

Research and innovation on sustainable development

### **EDITORIAL**

Role of research and innovation on sustainable development

Mathew Gitau Gicheha<sup>1,2</sup>, Vincent Mwashi<sup>2</sup>, Patrick Mbindyo<sup>1</sup>, Rebeccah Ann Maina<sup>1</sup>, Caroline Mugodo<sup>1</sup>

<sup>1</sup>Directorate of Research Services, Jomo Kenyatta University of Agriculture & Technology. <sup>2</sup>Department of Animal Sciences, Jomo Kenyatta University of Agriculture & Technology

Corresponding email: gicheham@jkuat.ac.ke

### ABSTRACT

In recent years, the concept of sustainable development (SD) has attracted much attention from researchers, institutions, organizations, and societies. Sustainable development has gained much attention due to the problems arising in different areas like climate change, health, energy, and environmental conservation. Research and innovation have played a critical role in addressing issues related to healthcare, inequalities, job creation opportunities, enhancing productivity, and alleviating the negative impacts of climate change. This article highlights the significant roles of research and innovation in achieving sustainable development.

### **1.0 Introduction**

The concept of sustainable development has been revived after the adoption of the Sustainable Development Goals by the United Nations in 2015 (UN, 2015). The concept was previously raised in the 1987 Brundtland Commission Report, which defined it as an improvement that solves present issues or problems without compromising the capacity of the future generation to meet their needs while addressing emerging issues (WCED, 1987). The concept has gained attention due to the changes and challenges emerging from climate, health, energy generation and utilization, environmental conservation, and rural development. Many of these have the potential to disrupt the current and future biophysical environment (Cecchin et al., 2021; Axelsson et al., 2011), which is crucial for sustainable production. Over time, the sustainability discourse has expanded to include economic, environmental, and social factors (Cecchin et al., 2021; Seuring and Muller, 2008). This implies that all stakeholders and sectors are affected. This further highlights the significance of research and innovation in fostering economic progress that is sustainable over time.

We investigate complex issues such as climate and environmental change, human welfare, and other social factors through research to make decisions and formulate policies based on the Sustainable Development Goals (SDGs). Silvestre (2015) observes that various countries, regions, organizations, institutions, communities, and supply chains have adjusted their social welfare and biophysical environment to attain sustainability through innovation. Innovation-centred approaches also explore social behaviour patterns and look for alternative sources of

URL: <u>https://ojs.jkuat.ac.ke/index.php/JAGST</u> ISSN 1561-7645 (online) doi: <u>10.4314/jagst.v22i1.1</u>



energy (Talberth, 2008).

# 2.0 Research, Innovation and Sustainable Development

According to Namanji and Ssekyewa (2012), research and innovation are critical components of meaningful economic growth or development that lead to enhanced productivity and economic well-being for the common good (UNCTAD, 2021). Research and innovation are instrumental in promoting economies through informing and transforming different stages of development and are thus a key to enhanced competitiveness. Besides, proper research should inform the development of balanced policies that result in sustainable resource use (Cecchin et al., 2021; Namanji and Ssekyewa, 2012). Furthermore, research generates ideas through which capital productivity can be increased (Clark 2002).

According to a report by 2UNCTAD (2021) and findings by Silvestre (2015), sustainable development is not attainable in the absence of innovation. Findings by Srensen and Torfing (2017) further demonstrate that innovation plays a critical role in addressing issues related to all aspects concerned with human wellbeing, resource use, and production environment protection. Innovation for sustainability promotes the development of new solutions to problems that disrupt established practices (Hofstad and Torfing, 2016).

## 3.0 Conclusion

An analysis of the existing information on the significance of research and innovation in development indicates that for any growth to be sustainable, it must be backed and/or interrogated through research and innovation. This provides a platform to evaluate different development theories and practices objectively. Countries and their respective governments should thus invest in research and innovation to enhance sustainable development.

## 4.0 References

- Axelsson, R., Angelstam, P., Elbakidze, M., Stryamets, N., & Johansson, K. E. (2011). Sustainable development and sustainability: Landscape approach as a practical interpretation of principles and implementation concepts. *Journal of Landscape Ecology*, 4(3), 5-30.
- Clark, D. A. (2002). Visions of development: A study of human values. Edward Elgar Publishing.
- Cecchin, A., Salomone, R., Deutz, P., Raggi, A., & amp; Cutaia, L. (2021). What Is in a Name? The Rising Star of the Circular Economy as a Resource-Related Concept for Sustainable Development. Circular Economy and Sustainability, 1, 83–97.
- Hofstad, H., & Torfing, J. (2016). Collaborative innovation as a tool for environmental, economic and social sustainability in regional governance. Scandinavian Journal of Public Administration, 19(4), 49–70.
- Namanji, S., & Ssekyewa, C. (2012). Role and nature of research in development. Makerere Journal of Higher Education, 4(1), 83-92.
- Seuring, S., & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. Journal of cleaner production, 16(15), 1699-1710.



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- Silvestre, B. S. (2015). Sustainable supply chain management in emerging economies: Environmental turbulence, institutional voids and sustainability trajectories. International Journal of Production Economics, 167, 156-169.
- Srensen, E., & Torfing, J. (2017). Metagoverning collaborative innovation in governance networks. The American Review of Public Administration, 47(7), 826-839.
- Talberth, J. (2012). A new bottom line for progress. In State of the World 2008 (pp. 46-59). Routledge.
- United Nations (2015). Global Sustainable Development Report. 2015 Edition. Geneva, United Nations.

UNCTAD (2021). The Technology and Innovation Report 2021. New York, United Nations. https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf