

Achieving the United Nations' Sustainable Development Goals Agenda 2030 through Artificial Intelligence: a critical assessment

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Abstract

The United Nations 2030 programme for Sustainable Development (SDGs) prioritizes poverty, reduction, equality, environmental protection, economic growth, and access to justice. To actualize these laudable goals, This article argues that artificial intelligence (AI), understood as data-driven systems capable of performing tasks such as prediction, pattern recognition and automated decision-making, can support implementation of selected SDG targets only under clear legal constraints. Rather than treating AI as a generic “fourth industrial revolution” solution, the article examines how AI interacts with core legal functions of SDG governance: data generation and monitoring, public-sector procurement and deployment, rights and non-discrimination, liability and redress, and cross-border cooperation. It is contended that existing UN soft-law instruments and fragmented national frameworks are insufficient to ensure that AI-enabled SDG initiatives are lawful, accountable and equitable. The article therefore proposes a normative framework that links AI use for SDGs to binding data-governance duties, transparent procurement, human-rights impact assessment, and access to effective remedies. The following are the research questions: under what legal conditions can AI make a meaningful and justifiable contribution to achieving the 2030 Agenda for Sustainable Development? Secondly, how can African states, in particular, ensure that AI-enabled SDG initiatives do not exacerbate existing structural inequalities and capacity gaps? And thirdly, what reforms at the UN and national levels are required to align AI governance with the 2030 timeline?

Keywords: Artificial Intelligence, Sustainable Development Goals, data governance, Agenda 2030

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1 Introduction

Achieving the Sustainable Development Goals (SDGs) by 2030 requires not only political will and financial resources but also legally structured systems for data,⁶ decision-making⁷ and accountability.⁸ In the 2015 United Nations member states adopted the 2030 Agenda,⁹ agreeing to address interconnected problems of hunger, poverty, climate change, gender inequality, and inadequate educational opportunities. AI is increasingly integrated into domains central to SDG implementation, including healthcare, education, environmental monitoring and public administration.¹⁰ Yet most “AI for SDGs” discourse treats AI as an inherently transformative technology, without specifying which systems are at stake, which public powers they affect, and which legal safeguards apply.¹¹

At the same time, SDG monitoring suffers from major data gaps: for Goals 13 (Climate Action), 5 (Gender Equality) and 16 (Peace, Justice and Strong Institutions), less than half of UN member states have internationally comparable data since 2015, and only about 30 per cent of the latest SDG data are from 2022–2023;¹² These measurement deficits have direct legal and institutional implications, affecting treaty-based and political reporting duties, domestic accountability, and the design of conditional financing and review mechanisms.¹³

This article contends that AI can help address specific governance bottlenecks particularly in data generation, targeting and resource allocation but only if its deployment is embedded in robust legal frameworks that protect rights, prevent discrimination, and ensure institutional accountability. The analysis focuses on UN-level norms and illustrative national practice, with particular attention to African

⁶ Lainjo, ‘The Role of Artificial Intelligence in Achieving the United Nations Sustainable Development Goals’ [2014] (17) (5) *Journal of Sustainable Development* 30

⁷ Van Nieker, ‘Inclusive Economic Sustainability: SDGs and Global Inequality’ [2020] (12) *Sustainability*; 18

⁸ Lile and Monica, ‘Challenges for Zero Hunger (SDG 2): Links with Other SDGs’ [2023] 9

⁹ United Nations, ‘Transforming Our World: The 2030 Agenda For Sustainable Development’ [2015] 6

¹⁰ Zirar, Imran Ali and others, ‘Worker and workplace Artificial Intelligence (AI) coexistence: Emerging themes and research agenda’ [2023] (124) *Technovation* 1

¹¹ Hashid and Kausik, ‘AI Revolutionizing Industries Worldwide: A Comprehensive Overview of Its Diverse Applications’ [2024] (7) *Hybrid Advances* 1

¹² Regona, Yigitcanlar and others, ‘Artificial intelligence and sustainable development goals: Systematic literature review of the construction industry’ [2024] (106) *Sustainable Cities and Society*; 1.

¹³ United Nations, ‘United Nations Activities on Artificial Intelligence (AI) 2021’ [2021] *International Telecommunication Union* ix

jurisdictions where AI-enabled SDG initiatives are expanding amid significant capacity constraints.

The article is structured as follows. Section 2 sets out the doctrinal and normative methodology. Section 3 examines AI's role in SDG data governance and monitoring. Section 4 analyses public-sector procurement and deployment of AI in key sectors (health, agriculture, education) and the corresponding regulatory gaps. Section 5 addresses rights, non-discrimination, liability and access to remedies in AI-enabled SDG initiatives. Section 6 considers cross-border cooperation, capacity building and financing, with a focus on Africa. Section 7 concludes with recommendations for aligning AI governance with the 2030 Agenda.

2 Methodology

This article adopts a doctrinal and normative legal methodology, complemented by illustrative examples rather than formal empirical case studies.¹⁴ Primary sources include UN resolutions and policy documents on the 2030 Agenda and the SDGs, instruments and reports under the United Nations Framework Convention on Climate Change, human-rights treaties and practice, and selected national legislation and policy frameworks on AI, data protection and public procurement. Secondary sources comprise academic literature on AI governance, SDG implementation, development financing and regulatory design, as well as policy reports and technical studies produced by international organizations and regional bodies. These materials are used to identify the existing legal obligations, soft-law standards and institutional practices that shape the deployment of AI in SDG-relevant domains.

The analysis is limited primarily to UN-level frameworks and to illustrative references from African states, where AI deployments in health, agriculture, fintech and public administration highlight both potential benefits and regulatory gaps. No systematic quantitative review of AI applications is attempted; instead, sectoral examples are selected to illuminate legal issues such as data-governance duties, procurement obligations, rights-impact assessment, and liability.

¹⁴ Hutchinson and Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' [2012] (17) (1) *Deakin Law Review* 83-84

3 AI, Sustainable Development and Global Governance: From Advocacy to Legal Analysis

AI is often presented in global development discourse as a transformative tool that will “accelerate” progress towards the SDGs. Yet such advocacy usually overlooks the legal and institutional conditions under which AI is deployed, particularly in low and middle-income countries. This section reframes AI’s “impact on global development” in terms of legal functions rather than generic technological potential.¹⁵ Three interlocking governance functions are central.¹⁶ First, AI systems increasingly structure how data relevant to SDG implementation are generated, processed and used for monitoring and evaluation.¹⁷ This raises questions about data protection, official statistics, and the evidentiary basis for domestic and international accountability.¹⁸ Secondly, AI is being incorporated into public sector decision making through procurement of AI enabled systems for health, education, agriculture and social protection engaging administrative law standards of legality, transparency, due process and non-discrimination.¹⁹ Thirdly, AI can both mitigate and exacerbate structural inequalities between and within states, depending on how intellectual property regimes, trade rules, funding arrangements and capacity building schemes are designed.²⁰

Each passing year, there are new developments and discoveries in AI;²¹ AI is becoming more diverse,²² more creative²³ and more multi-dimensional.²⁴ The level

¹⁵ Grandi and Bruni, ‘Will the Artificial Intelligence Touch Substitute for the Human Touch?’ [2024] (5) *NeuroSci* 254–264

¹⁶ Jungwirth and Haluza, ‘Artificial Intelligence and the Sustainable Development Goals: An Exploratory Study in the Context of the Society Domain’ [2023] (16) *Journal of Software Engineering and Applications* 91–112

¹⁷ Chaudhary, ‘Environmental Sustainability: Can Artificial Intelligence be an Enabler for SDGs?’ [2023] (22) (3) *International Quarterly Scientific Journal* 1411

¹⁸ Evstratov and Guchenkov, ‘The Limitations of Artificial Intelligence (Legal Problems)’ [2020] (4) (2) *Law Enforcement Review* 13–19

¹⁹ Vinuesa, Azizpour, Leite and others, ‘The Role of Artificial Intelligence in Achieving the Sustainable Development Goals’ [2020] (11) (1) *Nature Communications* 2

²⁰ Mokoena, Nkosi and others, ‘Next-Generation Artificial Intelligence: Anticipated Advancements and Challenges in the Coming Years’ [2024] (2) (7) *AMERICAN Journal of Science on Integration and Human Development* 79

²¹ Rahimova, ‘Development trends of the concept of Artificial intelligence’ [2024] *E3S Web of Conferences* 2

²² Villaronga and Adams, ‘Diversity and Inclusion in Artificial Intelligence’ [2022] in book: *Law and Artificial Intelligence* 109–134

²³ Zhuohao and Danwen, ‘AI Creativity and the Human-AI Co-creation Model’ [2021] in book: *Human-Computer Interaction. Theory, Methods and Tools, Thematic Area* 171–190

and advancement of AI²⁵ has increased and that need to be controlled adequately by keeping sustainability in mind. The new Internet Of Things (IoT),²⁶ algorithms, deep learning, coding, smart cities,²⁷ apps, worldwide connectivity, robotics, natural resources alternatives and environment mitigation are the results of AI developments which have emerged from last few decades.

Understanding AI as embedded in these legal functions clarifies that its contribution to “development” is neither automatic nor normatively neutral. The critical question is not whether AI can, in the abstract, improve efficiency or prediction, but whether existing legal frameworks adequately govern who designs, owns and controls SDG relevant AI systems, whose data are used, who bears the risks of error and bias, and which institutions can be held to account when harm occurs.

4 A Legal–Functional Framework for AI and the SDGs

The basic philosophy and rationale associated to the 2030 Agenda is the transformation of our world.²⁸ In its 70th session, the General Assembly of UN adopted a resolution and stated in its preamble, to wit:

“This Agenda is a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom. We recognize that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development.

All countries and all stakeholders, acting in collaborative partnership, will implement this plan. We are resolved to free the human race from the tyranny of poverty and want and to heal and secure our planet. We are determined to take the bold and transformative steps which are urgently needed to shift the world on to a sustainable and resilient path. As we embark on this collective journey, we pledge that no one will be left behind.

The 17 Sustainable Development Goals and 169 targets which we are announcing today demonstrate the scale and ambition of this new universal Agenda. They seek to build on the Millennium Development Goals and complete what they did not achieve. They seek to realize the human rights of all and to achieve gender equality and the empowerment of all women and girls. They are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental.

²⁴ Yablonsky, ‘Multidimensional Data-Driven Artificial Intelligence Innovation’ [2019] (9) (12) *Technology Innovation Management Review* 16

²⁵ Solanki, ‘Advancements in Artificial Intelligence: A Comprehensive,’ [2024] (2) (1) *International Journal of Artificial Intelligence Research and Development (IJAIRD)* 53-64

²⁶ Nguyen, Nawara and others, ‘Connecting the indispensable roles of IoT and artificial intelligence in smart cities: A survey’ [2024] (2) *Journal of Information and Intelligence* 261-285

²⁷ Ullah, Anwar and others, ‘Smart cities: the role of Internet of Things and machine learning in realizing a data-centric smart environment’ [2024] (10) *Complex & Intelligent Systems* 1607

²⁸ United Nations, ‘Transforming Our World: The 2030 Agenda for Sustainable Development’ [2023] 5

The Goals and targets will stimulate action over the next 15 years in areas of critical importance for humanity and the planet,” (UNGA, 2015).

It is clear from the preamble of the resolution that the United Nations mandate in setting these goals and objectives is to save the world from human existential challenges that have bedeviled human race, and if these goals are to be realized and met by the year 2030, particularly as the globe moves towards a sustainable development trajectory, the deployment, use and involvement of science and technology through Artificial Intelligence is imperative.²⁹

4.1 Assessing the UNSDGs and the role of AI in achieving the goals by 2030

The UNSDGs were adopted in 2015³⁰ and it is expected and/or envisaged that by 2030, these goals shall terminate extreme poverty, inequality, denial of adequate access to justice and inequality before the law.³¹ Additionally, these goals will address the climate change challenges and environmental degradation and slow global economic development.³² The seventeen SDGs were finalized by UN member states to ensure that everyone lives in peace and prosperity under the protection of the law.³³ Although some member nations of the UN have achieved several of these goals after the adoption of the 2030 agenda,³⁴ it is however noted that some member countries still need to innovate in data gathering, analysis, and decision-making to harness the stated objectives.³⁵ In this regard, financial assistance is inevitable if the stated targets are to be met as soon as possible.³⁶

The SDGs rely on indicators and statistical reporting to guide policy and enable scrutiny. Yet, as noted in the Introduction, many states lack timely, comparable data for key goals. AI enabled systems ranging from satellite imagery and mobile phone metadata analysis to automated text mining of administrative records are increasingly promoted as tools to fill these gaps. This creates distinct legal challenges.

²⁹ Ziemba, Duong, Ejidys and others, ‘Leveraging artificial intelligence to meet the sustainable development goals’ [2024] (46) *Journal of Economics and Management* 508-583

³⁰ Hongbo, ‘Global Sustainable Development Report 2015 Edition Advance Unedited Version’ [2015] *USG for Economic and Social Affairs* 3

³¹ United Nations, ‘The 2030 Agenda and the Sustainable Development Goals An opportunity for Latin America and the Caribbean’ [2018] 7-75

³² Calzadilla, ‘The Sustainable Development Goals, Climate Crisis and Sustained Injustices’ [2021] (11) (1) *Oñati Socio-Legal Series* 285

³³ Hwang and Kim, ‘UN SDGs and A Handbook for Youth’ [2019] 6

³⁴ Emah, ‘A Mid-Term Review of Nigeria’s Progress towards Achieving the Sustainable Development Goals’ [2023] (3) (3) *AKSU Journal of Administration and Corporate Governance* 35-44

³⁵ United Nations, ‘The Sustainable Development Goals Report 2024’ [2024] 3-44

³⁶ Vorisek and Shu Yu, ‘Understanding the Cost of Achieving the Sustainable Development Goals’ [2020] *World Bank Group* 5

First, the use of personal and sensitive data for SDG monitoring engages data protection and privacy norms, including requirements of lawfulness, purpose limitation, data minimization, and security. In many jurisdictions, especially in Africa, comprehensive data protection laws and independent supervisory authorities are either new or absent, creating enforcement gaps when AI driven SDG projects are rolled out through pilot schemes or donor funded platforms.

Secondly, where AI systems are used to generate “official” indicators, questions arise about methodological transparency and contestability. Individuals and affected communities may have limited ability to challenge how they are classified or whether algorithmic proxies accurately reflect lived realities, yet these classifications can influence resource allocation, eligibility for programs, or international assessments of SDG progress.

Thirdly, the growing reliance on proprietary AI and data infrastructures often provided by foreign technology firms raises issues of sovereignty over SDG relevant data, long term access for public authorities, and the risk of dependency if contractual arrangements do not secure public control over core datasets and models. A critical legal agenda must therefore link AI enabled data innovations to clear rules on ownership, access, retention and oversight

In assessing the role of AI in achieving the seventeen UNSDGs, the article discusses ten out of the seventeen goals in no particular order.

4.2 Goal 1: End poverty in all its forms everywhere

Prevention and eradication of abject poverty is one of the goals of UN come 2030³⁷ and the engagement of AI is key in this regard.³⁸ AI is endowed with the potentials of transforming industries and work-related space to provide comfortable life for everyone globally.³⁹ At present Artificial Intelligence is being employed to combat poverty in many countries worldwide.⁴⁰ So many factors such as lack of resources,

³⁷ Balogun, ‘Sustainable Development Goals (SDGs) and the Challenges of Poverty Reduction in Nigeria’ [2023] (16) (2) *African Journal of Politics and Administrative Studies AJPAS* 683

³⁸ Kourdounouli, ‘Use of AI in the effort to eradicate extreme poverty’ [2024] A Thesis in the Field of Information Systems for the Degree of Master of Science in Information Systems Hellenic Open University iii

³⁹ Babu, ‘The Impact of artificial intelligence in the workplace and its effect on the digital wellbeing of employees’ [2024] (10) (4) *Journal for Studies in Management and Planning* 1-32

⁴⁰ Chitimira and Munedzi, ‘Exploring the Role of Artificial Intelligence In Eradicating Poverty And Enhancing Global Security in South Africa: A Regulatory Perspective’ [2024] (1) (43) *Euro Economica* 84

education and good health care are responsible for poverty,⁴¹ and so by understanding why these factors lead to poverty, AI comes handy to create targeted solutions that address these factors. For instance, AI can assist to fight poverty by making resources like training and medi-care available;⁴² in addition, by bringing people together with the resources they need, AI can help them escape or reduce their poverty level.⁴³

4.3 Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

In 2030, the UNSDGs intend to put an end to lack of food by making sure all people in vulnerable situations, including infants, to safe, nutritious and abundant food throughout the year,⁴⁴ as a result, agriculture is no exception from the march of automation,⁴⁵ and this is where Artificial Intelligence is an important technology in this trajectory. There are AI self-driving agricultural and/or farm equipment and machinery with the capacity to monitor and manage farms.⁴⁶ AI also watches over the development of new genetically modified crops.⁴⁷ This is what is referred to as infrastructural technological change.⁴⁸ Furthermore, there is the snowmobiles in Skolt Lapland, which has brought about wide effects in societal relations and in the distribution of both wealth and work through AI agricultural development.⁴⁹ It is therefore submitted that, AI as an enabler of the SDGs and if managed judiciously, will end hunger and achieve food security for all.⁵⁰

4.4 Goal 3: Ensure healthy lives and promote well-being for all at all ages

⁴¹ AO Benedict, 'Poverty, Access to Health Care Services and Human Capital Development in Nigeria' [2010] (4) (3a) *An International Multi-Disciplinary Journal, Ethiopia* 41-55

⁴² Lamem, 'Artificial intelligence for access to primary healthcare in rural settings' [2025] (5) *Journal of Medicine, Surgery, and Public Health* 1

⁴³ Valavanidis, 'Artificial Intelligence can Help Conventional Poverty-relief Projects Satellite images and data from mobile-phone networks can estimate the poverty of particular regions' [2025] *National and Kapodistrian University of Athens* 1

⁴⁴ Mangukiya and Sklarew, 'Analyzing three pillars of sustainable development goals at sub-national scales within the USA' [2023] *World Development Sustainability* 1-2

⁴⁵ Hoque, Azmirul and others, 'Automation and AI in Precision Agriculture: Innovations for Enhanced Crop Management and Sustainability' [2024] (17) (10) *Asian Journal of Research in Computer Science* 95

⁴⁶ Mim, Sultana and others, 'AI-Powered Autonomous Farming: The Future of Sustainable Agriculture' [2025] 930 (1) *European Journal of Theoretical and Applied Sciences* 11-31

⁴⁷ Javaid, Haleem and others, 'Understanding the potential applications of Artificial Intelligence in Agriculture Sector' [2023] (2) *Advanced Agrochem* 15-30

⁴⁸ A Weiss and PH Bimbaum, 'Technological Infrastructure and the Implementation of Technological Strategies' [1989] (35) (8) *Management Science* 1014-1026

⁴⁹ Peltto and Pertti, 'The snowmobile revolution: technology and social change in the Arctic' [1987] *Waveland Press* 1

⁵⁰ Azizi, 'The Prospect of Food Security with Artificial Intelligence' [2024] SSRN Electronic Journal; 1

Globally, one of the major challenges in the health industry or sector, is the dearth of health care or health service providers in terms of staff, particularly in third world countries.⁵¹ So many years ago, the World Health Organization released statistics of the decline of 4.3 million health providers, a situation which WHO identified as critical.⁵² Also, in 2016, WHO again, reported that there will be a fall of eighteen million medicare providers by 2030,⁵³ the year the 17 goals are expected to have been actualized. It is noted that there are no enough nursing staff,⁵⁴ but the lack of sufficient medical practitioners and tertiary-care staff is worse, even within advanced countries.⁵⁵ In many countries of the world, mitigating the shortage of health workers require many years due to the current medical-training and health equipment world-wide.⁵⁶ It was for this reason that the United Nations High Commission on Health Employment and Economic Growth (HEEG) advanced recommendations to solve the issues of health workers shortages through new technological innovations of healthcare services.⁵⁷

Artificial Intelligence has the potentialities and abilities to handle the need for experts in several health sectors and domains.⁵⁸ In addition, researchers, have further thrown their weights behind AI techniques with particular reference to deep learning,⁵⁹ which can assist in alleviating the severity in health workers shortage in several aspects, such as: prioritizing care to patients under the limitation of resources such as care staff, medical equipment, or hospital beds; estimating the probability of having or risk of developing a medical condition given a patient's family history or own historical data and examinations; monitoring patients and suggesting possible follow-ups, treatments,

⁵¹ Omoleke and Taleat, 'Contemporary issues and challenges of health sector in Nigeria' [2017] (5) (4) *Research Journal of Health Sciences* 210

⁵² Paula O'Brien and LO Gostin, 'Health Worker Shortages and Global Justice' [2011] *Milbank Memorial Fund*; 8.

⁵³ Tim, West and others, 'The Complexities of Physician Supply and Demand: Projections from 2016 to 2030' [2018] *Association of American Medical Colleges* 1-47

⁵⁴ Simoens, Villeneuve and others, 'Tackling Nurse Shortages in OECD Countries' [2005] *Organization for Economic Co-operation and Development* 6

⁵⁵ Umoren, Stephen, Olukotun and others, 'Enhancing the Acute Ward's Care Quality through a Safer Staffing Approach' [8] (1) *Journal of Health, Applied Sciences and Management* 96

⁵⁶ Naicker, Eastwood and others, 'Shortage of Healthcare Workers in Developing Countries—Africa' [2019] *Public Health* 1893

⁵⁷ Shamian, Tulenko and others, 'The UN High-Level Commission on Health Employment and Economic Growth: The Opportunity for Communities and their Primary Health Systems' [2017] (17) (3) *World Health & Population* 11-17

⁵⁸ Udegbe, Ebulue and others 'The role of artificial intelligence in healthcare: a systematic review of applications and challenges [2024] (4) (4) *International Medical Science Research Journal* 500-508

⁵⁹ Soori, Arezoo and others, 'Artificial intelligence, machine learning and deep learning in advanced robotics, a review' [2023] (3) *Cognitive Robotics* 54

or patient's outcome based on the patient's condition, its severity, its risk of degradation, and available alternative actions; more efficient and less costly education and training of additional care staff; and; Discovering more effective biomarkers and treatments.

Finally, the most remarkable future applications of AI in helping to actualize the 2030 UNSDGs Agenda with regard to the decline of health care providers are firstly: robotics surgery.⁶⁰ Secondly, the discovery of more proficient and precise biomarkers.⁶¹ Thirdly, treatments of patients,⁶² especially with the most recent landmark breakthrough by Alpha Fold in computational biology.⁶³

4.5 Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

As it stands now, there are no doubts that global training has great impact and importance for the advancement and development of the human race.⁶⁴ It is submitted however, that accessing qualitative training in the area of education and eradication of poverty are intertwined.⁶⁵ In poverty-ridden rural areas, education is highly expensive;⁶⁶ as a result, indigent citizens do not have the money to pay for elementary education for their wards.⁶⁷ With that being said, lack of elementary education is the challenge that the UN hopes to resolve through its SDGs Agenda 2030, on a global scale.⁶⁸ To this end, AI ensures training for one and all, especially through the advent of the mobile telephony to get to people who in the past do not have the ability to go

⁶⁰ Shahinpoor and Gheshmi, 'Surgery Smart Materials, Robotic Structures, and Artificial Muscles' [2015] *Taylor & Francis Group* 5

⁶¹ Batta, Patial, Sobti and others, 'Computational Biology in the Discovery of Biomarkers in the Diagnosis, Treatment and Management of Cardiovascular Diseases' [2024] (8) *Cardiology and Cardiovascular Medicine* 405-414

⁶² Bachina and Kanagala, 'Health revolution: AI-powered patient engagement' [2023] (24) (5) *International Journal of Chemical and Biochemical Sciences* 722-731

⁶³ Marcu, Tabirc, and Tangney, 'An Overview of Alpha fold's Breakthrough' (2022) *Frontiers Artificial Intelligence* 1-4

⁶⁴ Kiran, Kaur and others, 'An overview of Training and Development in Global Context' [2022] in book: *Emerging Trends in Agri business And General Management*; Himanshu Publications 1-14

⁶⁵ As Bey, 'How Access to Quality Education Can Foster Poverty Alleviation asnd Human Capital Development and Efficiency in Nigeria' [2020] A Master thesis submitted to The Università Degli Studi Di Torino 1-40

⁶⁶ Hannum, Emily, Adams and others, 'Beyond Cost: Rural Perspectives on Barriers to Education' [2008] *Gansu Survey of Children and Families Papers* 4

⁶⁷ Pecson, Maed and others, 'Financial Literacy among Indigent Families: Baseline for Financial Literacy Initiatives' [2019] (6) (5) *International Journal of Innovative Science, Engineering & Technology* 2348 – 7968

⁶⁸ Vladimirovaa and Le Blanc, 'How well are the links between education and other sustainable development goals covered in UN flagship reports? A contribution to the study of the science-policy interface on education in the UN system' [2015] *DESA Working Paper* 1

to school.⁶⁹ Artificial Intelligence could be adapted to alleviate lack of primary and/or elementary education globally.⁷⁰

4.6 Goal 5: Achieve gender equality and empower all women and girls through AI

The UNSDGs 2030 Agenda gives attention and embraces gender equality and the empowerment of all women and girls⁷¹ with a wider scope and quality in its vision for global development and when compared with the Millennium Development Goals (MDGs),⁷² Agenda 2030 comprehensively takes care of gender equality with a view to empowering women and girls.⁷³ Agenda 2030 stresses the role of the female gender as accelerators for various aspects of sustainable development.⁷⁴ The gender problem and its equality in particular, is perceived as a cross-cutting issues in the actualization and achievement of the SDGs⁷⁵ regardless of the fact of how they are taken into account. It is for the foregoing reason that fulfilling gender equality goal is a matter of one's rights⁷⁶ and is important to progress across all the goals and targets. Gender inequalities intertwine many other inequalities as it relates or concerns women,⁷⁷ such inequalities include but are not limited to unequal power share and favoritism against women,⁷⁸ as a result, the inequalities and favoritism against women will serve as a channel to address the root causes stalling or preventing the achievement of this goal for women and the girl child globally.⁷⁹

⁶⁹ Gocen and Aydemir, 'Artificial Intelligence in Education and Schools' [2020] (12) (1) *Research on Education and Media* 1

⁷⁰ Nur Fitria, 'Artificial Intelligence (Ai) In Education: Using Ai Tools For Teaching And Learning Process' [2021] *Proceeding Seminar Nasional & Call For Papers Cetak* 2654-5306

⁷¹ Filho, Kovaleva, Stella Tsani and others, 'Promoting gender equality across the sustainable development goals' [2023] *Environment, Development and Sustainability* 14177-14198

⁷² Ganu and Oni, 'Millennium Development Goals (MDGS) As Instruments for Development in Africa' [2013] *Arabian Journal of Business and Management Review* iii

⁷³ United Nations, 'The 2030 Agenda for Sustainable Development: A new roadmap to achieve gender equality and the empowerment of women and girls' [2016] *Economic and Social Commission for Western Asia (ESCWA)*; 9-18.

⁷⁴ United Nations, 'Gender Equality as an Accelerator for Achieving the Sustainable Development Goals' [2018] *United Nations Development Programme* 8

⁷⁵ L Filho, Walter and others, 'Promoting gender equality across the sustainable development goals, Environment, Development and Sustainability' [2022] (25) (12) *Springer Netherlands, Dordrecht* 14177-14198

⁷⁶ United Nations, 'Women's Rights are Human Rights' [2014] *United Nations Human Rights* 3

⁷⁷ Hua, 'Gender Inequality: A Multi-Perspective Analysis' [2024] (42) (1) *Education Psychology and Public Media* 200-204

⁷⁸ Jayachandran, 'The Roots of Gender Inequality in Developing Countries' [2015] (7) *Annual Review of Economics* 63-88

⁷⁹ Organisation for Economic Co-operation and Development, 'Gender Equality and the Empowerment of Women and Girls: DAC Guidance for Development Partners' [2022] *OECD Publishing, Paris* 13

4.6.1 How AI can contribute to achieving SDG 5

AI can assist in achieving UNSDG 5 (Gender Equality) by using data analysis to identify gender disparities, developing AI-powered tools for education and healthcare, and promoting equitable access to resources and opportunities, ultimately fostering a more inclusive and equal society. AI can assist in achieving the UNSDGs 5 in the following ways:

1. Data Analysis and Disparities Identification:

AI can analyze large datasets to pinpoint areas where gender inequalities persist, such as in employment, education, healthcare, and political representation. Additionally, AI models can predict outcomes based on gender, helping to identify potential biases and inequalities before they occur. With that being said, AI can track progress towards SDG 5 by analyzing data on gender equality indicators, ensuring that efforts are effective and that no ground is lost.

2. AI-Powered Tools for Education and Healthcare:

AI can personalize learning experiences for girls and women, ensuring that they receive the support they need to succeed in education. AI-powered tools can improve healthcare access for women in remote or underserved areas, such as through telemedicine and AI-driven diagnostics. AI can identify women at risk of violence or exploitation, enabling early intervention and support services.

3. Promoting Equitable Access to Resources and Opportunities:

AI can help identify women who are excluded from financial services and provide them with access to loans and other financial products. AI can support women entrepreneurs by providing them with access to mentorship, training, and resources. AI can help women acquire new skills and knowledge, making them more competitive in the job market.

4. Addressing bias and discrimination:

AI algorithms can be trained to detect and mitigate bias, ensuring that AI systems are fair and equitable

4.7 Goal 7: Access affordable, reliable, sustainable modern energy for everyone

Energy generation, utilization and/or consumption and distribution is one of the areas in which it is intended that Artificial Intelligence will positively affect all the

UNSDGs,⁸⁰ reason being that, the effects of Artificial Intelligence on energy tools cannot be neglected.⁸¹ AI is connected to innovation and infrastructural development.⁸² One of the major or principal benefits that AI brings to achieve sustainable and modern energy for all is the efficient systems of production, planning, and distribution of energy,⁸³ and it is argued that if energy is properly, sufficiently, equally and adequately disseminated to developing nations of the world through AI channels,⁸⁴ the effects will be of more importance as better access to energy by all will bring ripple effects as it relates particularly to UNSDG goals 8 and 9: improving infrastructure, promoting industry, and thus leading to economic growth.⁸⁵ AI can assist in the development of quality, reliable, sustainable and resilient infrastructure to support economic development and human well-being,⁸⁶ with attention on affordable and equitable access to modern energy for all.⁸⁷

4.8 Goal 10: Reduce inequality in all nations through AI

AI can ensure a just and inclusive society as a channel through which inequalities among and between nations of the world can be reduced.⁸⁸ This is why the UNSD goal number ten recognizes the reduction in inequalities by 2030.⁸⁹ More so, the UNSDGs recognizes that there are rough inter-linkages covering several development areas and different indices in education, health, housing and social protection, as well as access to justice and information all over the world. No one should be left behind

⁸⁰ Lainjo, 'The Role of Artificial Intelligence in Achieving the United Nations Sustainable Development Goals' [2024] (17) (5) *Journal of Sustainable Development* 30

⁸¹ Nepal, Zhao, Dong and others, 'Can artificial intelligence technology innovation boost energy resilience? The role of green finance' [2025] (142) *Energy Economics* 1

⁸² Mwebaze, Mwasaru, Mzurikwao and others, 'AI and Innovation infrastructure capacity and data panel' [2023] *The Center for Intellectual Property and Information Technology Law (CIPIT)* 1-6

⁸³ Awogbemi, Kallon and Kumar, 'Contributions of artificial intelligence and digitization in achieving clean and affordable energy' [2024] (22) *Intelligent Systems with Applications* 1

⁸⁴ Wang, Li and Li, 'Integrating artificial intelligence in energy transition: A comprehensive review' [2025] (57) *Energy Strategy Reviews* 1

⁸⁵ Zeb-Obipi and Kpurunee, 'Exploring Means Of Promoting Sustainable Development Goal 8 (Decent Work And Economic Growth) In Nigeria: Human Resource Management Perspective' [2023] (3) (2) *African Journal Of Business And Economic Development* 1

⁸⁶ D Fraisl, L See, F Fonteneau and others, 'AI through the lens of official statistics and the Sustainable Development Goals: The benefits and risks' [2024] *PARIS21 Discussion Paper* 5

⁸⁷ Reddy, 'Access to modern energy services: An economic and policy framework' [2015] *Renewable and Sustainable Energy Reviews* 47

⁸⁸ Nahar, 'Modeling the effects of artificial intelligence (AI)-based innovation on sustainable development goals (SDGs): Applying a system dynamics perspective in a cross-country setting' [2024] (201) *Technological Forecasting & Social Change* 1

⁸⁹ Kufeoglu 'SDG-10: Reduced Inequalities' [2022] in book: *Emerging Technologies, Value Creation for Sustainable Development* 371-384

in the agenda 2030;⁹⁰ to this end, all structural issues that create and perpetuate inequalities must be addressed head-on and attention paid to the most vulnerable through AI.⁹¹ Providing services and the ways to create, maintain good life and ensure quality of life for all people of the world is top most in the UNSDGs,⁹² this is why the UN propagates and promotes inclusive growth through its social protection⁹³ and poverty reduction policies and programmes that target the most vulnerable in society globally.

4.9 Goal 13: Combat climate change and its impacts

The need to take immediate steps on environmental and/or climate change SDG 13, as it affects food production system, are crucial.⁹⁴ As a result, SDG 13 have to fall into the same arrangement with the Paris Agreement,⁹⁵ given that United Nations Framework Convention on Climate Change (UNFCCC)⁹⁶ negotiations set the framework for climate change actions. Climate change is viewed by several people as the defining challenge in the world presently,⁹⁷ no wonder therefore that the UNSDGs number 13 concerns the urgent action to combat climate change and its impacts.

Research have revealed that the impacts of climate change on crop yields will decline by 70% by 2030s,⁹⁸ this is why the clamor to take urgent steps by the member states to achieve SDG 13 is imperative.⁹⁹ In some regions of the world, climate extremes in terms of excessive heat or excessive rain fall, may exceed critical thresholds for

⁹⁰ Mensah, Mensah and other, 'Understanding and Promoting the 'Leaving No One Behind' Ambition Regarding the Sustainable Development Agenda: A Review [2022] 11 (1) *Visegrad Journal on Bioeconomy and Sustainable Development* 6-15

⁹¹ Farahani and Ghasemi, 'Artificial Intelligence and Inequality: Challenges and Opportunities' [2024] *Qeios* 1

⁹² Shayan, Mohabbati-Kalejahi and other, 'Sustainable Development Goals (SDGs) as a Framework for Corporate Social Responsibility' [2022] (14) *Sustainability* 2

⁹³ United Nations, 'Promoting Inclusion through Social Protection' [2018] *United Nations Publications*; iii.

⁹⁴ Campbell, Hansen and others, 'Urgent action to combat climate change and its impacts (SDG 13): transforming agriculture and food systems [2018] (34) *Current Opinion in Environmental Sustainability* 3-20

⁹⁵ Jayaraman, 'The Paris Agreement on Climate Change: Background, Analysis, and Implications' [2016] *The Paris Agreement on Climate Change* 1

⁹⁶ United Nations, 'United Nations Framework Convention on Climate Change' [1992] 2

⁹⁷ Goklany, 'Is Climate Change The "Defining Challenge of Our Age"? [2009] (20) (3) *Multi-Science Publishing* 279

⁹⁸ Waqas, Naseem and others, 'A comprehensive review of the impacts of climate change on agriculture in Thailand' [2025] (3) *Farming System* 2

⁹⁹ United Nations, 'Sustainable Development Goal 13' [2024] 1-9

agriculture and so, effective mechanisms to reduce food production risk has to be in place.¹⁰⁰

It is worthy to note that climate change has affected food systems already in most parts of the world like the African continent,¹⁰¹ and it is further envisaged that agriculture will suffer and be impacted the most by climate change.¹⁰² The resultant negative effect of climate change on food systems will be widespread, complex, geographically and temporally varied if not properly managed by the United Nations.¹⁰³ Thus, to achieve the SDG 13 many actions are required or needed for adaptation and mitigation in food systems.¹⁰⁴ However, the principal challenge is that food systems are connected to many of the SDGs and there are likely to be trade-offs amongst SDGs through food system actions,¹⁰⁵ with trade-offs particularly challenging in developing countries where climate change vulnerability is very high.¹⁰⁶

4.10 Goal 17: strengthen global partnership for sustainable development finance

The COVID-19 pandemic brought about great recession,¹⁰⁷ which led to a 3% economic contraction in the world in the year 2020;¹⁰⁸ to this end, achieving the UNSDGs would require strong international cooperation among member states and Artificial Intelligence-driven connections for problem-solving is needed in this regard.¹⁰⁹ In addition, actualizing the UNSDGs 17 requires the strengthening of

¹⁰⁰ Furtak and Wolinska, 'The impact of extreme weather events as a consequence of climate change on the soil moisture and on the quality of the soil environment and agriculture – A review' [2023] 321 *Catena* 1

¹⁰¹ Sirba and Chimdessa, 'Review of Impact of Climate Change on Food Security in Africa' [2021] 8 (3) *International Journal of Research and Innovations in Earth Science* 40

¹⁰² Bello, Ganiyu, Wahab and others, 'Evidence of Climate Change Impacts on Agriculture and Food Security in Nigeria' [2012] (2) (2) *International Journal of Agriculture and Forestry* 49

¹⁰³ Ramona, 'Climate Change and Emerging Food Safety Issues: A Review' [2021] (84) (11) *Journal of Food Protection* 1884-1897

¹⁰⁴ Herrero, 'Articulating the effect of food systems innovation on the Sustainable Development Goals' [2021] (50) (1) *The Lancet Planetary Health* 50-62

¹⁰⁵ Sporchia, Antonelli, Aguilar-Martínez and others, 'Zero hunger: future challenges and the way forward towards the achievement of sustainable development goal 2' [2024] (7) (10) *Sporchia et al. Sustainable Earth Reviews* 1

¹⁰⁶ Adger, Huq, Brown and others, 'Adaptation to Climate Change in the Developing World' [2003] 3 (3) *Progress in Development Studies* 179-19

¹⁰⁷ Moreira and Hich, 'COVID-19, the Great Recession and social policy: Is this time different?' [2020] *Wiley* 1

¹⁰⁸ United Nations, 'COVID-19 global economic recession: Avoiding hunger must be at the centre of the economic stimulus' [2020] *Food and Agriculture Organization of the United Nations* 1

¹⁰⁹ Nasir, Javed, Gupta and others, 'Artificial intelligence and sustainable development goals nexus via four vantage points' [2023] (72) *Technology in Society* 1

domestic resource mobilization through support of developed countries to third world nations,¹¹⁰ to improve local or national ability for tax and other money collection.¹¹¹

Partnerships is a vital tool in the implementation and actualization of the UNSDGs 2030,¹¹² reason being that cooperation can advance growth by relying on the strengths and reach of all member states involved in this project. Partnership permits for expansion of achievable projects and programs, and in the light of the UNSDGs, cooperation plays a major role in effective implementation, due to the ability to harness synergies of actors or players from different industries depending on myriads degrees of expertise and experience. By drawing from the resources, capacities and skills of different stakeholders, partnerships with the inclusion of AI will contribute immensely to create alliances that are instrumental for the successful execution of the 2030 SDGs.¹¹³

5 Using Artificial Intelligence to implement and achieve the 17 UNSDGs

AI has the potentiality to advance and achieve the implementation of the 17 UNSDGs.¹¹⁴ This can be done by creating and harnessing creative channels and expanding the effectiveness of processes directed at actualizing these goals.¹¹⁵ Considering the challenges of the UNSDGs,¹¹⁶ Artificial Intelligence can offer significant and valuable assistance in the implementation of these goals, particularly in helping to overcome the difficulties experienced in pursuing both practical and academic tasks of the goals.¹¹⁷

Researchers have demonstrated that AI can contribute and achieve the 17 UNSDGs by making reliable information accessible, support well-balanced decision-making,

¹¹⁰ Nagata, 'Domestic Resource Mobilization for Supporting Developing Members to Achieve Sustainable Development Goals' [2021] *Asian Development Outlook* 1

¹¹¹ Maltais, Weitz, Persson, 'SDG 17: Partnerships for the Goals. A Review of Research Needs' [2018] Technical annex to the Formas report Forskning för Agenda 2030: Översikt av forskningsbehov och vägar framåt. Stockholm Environment Institute, Stockholm 5

¹¹² Filho, Dibbern, Dinis and others, 'The added value of partnerships in implementing the UN sustainable development goals' [2024] 438 *Journal of Cleaner Production* 1

¹¹³ Stott and Murphy, 'An Inclusive Approach to Partnerships for the SDGs: Using a Relationship Lens to Explore the Potential for Transformational Collaboration' [2020] 12 *Sustainability* 1

¹¹⁴ Kulkov, Kulkova, Rohrbeck and others, 'Artificial intelligence - driven sustainable development: Examining organizational, technical, and processing approaches to achieving global goals' [2024] (32) (3) *Sustainable Development* 2253-2267

¹¹⁵ Ndubuisi-Okolo, 'Harnessing Artificial Intelligence to Achieve Sustainable Development Goals: Opportunities, Challenges, and Ethical Considerations' [2024] (9) (2) *Journal of Economics and Trade* 27-38

¹¹⁶ Sophia, 'Sustainable Development Goals (SDGs) and the Challenges of Poverty Reduction in Nigeria' [2023] 16 (2) *African Journal of Politics and Administrative Studies (AJPAS)* 682-693

¹¹⁷ Lampropoulos, Garzón, Misra and others, 'The Role of Artificial Intelligence of Things in Achieving Sustainable Development Goals: State of the Art' [2024] (24) *Sensors* 1

execute data-based policies, give priority to actions, and optimizing the allocation of resources.¹¹⁸ It has been discovered that the UNSDGs numbers 3, 7 and 16.3 are the most important areas where the applications of AI in the achievement of SDGs are not contestable.¹¹⁹ Furthermore, Artificial Intelligence assists in the use of biomedical¹²⁰ to monitor patients' health, genetic algorithms, optimization techniques; and machine learning methodologies that aid the processing of huge number of data for diagnostic purposes.

The literature confirms that AI is widely promoted as a catalyst for achieving multiple SDGs, particularly in health, energy, agriculture and public administration. At the same time, AI is repeatedly described as unable, on its own, to deliver the SDGs, and as requiring coordinated human institutions, resources and safeguards

6.0 Benefits to Africa continent from the UNSDGs through Artificial Intelligence

It is worthy to note that there is scarcity of data on all areas of AI in the continent of Africa¹²¹ and many of the available information are also not trustworthy.¹²² If Africa stands any chances of benefiting from the Agenda 2030, it is important to put in place African policy responses, at the national, regional, continental and international levels, directed at ensuring that the Africa's innovators, enterprises, communities, governments and all stakeholders are able to harness or reap the benefits of AI.¹²³ To harness the benefits of AI in Africa, sound policy approaches by African leaders are required to enable the continent construct formidable ecosystems that are inclusive, socially beneficial and adequately integrated with the present realities on ground in Africa.¹²⁴

¹¹⁸ Mondejar, Avtar and others, 'Digitalization to achieve sustainable development goals: Steps towards a Smart Green Planet' [2021] *Science of the Total Environment* 2

¹¹⁹ Jungwirth and Haluza, 'Artificial Intelligence and the Sustainable Development Goals: An Exploratory Study in the Context of the Society Domain' [2023] 16 *Journal of Software Engineering and Applications* 91-112

¹²⁰ S Naskar, S Sharma, K Kuotsu and others, 'The biomedical applications of artificial intelligence: an overview of decades of research' [2025] *Journal of Drug Targeting* 1

¹²¹ Arthur Gwagwa and others, 'Artificial Intelligence (AI) Deployments in Africa: Benefits, Challenges and Policy Dimensions' (2020) 26 *The African Journal of Information and Communication* 2

¹²² Damian Okaibedi Eke and others, 'African Perspectives of Trustworthy AI: An Introduction' (2025) in book *Trustworthy AI* 1-17

¹²³ Austin Muswere, 'Is Africa Capable of Achieving the Sustainable Development Goals in the 2020-2030 Decade of Programming?' (2020) 10 (4) *Journal of Public Administration and Governance* 53

¹²⁴ Arthur Gwagwa, Erika Kraemer-Mbula, Nagla Rizk and others, 'Artificial Intelligence (AI) Deployments in Africa: Benefits, Challenges and Policy Dimensions (2020) 26 *The African Journal of Information and Communication (AJIC)* 1-28

The gains of AI are readily apparent in some African countries.¹²⁵ For instance, there has been the use of creative AI in countries like Kenya, Nigeria, and South Africa to work in areas of health, agriculture, fintech, public transportation, and language translation.¹²⁶ In Uganda, beneficial AI are being used in diagnostics, public service delivery, wildlife conservation, crop monitoring, hydro control management, business development and monetary services.¹²⁷ In Accra Ghana, Google's AI Laboratory has experimented with compressed algorithms that can run on the computing power of mobile phones.¹²⁸ It is also on record that the International Business Machine's mobile open source, the Hello Tractor platform has provided AI-based on-demand tractor access to farmers in Nigeria.¹²⁹ Africa has already started experiencing growth in the deployment of AI in several areas of endeavour¹³⁰ and if AI properly harnessed through the management and implementation of algorithms, AI promises a futuristic and big huge opportunity for the continent of Africa.¹³¹

The advancement and boom in Africa's technology is linked to fintech and AI-focused,¹³² as a result, Artificial Intelligence technology has grown and continues to grow all over Africa¹³³ and there are over 2,400 companies that have specialized in AI

¹²⁵ Censrehurd, Zemoh Yannick Tangmoh and Pefela Gildas Nyugha, 'The importance of artificial intelligence to Africa's development process: Prospects and challenges' (2024) 5 (2) *International Journal of Communication and Information Technology* 17-23

¹²⁶ Ade-Ibijola, Okonkwo, 'Artificial Intelligence in Africa: Emerging Challenges' (2023) in: Eke, D.O., Wakunuma, K., Akintoye, S. (eds) *Responsible AI in Africa. Social and Cultural Studies of Robots and AI*. Palgrave Macmillan

¹²⁷ Nalubega and Uwizeyimana, 'Artificial intelligence technologies usage for improved service delivery in Uganda', (2024) 12 (1) *Africa's Public Service Delivery and Performance Review* 1-11

¹²⁸ Amegadzie, Kanubala, Cobbina, Acquaye and Longe, 'State and Future Prospects of Artificial Intelligence (AI) in Ghana. Proceedings of the 27th iSTEAMS Multidisciplinary Innovations & Technology Transfer (MINTT) Conference' (2021) 1-10

¹²⁹ Van Jones, 'How Hello Tractor's Digital Platform is enabling the Mechanization of African Farming' (2018) 1

¹³⁰ African Union, 'Continental Artificial Intelligence Strategy Harnessing AI for Africa's Development and Prosperity' (2024) 1

¹³¹ Agyemang Kwasi Sampene, Fredrick Oteng Agyeman, Brenya Robert and John Wiredu, 'Artificial Intelligence as a Path Way to Africa's Transformation' (2022) 9 (1) *Journal of Multidisciplinary Engineering Science and Technology (JMEST)* 1-14

¹³² Klemens, Hassan and Laurent, 'Impact of Generative AI on FINTECH in Africa' (2024) 10 (1) *Yıldız Social Science Review* 43-53

¹³³ Ibomoie Domor Mienye, Yanxia Sun and Emmanuel Ileberi, 'Artificial intelligence and sustainable development in Africa: A comprehensive review' (2024) 18 *Machine Learning with Applications* 1

in Africa;¹³⁴ it is estimated that technology will contribute about a 1.2 billion dollars to Africa's GDP by 2030.¹³⁵

7 Towards Agenda 2030 Timeline for the Achievement of the UNSDGs

The decade of action between 2020 and 2030 is designated to accelerate solutions for the vision of meeting and achieving the 2030 Agenda goals with a view to actualizing a more sustainable world and heal the world but the vision encountered the global pandemic COVID-19 resulting into a significant drawback.¹³⁶ Regardless of the forgoing, the UN is still committed to hit the target of 2030.¹³⁷ In this regard, the UNESCO is throwing its weight behind countries in ensuring positive creativity, through its work to ensure that everyone has the expertise needed to become responsible, green, global citizens; to advance science, technology and innovation for the development of sustainable solutions to mitigate and adapt to climate change and other global challenges.¹³⁸

The United Nations strategy to promote peace, prosperity, and stop poverty with a view to protecting the planet has attracted a global recognition and attention because it is directed towards the sustainability of our world in years to come.¹³⁹ Looking towards the Agenda 2030 master plan, it stands to reason therefore, that contribution from all strata of society, governments, business, industry and people is required.¹⁴⁰ In fact, the entire process demand agreement, partnership and innovation to be successful.¹⁴¹ Transforming the entire universe is the primary objective of the UN 2030 Agenda for Sustainable Development; it is for this reason the 2030 Agenda serves as a world point of reference for the transition to sustainable development and

¹³⁴ Centre for Intellectual Property and Information Technology Law, 'The State of AI in Africa Report 2023' (2023) 1-25

¹³⁵ Abdessalam Jaldi, 'Artificial Intelligence Revolution in Africa: Economic Opportunities and Legal Challenges' (2023) 3 *Policy Center for the New South* 5

¹³⁶ Kalterina Shulla and Water Leal Filho, 'Achieving the UN Agenda 2030: Overall actions for the successful implementation of the Sustainable Development Goals before and after the 2030 deadline' (2023) *European Parliament* 2

¹³⁷ United Nations, 'Transforming Our World: The 2030 Agenda for Sustainable Development' (2015) 1-41

¹³⁸ UNESCO, 'UNESCO moving forward the 2030 Agenda for Sustainable Development' (2017)

¹³⁹ Center for International Knowledge on Development, 'China's Progress Report on Implementation of the 2030 Agenda for Sustainable Development' (2021) 7

¹⁴⁰ International Organization of Employers, 'IOE Overview on Implementation of The 2030 Agenda for Sustainable Development' (2016) 1-12

¹⁴¹ Marianne Beisheim and Anne Ellersiek, 'Partnerships for the 2030 Agenda for Sustainable Development' (2017) *SWP Research Paper* 5

‘governance through goals’ approach must be adopted if the 2030 Agenda and the SDGs are to be realizable.¹⁴²

Looking towards the Agenda 2030-time line requires processes of radical societal transformation and support through active synergy among state and non-state players at all stages of political sphere.¹⁴³ To this end, support is needed at global, regional, national, sub-national levels, in different spheres of the society such as politics, from the economic sector and across other departments like energy, transport system, agriculture and education.

The 2030 time frame for achieving the UNSDGs further requires everyone to cope with the data revolution for sustainable development;¹⁴⁴ in this connection, there is need to integrate new and traditional data to produce high-quality detailed information determined by its completeness, uniqueness, timeliness, validity, accuracy, and consistency, is vital for adequate decision making; which ultimately gives rise to the advancement to national development narratives for reaching the goals and targets of the sustainable development agenda.

8 Challenges confronting the achievement of the UNSDGS 2030

The actualization and achievement of the UNSDGs by year 2030 comes with a lot of challenges just as it has several opportunities, particularly for developing countries in Africa and other third world countries.¹⁴⁵ One of the major challenges facing UNSDGs is the financial implications to implement the goals, estimated to be high even though it has some positive benefits in the long run.¹⁴⁶

Countries are different from one another and nations have their peculiarities and different perspectives; as a result, it should be remembered when making plans and policies for developing nations of the world that the main obstacles that require surmounting to achieve the SDGs in Low Develop Countries (LDCs) are monetary,

¹⁴² Frank Biermanna, Norichika Kanieb and Rakhyun Kim, ‘Global governance by goal-setting: the novel approach of the UN Sustainable Development Goals’ (2017) *Current Opinion in Environmental Sustainability* 26–31

¹⁴³ Ana Paula Aguiar, Lars Berg, Avit Bhowmik, John Biberman and others, ‘Transformations to Achieve the Sustainable Development Goals. Report prepared by e World in 2050 initiative’ (2018) *International Institute for Applied Systems Analysis (IIASA)* 7

¹⁴⁴ United Nations Sustainable Development Groups, ‘Foundational Primer On The 2030 Agenda for Sustainable Development’ (2017) 7

¹⁴⁵ Rotimi Jaiyesimi, ‘The Challenge of Implementing the Sustainable Development Goals in Africa: The Way Forward’ (2016) 20 (3) *African Journal of Reproductive Health* 27

¹⁴⁶ United Nations, ‘The Sustainable Development Goals Report 2021’ (2021) 3

sustainable peace, ability to measure progress and responsibility;¹⁴⁷ this way, the SDGs will assume all inclusive and multiple mechanisms by mobilizing actors in the first and third world nations.¹⁴⁸ In addition to the foregoing challenges in achieving the 2030 goals, following challenges are further identified:

- a. Competing interest and corruption: when administrators of a country's resources have competing or selfish interest it affects the achievement of the SDGs, because any stakeholder with a contrary view to achieving the SDGs will frustrate the effort of others towards achieving it;¹⁴⁹
- b. Accountability and monitoring of progress: this poses a serious threat to the achievement of the SDGs, lack of monitoring to make sure that proposed plans made towards the goals actualization is achieved;¹⁵⁰
- c. Lack of quality infrastructure:¹⁵¹ This hinders the achievement of the SDGs, because to achieve the SDGs an adequate infrastructure has to be in place, advance information technology as well;
- d. Lack of adequate institutions: weak institutional capacity can hinder achievement of the SDGs¹⁵² because institutional capacity goes beyond education and availability of professionals; it includes the government capacity, businesses, NGOs, and private individuals;
- e. Lack of social inclusion: This include wide spread regional disparities and urban-rural gaps, gender inequality between men and women;¹⁵³
- f. Lack of effective leadership: Absence of coordinated partnerships, investments, implementation, and indicators with effective data collection.

¹⁴⁷ Matthieu Boussichas and Vincent Nossek, 'Statistical Assessment of the SDGs in the LDCs and other Vulnerable Countries' (2014) *Fondation Pour Les Études Et Recherches Sur Le Développement International* 6

¹⁴⁸ Kenya Vision 2030, 'SDGS Recovery And Acceleration Strategy (2022 - 2030)' (2022) The National Treasury and Planning Kenya iii

¹⁴⁹ Gallego-Álvarez, Nieto-Librero and Martín-Gallego, 'Sustainable Development Goals and Corruption: An International Situation Analysis Through the Application of a Three-Way Multivariate Analysis' (2025) *Sustainability* 2

¹⁵⁰ Lauwo, Azure and Hopper, 'Accountability and governance in implementing the Sustainable Development Goals in a developing country context: evidence from Tanzania' (2022) 35 (6) *Accounting, Auditing & Accountability Journal* 2

¹⁵¹ Musa Abdullahi Sakanko, Joseph David and fiyanu Umma Yahaya, 'Infrastructure and Sustainable Development Goals (SDGs) in Nigeria in book: Fiscal Federalism and Infrastructural Development in Nigeria' (2022) Publisher: Kabod Publishing 147-159

¹⁵² Barbier and Burgess, 'Institutional Quality, Governance and Progress towards the SDGs' (2021) *Sustainability* 1

¹⁵³ Dugarova Esuna, 'Social inclusion, poverty eradication and the 2030 agenda for sustainable development' (2015) *United Nations Research Institute for Social Development* iii

Leadership is essential for progress in relation to policy change, legislation, investment, implementation, advocacy, and popular representation.¹⁵⁴

The challenges as stated above are identified because achieving the UNSDGs Agenda 2030 and to adopt a global post-2015 development plan with sustainable growth as its principal objectives, all member states both at national, regional and international space need to recognize an outstanding change which is needed to address the evolving obstacles of sustainable development.

9 Opportunities in achieving the 2030 UNSDGs through AI

There are opportunities in achieving the sustainable development goals.¹⁵⁵ It is noted however that these opportunities can happen only through the collective commitment of leaders, who have the conviction, commitment and hard work to the common progress of Agenda 2030, assisted by improved AI, science and technology.¹⁵⁶ Also, the interconnectedness of all the 17 SDGs may seem complex to attain, but they all demonstrate complementary benefits from specific goals and targets. For instance, putting a stop to poverty, women and the girl child inequality, and good climate change, access to justice and clean drinking water and sanitation would enhance health, leading to improved nutrition and well-being. For all of these goals to remain a fulcrum in the post-2015 SDGs, they all need to be convincing in each of the levels of sustainable development economic, social, environmental, justice, poverty because the evolvement of this nascent sustainability system offers an unequalled benefit all over the world.

The transformative actions of Agenda 2030 will give the chance to receive a back-up by multi-stakeholder partners:¹⁵⁷ government, private organizations, international organizations, parliaments, civil society, local authorities, trade unions, research and educational institutions. However, it is argued that, the success of such partnerships will primarily and largely depend on assigning specific roles and responsibilities to

¹⁵⁴ Ridwan Islam Sifat, 'Role of Leadership for Achieving Sustainable Development Goals' (2019) 14 (3) *GIS Business* 5

¹⁵⁵ Leora Klapper, Mayada El-Zoghbi and Jake Hess, 'Achieving the Sustainable Development Goals The Role of Financial Inclusion' (2016) *Consultative Group to Assist the Poor* 1

¹⁵⁶ United Nations Educational, Scientific and Cultural Organization, 'Artificial Intelligence for Sustainable Development' (2019) 11

¹⁵⁷ Oscar Widerberg, Cornelia Fast, Philipp Partberg and others, 'Multi-stakeholder partnerships for the SDGs: is the "next generation" fit for purpose?' (2023) 23 (2) *International Environmental Agreements* 1-7

major actors and advanced nations of the world with a view to ensuring accountability.¹⁵⁸

10 Conclusion

Artificial intelligence is here with us, it is no longer a distant concept, however many individuals are unaware that they are already using AI technologies every now and then.¹⁵⁹ AI is currently being embedded in financial services, healthcare,¹⁶⁰ criminal justice, national security¹⁶¹ and land and air transportation¹⁶² and it will increasingly shape efforts to implement the 2030 Agenda.¹⁶³

However, AI cannot be treated as a neutral “solution” for all SDGs.¹⁶⁴ The same systems that improve targeting of social benefits or optimize resource allocation can also entrench surveillance, reproduce structural discrimination, or shift power away from affected communities and weak institutions.¹⁶⁵

This article has argued that AI’s contribution to the SDGs is ultimately a legal and institutional question. At UN level, SDG governance remains dominated by soft-law guidance and voluntary partnerships, while binding obligations on data governance, transparency of algorithmic decision-making, and access to remedies are fragmented or absent. Nationally, many states especially in Africa face rapid AI uptake in health, agriculture and public administration without commensurate regulatory capacity or clear accountability mechanisms.

¹⁵⁸ Karin Bäckstrand, Faradj Koliev and Aysem Mert, ‘Governing SDG Partnerships: The Role of Institutional Capacity, Inclusion, and Transparency’ (2022) in book: *Partnerships and the Sustainable Development Goals* 41-58

¹⁵⁹ Herbert Dixon, ‘Artificial Intelligence: Benefits and Unknown Risks’ (2021) 60 (1) *The Judges' Journal* 41.

¹⁶⁰ Arman Raj, Avneesh Kumar, Vandana Sharma and others, ‘Decipherable for Artificial Intelligence in Medicare: A Review’ (2023) *4th International Conference on Intelligent Engineering and Management (ICIEM 2023)* 2-7

¹⁶¹ Ifeyinwa NSUDE, ‘Artificial Intelligence (AI), The Media and Security Challenges in Nigeria’ (2022) *Chaire Unesco Pratiques émergentes en technologies et communication pour le développement* 1

¹⁶² Abderrahmane Moubarek Sadou and Eric Tchouamou Njoya, ‘Applications of Artificial Intelligence in the Air Transport Industry: A Bibliometric and Systematic Literature Review’ (2023) 15 *Journal of Aerospace Technology and Management* 2

¹⁶³ Janna Anderson, Lee Rainie and Alex Luchsinger, “‘Artificial Intelligence and the Future of Humans’ (2018) *Pew Research Centre* 2

¹⁶⁴ Simon Elias Bibri, John Krogstie, Amin Kaboli and Alexandre Alah, ‘Smarter eco-cities and their leading-edge artificial intelligence of things solutions for environmental sustainability: A comprehensive systematic review’ (2024) 19 *Environmental Science and Ecotechnology* 1

¹⁶⁵ Stephan Klasen and Marc Fleurbaey, ‘Leaving No one Behind: Some Conceptual and Empirical Issues’ (2019) *Journal of Globalization and Development* 1

If the United Nations really wants to accomplish the 17 sustainable goals five and half years from now,¹⁶⁶ states and international organizations should adopt binding data-governance and reporting duties for AI-enabled SDG initiatives, including quality standards, documentation and independent oversight,¹⁶⁷ embed AI-specific safeguards in public-sector procurement, such as transparency requirements, ex ante human-rights and equality impact assessments, and public participation¹⁶⁸ clarify liability and redress pathways for harms caused by AI-assisted decision-making, including collective and cross-border mechanisms and strengthen cross-border cooperation and capacity-building so that low- and middle-income countries can regulate AI on their own terms rather than merely absorbing imported systems.

Crucially, the United Nations and its member states must ensure that AI-enabled SDG governance does not reinforce existing systemic biases or create new forms of discrimination. Instead, AI should be deployed only within legal frameworks that actively surface, contest and remedy unequal impacts, so that efforts to “leave no one behind” are realized in practice and not undermined by opaque digital infrastructures.

¹⁶⁶ Michael Holder, ‘Are rich countries dodging their promises under the UN Sustainable Development Goals?’ (2019) *Business Green* 1

¹⁶⁷ Advocates for International Development (A4ID), ‘SDG 16: Peace, Justice and Strong Institutions’ (2021) *Creative Commons Attribution* ii

¹⁶⁸ Veriene Melo, ‘Collaborative Efforts for Sustainable Development: Surveying the Literature on Multi-Stakeholder Initiatives to Realize the Sustainable Development Goals’ (2018) *CSO Development Effectiveness and Enabling Environment* 2-3