7. STI helps us understand that we must limit our instinctive desire for power and that we must care for this great limited ecosystem that includes all the people in the world. And these limits and constraints that we discover with science can help us build peace.

In addition, technology can be used to resolve conflict and promote peace; non-violent defence, disaster management, human rights protection, global economy, medicines, Sustainable Development, convergence of Technologies[8].

4. Challenges

While STI holds immense potential for fostering peace and sustainability, several challenges must be addressed:

1. Equitable Access: There is a risk that advancements in STI may exacerbate inequalities if access is not equitably distributed. The Digital Divide remains a significant barrier, as noted by van Dijk[9], who argues for policies that promote inclusive access to technology.

2. Ethical Considerations: The application of certain technologies, such as artificial intelligence and biotechnology, raises ethical concerns. It is essential to establish regulatory frameworks that ensure responsible use of these technologies[10].

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[7] World Health Organization. (2020). Health Emergency and Disaster Risk Management Framework. World Health Organization

[8] Role of technology in promoting peace – Gargi B (2018)

[9] van Dijk, J. (2020). The Digital Divide. Sage Publications.

[10] Giddens, A. (2017). The Consequences of Modernity. Stanford University Press.

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3. Global Cooperation: Effective STI-driven solutions require international collaboration. Issues like climate change and pandemics transcend borders, necessitating coordinated efforts among nations. The Paris Agreement exemplifies how global cooperation can harness STI for a common goal[11].

Uganda's Science, Technology and Innovation Sector Development Plan 2019/2020-2024/2025 identifies a number of challenges among which are a weak STI sector coordination and the need to invest in STI infrastructure[12].

4. Conclusion

Harnessing Science, Technology, and Innovation is crucial for creating a more peaceful and sustainable future. By addressing global challenges through sustainable practices and promoting inclusive access to technological advancements, societies can work toward lasting peace and environmental stewardship. Continued investment in STI, ethical considerations, and global cooperation will be key to unlocking its full potential

[11] UNFCCC. (2015). The Paris Agreement. United Nations Framework Convention on Climate Change.

[12] Science, Technology and Innovation Policy Review of Uganda – UNCTAD 2020

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