October 2025

A Thematic Synthesis Aligning AI With The United Nations SDGs For An Equitable Digital Future

AI for SDGs

UNITED NATIONS ASSOCIATION
OF THE UNITED STATES OF AMERICA

AI for SDGs

A Thematic Synthesis Aligning Artificial Intelligence (AI) With The United Nations Sustainable Development Goals (SDGs) For An Equitable Digital Future

https://doi.org/10.5281/zenodo.17392589

UNITED NATIONS ASSOCIATION
OF THE UNITED STATES OF AMERICA

Credits and Acknowledgements

The research team gratefully acknowledges the subject matter experts, advisors and external contributors in the AI for SDGs Conversation Circles, whose insights into local and professional contexts informed this thematic analysis. Their contributions shaped the paper's findings, though responsibility for interpretations rests with the authors. Detailed lists of all authors and external contributors to research are found in Annexes A and B.

All external contributors have participated in their personal capacity, not as representatives of their respective organizations. This report represents a majority consensus; no contributor is expected to endorse every single point contained in this document. The contributors affirm their broad, but not unilateral, agreement with its findings and recommendations. The language included in this report does not imply institutional endorsement by the contributors' respective organizations.

Table of Contents

Abstract

This youth-led study examines how Artificial Intelligence (AI) advances and threatens progress toward the United Nations Sustainable Development Goals (SDGs). Drawing on a series of "Conversation Circles" with youth leaders, subject matter experts, and civil society actors — supplemented by thematic analysis and desk research — the study synthesizes insights across multiple SDG domains.

Eight cross-cutting themes emerged: four highlight AI's potential to accelerate sustainable development (process efficiency, access to health and education, environmental resilience, and governance innovation), while four underscore risks (bias and discrimination, labor displacement, environmental costs, and data colonialism). Real-world examples illustrate both sides, from predictive analytics improving crop yields and smart grids, to algorithmic bias reinforcing inequities and data extraction deepening global divides.

The paper contributes a systems-level perspective rooted in youth voices often absent from policy discourse. It demonstrates how AI can simultaneously bridge and widen the global development gap, depending on how technologies are designed, deployed, and governed. By situating lived experience alongside global data, the paper underscores the urgent need for ethical, inclusive, and sustainable approaches to AI. It calls on policymakers, industry, and civil society to ensure AI becomes a driver of equity and resilience rather than exclusion and harm.

Introduction

Artificial Intelligence is reshaping the world faster than institutions can regulate, societies can adapt, or individuals can understand. Its reach extends far beyond the tech industry: AI now influences how food is grown, how medicine is delivered, how education is accessed, and how justice is served. As the 2030 Agenda for Sustainable Development enters its final five years, the role of AI in advancing or obstructing progress toward the Sustainable Development Goals (SDGs) demands urgent attention.

According to the UN Sustainable Development Goals Report 2025, only 15% of SDG targets are currently on track, with nearly half either moderately or severely off-track. Mounting global crises including conflict, climate change, economic inequality are not only slowing progress but in many cases reversing it. Among the key levers for acceleration is technology, which holds potential to both empower and exclude. The widening digital divide and data inequities, especially across the Global South, threaten to leave entire populations behind.

This study emerges from this urgency. It offers a comprehensive, youth-led analysis of how AI intersects with global development efforts, aiming to fill a gap in mainstream policy discourse: the voices of young people, those most impacted by long-term technological shifts, are often the least represented in shaping them.

On one side, AI offers transformative tools to tackle entrenched global challenges: optimizing food systems, expanding healthcare access, enhancing disaster prediction, and streamlining governance. On the other, AI threatens to widen inequality, displace workers, undermine democratic norms, and deepen environmental harm. This paper does not romanticize nor vilify AI. Instead, it critically examines the opportunities and risks it presents for achieving a more equitable, sustainable world.

The insights presented here are intended for a broad audience: policymakers, technologists, multilateral institutions, youth organizations, and civil society actors working at the intersection of innovation and impact. It speaks to those designing AI systems, those affected by them, and those responsible for ensuring they align with the SDGs.

It is important that we examine AI not as a technical marvel, but as a force that must be directed with intentionality, ethics, and inclusivity. The pages that follow explore eight urgent themes where AI's impact on people and planet is already being felt.

Methodology

This study is the product of a 20-week research initiative grounded in inclusive, dialogue-based, and community-driven methodology. It was led by youth members of the United Nations Association of the United States of America (UNA-USA), a program of the United Nations Foundation. Our primary method for qualitative data gathering was a series of "Conversation Circles," a technique rooted in the principles of restorative practice and culturally responsive inquiry. By employing this methodology, we aimed not only to gather high-quality data but to do so in a collaborative environment that reflects the inclusive spirit of the SDGs themselves.

Participation

Between March and June 2025, fourteen virtual "Conversation Circles" were organized, each dedicated to one or more SDGs. These sessions created non-hierarchical spaces for exchange among youth leaders, subject matter experts, and civil society representatives. Rather than structured interviews, the circles emphasized collaborative dialogue, enabling participants to share lived experiences and professional insights. A detailed breakdown of the sessions is included in Annex C.

Each circle drew on a mix of stakeholders, including academics, industry professionals, grassroots organizers, and youth innovators. Subject matter experts contributed technical knowledge, while youth participants brought forward community-based perspectives on how AI intersects with development. This design allowed for cross-pollination of insights across geographies and sectors.

Documentation and Analysis

Facilitators compiled session summaries capturing key insights, case studies, and tensions raised in the discussions. These documents formed the primary dataset for analysis. Using qualitative thematic coding, the research team identified recurring dynamics — such as predictive analytics, algorithmic bias, environmental costs, and governance challenges — that appeared across multiple SDGs. This process moved the analysis beyond a goal-by-goal account toward a systems-level view of AI's impact.

Following the dialogue series, the team conducted a targeted literature review to contextualize and validate the findings. Sources included United Nations reports, World Bank analyses, and peer-reviewed academic studies. Incorporating both community-driven insights and institutional data strengthened the reliability of the final synthesis.

Thematic Consolidation

While the circles were initially organized SDG by SDG, the analysis revealed that AI's influence does not respect such boundaries. To better reflect systemic patterns, the research was reorganized into eight cross-cutting themes — four highlighting opportunities and four underscoring risks. This structure avoids redundancy and clarifies how AI simultaneously enables and threatens progress across multiple goals.

By combining youth-centered dialogue, expert perspectives, and secondary research, this methodology provides a balanced and inclusive foundation for examining AI's implications for sustainable development. Additional detail on session design, participation, and contributor lists is available in the annexes.

AI for Process Efficiency & Predictive Analytics

SDGs Impacted: 2, 3, 6, 7, 9, 11

Smart Agriculture & Food Security

AI has become a transformative tool for optimizing food production and resource use. Precision agriculture leverages machine learning and big data to determine optimal planting times, crop types, and irrigation schedules based on historical yield patterns, soil health, and climate conditions. Farmers can use mobile or edge-computing AI tools to monitor crop diseases and receive real-time advice through chatbot assistants in local languages.

This not only increases yield and efficiency but empowers smallholder farmers by reducing reliance on expensive external consulting or machinery. In regions where traditional agricultural extension services are limited, AI-driven advisory platforms serve as an accessible and scalable alternative. These innovations strengthen global food security and climate resilience while directly supporting SDG 2 and SDG 13.

Water Security and Distribution

Water systems also benefit from AI's predictive power. Satellite imagery, in-situ sensors, and drones feed real-time data into AI models that monitor water quality, detect contamination, and forecast demand. These systems enable precise management of water infrastructure that is critical in both drought-prone and flood-vulnerable regions.

In India, for example, machine learning models achieved 98.93% accuracy in predicting water potability, using basic water quality parameters such as pH and dissolved solids, without requiring expensive laboratory testing infrastructure. In Africa, open-access AI models are being used in countries like Kenya and South Africa to map flood-prone zones and assess water insecurity risks using satellite-based rainfall data, enabling community organizations and governments to take targeted action in low-data environments. In rural and underserved areas, mobile platforms supported by AI help identify water-scarce communities and optimize delivery routes for clean water access.

Energy Grid Optimization and Forecasting

AI technologies are driving forward more intelligent and resilient energy systems. Through machine learning algorithms, energy providers can forecast peak loads, optimize fuel switching in hybrid systems, and manage the performance of microgrids in remote or off-grid communities.

The BiLSTM-AM model achieved a remarkable 96.68% accuracy rate in forecasting energy demand, a significant improvement over traditional models like Recurrent Neural Networks (69.94%). This higher precision allows for more efficient energy scheduling, reducing grid strain and minimizing blackouts, especially in underserved and remote regions.

These improvements are crucial for increasing energy access in the Global South, particularly for communities dependent on intermittent renewable sources like solar and wind. Microgrids managed by AI reduce system-wide vulnerabilities and improve the long-term sustainability of electrification initiatives.

Infrastructure and Industrial Modernization

AI facilitates predictive maintenance and operational optimization across industrial sectors. In manufacturing, anomaly detection models reduce downtime and improve worker safety. AI is used to optimize supply chains by analyzing demand fluctuations and minimizing inventory waste. Research indicates that AI-enabled smart manufacturing enhances sustainability by increasing efficiency, reducing defects, and aiding waste reduction efforts, particularly within sectors such as automotive manufacturing.

AI also strengthens infrastructure by supporting cybersecurity monitoring in utilities and industrial networks. Developing countries can leapfrog traditional industrial constraints by adopting scalable AI-based infrastructure, creating opportunities for inclusive industrialization in line with SDG 9.

Urban Resilience and Smart City Planning

In the urban domain, AI supports smarter and more sustainable city design. Algorithms are used to model traffic flows, optimize waste collection routes, and guide green infrastructure investments. For example, AI tools can assess soil, climate, and biodiversity conditions to recommend optimal locations, native species, and planting methods for urban tree and vegetation projects, reducing heat islands, improving survivorship rates, and enhancing overall urban biodiversity.

Computer vision systems using high-resolution satellite imagery, local census data, and utility records are being used by planners as an early-warning system for informal-settlement growth.

Cities in the Global South, where municipal data is often scarce or outdated, are turning to satellite-based AI platforms to simulate policy outcomes and test long-term resilience strategies.

AI for Bridging Access Gaps

SDGs Impacted: 3, 4, 9, 10

Equitable Access to Healthcare

AI is reshaping global healthcare by offering preventative, diagnostic, and management tools that function even in low-resource environments. AI-powered diagnostic software can rapidly analyze patient data to identify early signs of disease, which is especially valuable in rural or underserved regions where medical professionals are scarce. Deep learning models trained on radiological images have demonstrated accuracy comparable to expert radiologists in detecting diseases like diabetic retinopathy and pneumonia. These tools not only flag high-risk patients but also empower community health workers to deliver accurate assessments with minimal training.

However, the promise of AI will only be realized through infrastructure investment. According to the Brookings Institution and UNDP, many low-income regions lack the electricity, broadband access, and digital literacy required to adopt these technologies. Without targeted capacity-building and infrastructure expansion, such regions risk falling further behind, exacerbating global health disparities. Equitable AI rollout requires inclusive policies that fund internet expansion, training for local medical professionals, and subsidies for medical AI tools.

Adaptive Learning and Personalized Education

In the educational sector, AI serves as a powerful equalizer, transforming learning into a dynamic, personalized experience. Adaptive AI systems adjust to a student's learning style, pace, and gaps in knowledge. For children in under-resourced schools or areas where teacher-student ratios are poor, this kind of individualized support can make a profound difference. AI tutors, multilingual translation tools, and real-time feedback systems reduce reliance on static curricula and can supplement teacher shortages.

The importance of this technology was underscored during the COVID-19 pandemic, which widened existing educational inequalities. Over 244 million children were out of school as of 2022, and more than half of children in low- and middle-income countries couldn't read a simple

sentence by age 10. AI platforms that work offline or on low-bandwidth networks are key to reaching disconnected populations and building educational resilience.

Linguistic Inclusion and Cultural Access

One of AI's most overlooked superpowers is its ability to close linguistic gaps. With over 7,000 languages spoken globally, education, healthcare, and policy systems are often inaccessible to those outside the linguistic mainstream. AI tools such as DeepL, Google Translate, and emerging subtitle engines make it possible to deliver real-time translation and culturally contextualized education to indigenous and underrepresented language communities.

AI not only enhances access but preserves dignity: modern translation systems are increasingly sensitive to regional dialects and cultural cues. By incorporating these features, AI can help non-dominant language speakers participate fully in global education, policymaking, and digital workspaces to align strongly with SDG 10's mission to promote social, economic, and political inclusion for all.

Economic Inclusion and Global Youth Collaboration

Digital AI platforms are also transforming how youth connect, collaborate, and generate solutions globally. Real-time project tools such as Miro and Taskade, combined with AI's ability to translate languages and optimize workflows, are fostering international youth-led innovation regardless of geography. These tools level the playing field for students and young entrepreneurs from rural and low-income backgrounds, enabling them to join global conversations and market their ideas on the world stage.

Investment in AI-powered collaboration is more than a matter of convenience; it is a vehicle for global equality. AI applications must be designed with affordability, accessibility, and inclusion in mind. Otherwise, innovations risk reinforcing digital divides rather than dismantling them. Inclusive AI development includes considerations for low-end devices, slow internet connections, and culturally relevant content, conditions that allow marginalized youth to thrive in an AI-driven world.

AI for Environmental Monitoring, Disaster Resilience, and Climate Adaptation

SDGs Impacted: 11, 13, 14, 15

Early Warning Systems and Climate Forecasting

Artificial Intelligence significantly strengthens community resilience through predictive early warning systems that anticipate extreme weather events, natural disasters, and climate-sensitive disease outbreaks. By integrating environmental sensor data, public health records, and satellite imagery, AI models can detect patterns that precede disasters such as floods, droughts, and heatwaves. These tools enable health authorities and emergency planners to implement timely interventions that protect vulnerable populations. A systematic scoping review by El Morr et al. (2024) demonstrates that AI can forecast disease outbreaks like dengue and influenza with remarkable precision weeks or even months in advance, directly supporting SDG 13.1 and 13.3.

AI also facilitates climate adaptation in low-resource regions, particularly in the Global South. Custom AI models tailored to local data contexts support grassroots initiatives by optimizing agricultural practices, predicting crop yields, and recommending drought-resilient crop varieties. In regions highly susceptible to climate volatility, such as Sub-Saharan Africa and South Asia, AI-enabled precision agriculture improves productivity and food security. AI can also forecast water demand and optimize irrigation systems, helping regions experiencing water stress adapt to changing precipitation patterns.

AI-Powered Environmental Modeling and Policy Simulation

AI-enabled policy modeling simulates long-term environmental outcomes of proposed legislation, urban planning initiatives, and conservation interventions. These simulations integrate fragmented datasets, from climate models to socio-economic indicators, to model complex interactions between ecosystems and human systems. This helps decision-makers visualize trade-offs and test multiple scenarios before committing to action. These capabilities not only reduce the risk of policy failure but also enhance transparency and community participation by making environmental forecasting accessible through visualizations. This is particularly valuable for inclusive climate action under SDG 13.

In the context of SDG 15, AI tools that analyze environmental variables such as soil composition, topography, and climate trends are used to optimize agricultural practices, enhancing precision and scalability in sustainable land management.

AI for Marine Ecosystem Conservation

Marine AI tools help achieve SDG 14 by enabling real-time ocean waste detection, ecosystem modeling, and coral reef monitoring. Satellite-powered AI systems can scan vast ocean areas to

detect plastic waste clusters and illegal dumping, enabling faster enforcement and targeted cleanup efforts. These tools are used by organizations like The Ocean Cleanup to track pollution hotspots such as the Great Pacific Garbage Patch.

AI also enhances oceanic ecosystem modeling by simulating ocean currents, acidification trends, and marine species distribution under different climate scenarios. The European Digital Twin Ocean integrates data from the Copernicus Marine Service and EMODnet to provide high-resolution ocean simulations that support forecasting of coral bleaching events and identification of potential refuge areas for marine species. Machine learning algorithms, trained on underwater images, have achieved high accuracy in detecting coral bleaching, allowing early intervention and targeted reef conservation efforts.

AI in Urban Environmental Planning and Resilience

In cities, AI supports environmental sustainability by optimizing green infrastructure, reducing urban heat islands, and promoting biodiversity through smart ecology planning. AI-powered systems can recommend native plant species for urban reforestation and landscaping by analyzing soil type, sunlight exposure, air quality, local biodiversity, water availability, and historical land use data. These systems are especially effective in adapting urban ecosystems to climate change while supporting ecological diversity and improving air quality.

Emerging AI technologies are also revolutionizing city planning by scanning and mapping green space distribution to improve urban climate adaptability. Smart infrastructure systems integrate data from utilities, waste systems, and transportation to reduce emissions and increase resource efficiency. AI models that use high-resolution satellite imagery, local census data, and utility records are being used by planners as an early-warning system for informal-settlement growth.

AI in Governance and Policy Innovation

SDGs Impacted: 1, 16, 17

Transforming Institutional Integrity through AI-Driven Fraud Detection and Oversight

Artificial Intelligence is emerging as a powerful tool to bolster institutional integrity and support the objectives of SDG 16 (Peace, Justice, and Strong Institutions) by modernizing government oversight processes and enhancing accountability. AI applications in fraud detection are

revolutionizing how governments identify and respond to corruption. By processing massive datasets such as tax filings, public procurement records, and financial disclosures, AI systems can detect anomalies and patterns that may indicate fraudulent activity. These might include unusual bidding behavior, inflated invoices, or recurring vendor relationships across departments that are potential red flags for collusion or corruption.

For instance, in Brazil, the AI tool Alice has been deployed to analyze procurement notices and contracts, generating alerts that have prompted audits and the suspension of suspicious tenders, thereby reducing investigation times and saving public funds. In the UK, HMRC's Connect platform pulls data from more than 30 sources including credit files, property deeds, vehicle records, to expose gaps between declared income and real assets. Investigators also use AI tools to monitor social media in tax cases, making it harder for fraud to slip through the cracks. These systems have the dual advantage of speeding up audits while mitigating human bias, making the monitoring process more objective, data-driven, and scalable. When deployed transparently and ethically, such technologies significantly enhance public trust in governance.

AI-Enabled Smart Aid Allocation and Global Partnerships

SDG 1 (No Poverty) and SDG 17 (Partnerships for the Goals) benefit from AI's ability to optimize how aid and resources are allocated, particularly in response to poverty and global crises. As demonstrated during the COVID-19 pandemic, AI-enabled data-sharing diplomacy played a pivotal role in accelerating vaccine development and coordinating global responses. This model of AI-facilitated scientific collaboration, where shared multi-omic datasets and predictive modeling streamlined vaccine design, is now viewed as a template for broader SDG implementation. These successes underscore AI's potential to support joint policymaking, cross-border data integration, and real-time resource allocation for humanitarian aid and development initiatives.

The integration of federated AI models also helps protect national data sovereignty while still enabling global collaboration. This is an essential consideration for countries with limited digital infrastructure or historical mistrust of data-sharing mechanisms. Such partnerships advance the policy coherence, technology transfer, and capacity-building goals of SDG 17 by creating interoperable, equitable frameworks for innovation.

Inclusive Digital Governance and AI-Driven Civic Engagement

One of the most promising applications of AI in governance lies in civic engagement. AI platforms leveraging natural language processing and real-time data analytics are enabling governments to perform "social listening" at an unprecedented scale. These platforms analyze public forums, social media, and surveys to surface emerging community concerns that might otherwise go unnoticed. This responsiveness is critical during times of crisis or civil unrest, where lagging traditional methods can exacerbate mistrust or instability.

AI tools that support multilingual processing and diverse communication formats help ensure broader participation across linguistic and cultural barriers. By amplifying marginalized voices, these technologies promote more equitable policymaking and strengthen democratic processes. The cumulative effect is a more agile, transparent, and accountable system of governance that aligns with the principles of SDG 16 and helps build trust between citizens and institutions.

Democratizing Access to Justice through AI Chatbots and Legal Tools

AI also plays a transformative role in expanding access to justice, especially in underserved or resource-constrained settings. A compelling example is Uganda's BarefootLaw chatbot, "Winnie," an AI-powered tool available in both English and local languages that has expanded free legal assistance to hundreds of thousands of people. The organization has served over 940,000 individuals and resolved more than 18,000 legal cases, illustrating AI's role in improving access to justice in underserved communities. This initiative illustrates how AI can democratize public services and reduce the dependence on centralized legal systems, supporting SDG 16's mandate to ensure access to justice for all.

However, successful deployment of such tools requires strong governance structures to ensure cultural sensitivity, linguistic inclusivity, and ethical oversight. Otherwise, there's a risk of exacerbating disparities, particularly if AI systems are designed without community input or reflect historical biases.

Across fraud detection, civic engagement, smart aid allocation, and legal access, AI is actively reshaping how governments interact with data, citizens, and each other. When grounded in transparency, equity, and global cooperation, AI serves not just as a digital tool but as a governance innovation engine. It enhances the agility, efficiency, and inclusivity of policy systems striving to achieve the ambitions of SDGs 1, 16, and 17.

Bias & Discrimination in AI Systems

SDGs Impacted: 5, 10, 16

Gender Bias in Hiring and Language Models

One of the most widely cited examples of algorithmic discrimination is Amazon's now-defunct AI hiring tool, which systematically downgraded resumes from women due to historical patterns

in male-dominated hiring data. These systems, trained on biased past outcomes, can replicate the very exclusions they aim to eliminate.

Beyond resume screening, AI recruitment tools have been found to discriminate against women who have taken career breaks for maternity leave, unfairly screening them out of opportunities. AI-powered platforms like Textio address this by analyzing job descriptions in real time, flagging gender-coded terms that could discourage applicants from underrepresented genders and suggesting inclusive alternatives. To avoid replicating bias, such systems must be trained on diverse datasets and guided by human oversight.

Healthcare Inequities from Non-Inclusive Training Data

AI applications in healthcare frequently underperform for women, particularly in diagnostics and treatment predictions. Many medical algorithms are trained predominantly on male datasets, leading to underdiagnosis of conditions like heart disease in female patients. Similarly, voice recognition systems, which are increasingly used in hospitals, mobile health apps, and elder care, often struggle to accurately interpret women's voices, affecting both accessibility and quality of care.

These discrepancies extend to transgender and nonbinary individuals, whose physiological markers and health needs are rarely accounted for in mainstream medical AI systems. Without inclusive datasets and training practices, AI not only replicates inequity but codifies it into the future of care.

Racial Profiling in Criminal Justice Algorithms

AI-driven tools in law enforcement have sparked concern for their role in deepening racial and socioeconomic inequalities. Predictive policing systems have been linked to the repression of minority groups and political dissent. Trained on historical arrest and patrol data, these systems can disproportionately target marginalized communities, while facial recognition and automated surveillance are used to monitor and intimidate protesters, eroding privacy and free expression both online and offline.

Sentencing algorithms like COMPAS have also been found to systematically misclassify minority defendants as high-risk at far higher rates than white defendants, leading to biased outcomes in bail, parole, and sentencing decisions. These tools lack transparency and often operate without public oversight, making it nearly impossible for affected individuals to understand or challenge the decisions being made about them.

Opacity and Lack of Redress

One of the greatest challenges in addressing algorithmic bias is the opacity of many commercial AI systems. Developed with proprietary data and methods, these models are often shielded from independent audits, making it difficult to identify and correct harmful biases. This lack of transparency not only hampers accountability but erodes public trust in institutions that rely on AI to deliver services or enforce laws.

When individuals are harmed by such opaque systems, they are often left without meaningful avenues for explanation or appeal. Examples of disruptions to their livelihood include but are not limited to denied employment, having misdiagnosed, or wrongfully flagged by law enforcement. This directly undermines SDG 16's call for effective, accountable, and inclusive institutions.

Job Displacement & Labor Inequality

SDGs Impacted: 1, 4, 8, 9

Displacement of Low-Skilled Workers through Automation

AI and automation are already transforming sectors like manufacturing, transportation, retail, and logistics. In many cases, low-skilled, repetitive jobs that are often held by economically vulnerable populations, are being replaced by intelligent machines and robotic systems. Unlike previous waves of automation, AI can now perform tasks that require decision-making, perception, and adaptability, placing a wider range of occupations at risk.

In high-income countries, displaced workers may access retraining programs or shift to the service sector. But in the Global South, where informal employment makes up a large share of the economy and where social safety nets are limited, these shifts can push families into deeper poverty. Communities in Sub-Saharan Africa, South Asia, and Latin America face particularly acute vulnerabilities due to weak labor protections and limited infrastructure for reemployment.

Unequal Access to Upskilling and Reskilling Opportunities

AI-driven economic transitions demand rapid upskilling and digital literacy but access to these opportunities is highly unequal. In many developing nations, digital education infrastructure is limited, and AI curriculum is often inaccessible due to language, cost, or connectivity

constraints. Even within developed nations, access to AI-relevant education and job pipelines is stratified by race, gender, and income level.

While innovation ecosystems are flourishing in urban centers and tech hubs, rural communities and low-income youth are being left behind. Without intentional investments in reskilling and inclusion, AI will further stratify labor markets between those who can build or operate intelligent systems and those who are replaced by them.

Global South Exclusion from AI-Driven Growth

Another risk is that the Global South may bear the brunt of job displacement without gaining from the productivity benefits of AI. As multinational corporations deploy AI to optimize global supply chains, many jobs previously outsourced to lower-wage countries are being re-shored to AI-driven factories in the Global North. This phenomenon not only displaces workers in developing economies but also undercuts one of their few competitive advantages in the global labor market.

Automation could stifle economic mobility, particularly in countries where youth unemployment is already high. It is crucial to note the need for development aid and public-private partnerships that specifically aim to create new pathways to meaningful work in AI-adjacent sectors like data annotation, ethical auditing, or localized tech support.

Environmental Costs of AI Infrastructure

SDGs Impacted: 12, 13

Carbon Emissions from Model Training

Large language models and deep learning systems require vast computational resources to train and fine-tune. This process consumes significant amounts of electricity that is often sourced from fossil fuels and produces large carbon emissions. A single AI model can generate as much CO_2 as five average cars do over their entire lifetime.

While more efficient models are being developed, the current AI race incentivizes scale over sustainability. As research institutions and corporations compete to build larger and more complex models, their environmental footprints continue to grow. This trend directly contradicts

the targets of SDG 13, which call for urgent action to combat climate change and improve institutional capacity for climate mitigation.

Energy-Hungry Data Centers

AI systems depend on data centers operating 24/7, often with intensive cooling and hardware demands. These centers account for a growing share of global electricity use and are frequently located in regions with limited renewable energy access. The centers that use water for cooling also puts stress on local ecosystems, especially in drought-prone areas.

The environmental impact is not uniform. While tech companies in the Global North may claim partial carbon neutrality through offsets, the infrastructure burden often falls on regions in the Global South that host mining operations, power plants, or data routing facilities without receiving corresponding digital dividends.

E-Waste from Rapid Hardware Obsolescence

As AI models grow in size and complexity, they require increasingly powerful and specialized hardware (GPUs, TPUs, ASICs) that become obsolete at an accelerating pace. This fuels the cycle of short-lived electronics and contributes to the global e-waste crisis.

Most e-waste ends up in landfills or informal recycling facilities in low-income countries, where hazardous materials like mercury and lead contaminate water and soil. This unsustainable production and disposal cycle undermines the targets of SDG 12, which call for environmentally sound management of chemicals and reduction of waste generation.

Unequal Environmental Burdens Across the Global South

The environmental costs of AI are not distributed equally. Many developing nations bear the brunt of mining, waste, and pollution from AI hardware without sharing in its benefits. From critical earth mineral extraction in Central Africa to informal recycling hubs in South Asia, the communities most affected by AI's environmental externalities are often the least involved in its design, governance, or use.

This ecological injustice calls into question the equity of the global AI ecosystem and highlights the need for climate justice frameworks that recognize digital infrastructure as a source of environmental harm and not just innovation.

Surveillance, Data Colonialism, and Governance Risks

SDGs Impacted: 16, 17

AI-Powered State Surveillance and Repression

Authoritarian regimes are increasingly using AI technologies, particularly facial recognition, voice analysis, and predictive analytics, to monitor, track, and suppress political dissidents, journalists, and ethnic minorities. These tools, often developed by private companies and exported with minimal regulation, erode civil liberties and free expression. Democratic backsliding is being accelerated by the use of opaque AI tools that allow for invisible, unaccountable control. This directly undermines SDG 16's commitment to inclusive, rights-based institutions.

Digital Colonialism and Data Extraction from the Global South

Data colonialism is the extraction of data from communities in the Global South to train AI systems that primarily benefit corporations or governments in the Global North. These models, developed without consent or input from the data subjects, are then commercialized and exported—often back to the regions from which the data was taken.

This asymmetry mirrors historical patterns of colonial exploitation, now translated into the digital age. Countries in Africa, Latin America, and Southeast Asia frequently provide the raw material such as human behavior, language, and biometric data, without sharing in the innovation, ownership, or governance of the resulting AI technologies. The result is a growing imbalance in digital power, voice, and sovereignty.

Lack of International Governance and Ethical Standards

Despite the transnational nature of AI systems, there is little to no unified global framework governing their ethical development, deployment, or accountability. In the absence of binding international regulation, powerful nations and tech conglomerates set the rules that often sideline the voices of low and middle-income countries. This policy vacuum has created a Wild West of AI development, where oversight depends more on corporate self-regulation than democratic consensus.

Without mechanisms for cross-border accountability, AI will become a tool for digital coercion rather than cooperation. From voter suppression algorithms to deepfakes that undermine democratic elections, unregulated AI has already begun to destabilize trust in institutions.

Conclusion: Aligning AI with the SDGs

Policymakers and governments play a decisive role in shaping the trajectory of AI development. To ensure AI serves the public good, they must begin by enacting robust legal frameworks and regulatory mechanisms that establish ethical guardrails, prevent harm, and mandate transparency across AI applications. National strategies should prioritize equitable data access and digital infrastructure expansion, particularly in the Global South, where many communities remain digitally excluded and underrepresented in AI training datasets. Public investment must also be directed toward the development of AI tools that serve collective needs, such as improving public health outcomes, advancing climate adaptation strategies, and enhancing access to quality education, rather than solely supporting private sector innovation. Governments must view AI not only as a matter of economic competitiveness, but as a vehicle for justice, service delivery, and inclusive development.

The private sector and AI developers bear significant responsibility in determining how inclusive, sustainable, and ethical AI systems will be. Tech companies must adopt inclusive design practices that actively account for diverse populations, cultural nuances, and systemic biases in both data and deployment. Creating bias-aware algorithms should be foundational and not a retrofit. Just as critically, AI development must move beyond extractive or energy-intensive practices by embracing sustainability-by-design: minimizing carbon emissions, reducing hardware waste, and adopting greener machine learning methods. The private sector must make meaningful investments in tools that bridge linguistic and accessibility divides such as developing AI systems that serve low-resource languages, disabled users, and marginalized communities. Centering the needs of those historically left behind is not just a moral imperative but an innovation opportunity.

Global institutions such as the United Nations, World Bank, and multilateral alliances have a unique mandate to lead and coordinate cross-border governance of AI. These institutions must help catalyze a globally coherent framework for AI ethics, oversight, and impact evaluation that goes beyond voluntary principles and commits to enforceable norms. They must also actively include youth, civil society, and representatives from low- and middle-income countries in all AI policy-setting and standard-development forums, ensuring the resulting frameworks reflect a plurality of lived experiences. Importantly, global institutions must address the growing imbalance in cross-border data flows and ownership by creating fair mechanisms for data sharing, value return, and digital sovereignty. Equitable AI governance cannot exist in the absence of equitable global partnerships.

Civil society organizations and educators have a crucial role to play in equipping communities with the knowledge and tools needed to critically engage with AI. This begins with expanding access to digital literacy and AI education in historically excluded communities, urban and rural, North and South. Curricula must evolve to include not just how AI works, but how it impacts

privacy, equity, and power. Educators must also create opportunities for youth to explore algorithmic accountability through civic engagement, ethical design challenges, and policy simulation exercises. Meanwhile, civil society organizations should continue to demystify AI for the public by fostering open, community-informed dialogue about what these systems do and do not do. Only through informed and organized communities can we ensure AI systems serve human dignity over profit or control.

Youth leaders and social movements must claim their place at the table, organizing at the intersection of technology, justice, and sustainability. This generation of youth is not simply inheriting AI; they are building it, shaping it, and pushing it to serve communities. Young people must continue creating spaces for dialogue with developers, demanding accountability from institutions, and disrupting exclusionary narratives about who gets to govern emerging technologies. From advocacy campaigns to open-source tools, youth must translate their lived experience into influence, guiding AI development toward inclusive outcomes that reflect the needs and hopes of their generation. As digital natives, their engagement is not optional, it is essential.

The stakes of AI development are too high to be left to a few. As this paper has shown, AI intersects with every dimension of sustainable development, offering both solutions and risks. The future of AI will be determined not by technological capability alone, but by collective choices about how it is governed, designed, and distributed. The SDGs offer a shared roadmap for dignity, equity, and planetary well-being. Aligning AI with that roadmap is the challenge and the opportunity of our time.

References

Abumohsen, M., Owda, A. Y., & Owda, M. (2023). Electrical load forecasting using LSTM, GRU, and RNN algorithms. *Energies, 16*(5), 2283. https://doi.org/10.3390/en16052283

Ahmed, A., Khan, A., Khan, S., & Ali, M. (2022). Identifying informal settlements in satellite images for sustainable urban planning: A systematic review of methods available. *Sustainable Cities and Society, 82,* 103889. https://doi.org/10.1016/j.scs.2022.103889

Ainapure, B., Baheti, N., Buch, J., Appasani, B., Jha, V., & Avireni, P. (2023). Drinking water potability prediction using machine learning approaches: A case study of Indian rivers. *Water Practice & Technology, 18*(8), 3004–3020. https://doi.org/10.2166/wpt.2023.202

Albertini, M., Bourdin, A., & Hirsch, D. (2024, November 27). *Global Internet use continues to rise but disparities remain, especially in low-income regions.* International Telecommunication Union (ITU). https://www.itu.int/en/mediacentre/Pages/PR-2024-11-27-facts-and-figures.aspx

Alvaro, D. (2025, April 14). The gender bias built into AI—and its threat to women's health. Pharmasalmanac. https://www.pharmasalmanac.com/articles/the-gender-bias-built-into-ai-and-its-threat-to-womens-health

Bahar, D., & Michael, A. (2024, June 26). A new industrial revolution: Will AI widen or close the income gap between rich and poor countries? Center for Global Development. https://www.cgdev.org/blog/new-industrial-revolution-will-ai-widen-or-close-income-gap-between-rich-and-poor-countries

Baker, Steven. (2025, February 27). Ensuring Procedural Fairness in AI-Driven Criminal Sentencing: A Focus on Transparency and The Right to Explanation. NHSJCS. https://nhsjcs.com/2025/02/27/ensuring-procedural-fairness-in-ai-driven-criminal-sentencing-a-focus-on-transparency-and-the-right-to-explanation/

Bakolo, C., Kayitete, L., Tuyizere, J. D. D., Tomlinson, J., Fawcett, J., & Figueroa Alfaro, R. (2024). Identification of optimal locations for green space initiatives through GIS-based multi-criteria analysis and the analytical hierarchy process. Environmental Systems Research, 13(46). https://doi.org/10.1186/s40068-024-00377-0

Barry, D. (2024, October 8). Miro innovation workspace is an all-in-one AI-driven collaboration solution. Reworked. https://www.reworked.co/collaboration-productivity/miro-innovation-workspace-is-an-all-in-one-ai-driven-collaboration-solution/

Bednarski, D. (2024, December 11). Taskade's top 5 AI-powered features transforming the future of work. Taskade Blog. https://www.taskade.com/blog/taskades-top-ai-powered-features-transforming-work/

Berliner, D. (2024, October 15). What AI can't do for democracy. Boston Review. https://www.bostonreview.net/articles/what-ai-cant-do-for-democracy/

Bhatt, C., & Burman, A. (2024, February 21). Data protection regulation in the Global South. Carnegie Endowment for International Peace. https://carnegieendowment.org/posts/2024/02/data-protection-regulation-in-the-global-south?lang=en

Bhugwandin, A., & Timmis, H. (2024, October 24). Tipping the scales: AI's dual impact on developing nations. World Bank Blogs. https://blogs.worldbank.org/en/digital-development/tipping-the-scales--ai-s-dual-impact-on-developing-nations

Brown, M., & Lallo, S. (2020). Talking circles: A culturally responsive evaluation practice. American Journal of Evaluation, 41(4), 584–599. https://doi.org/10.1177/1098214019899164

Canada Global Academy. (2025, January 24). Language barrier breaker: How AI translation tools foster global collaboration. Canada Global Academy. https://canadaglobalacademy.com/language-barrier-breaker-how-ai-translation-tools-foster-global-collaboration/

Centre for Law and Development, Qatar University. (2024). Call for papers: Artificial intelligence and the rule of law – A focus on SDG 16. https://www.qu.edu.qa/static_file/qu/research/Centre%20for%20Law%20and%20Development/documents/Call%20for%20papers-%20Artificial%20Intelligence%20and%20the%20Rule%20of%20Law-%20A%20Focus%20on%20SDG%2016.pdf

Chacon, M., Levine, R. S., & Bintliff, A. V. (2023). Student perceptions: How virtual student-led talking circles promote engagement, social connectedness, and academic benefit. Active Learning in Higher Education. Advance online publication. https://doi.org/10.1177/14697874231179238

Chamunorwa, B., Shoko, M., & Magidi, J. (2024). Low-cost and scalable detection of sparse informal settlements using machine learning in Gcuwa, Eastern Cape, South Africa. African Geographical Review. https://doi.org/10.1080/19376812.2024.2375376

Chen, Z. (2023) Ethics and discrimination in artificial intelligence-enabled recruitment practices. Humanit Soc Sci Commun 10, 567. https://doi.org/10.1057/s41599-023-02079-x

Cheong, B. C. (2024). Transparency and accountability in AI systems: Safeguarding wellbeing in the age of algorithmic decision-making. Frontiers in Human Dynamics, 6, 1421273. https://doi.org/10.3389/fhumd.2024.1421273

Chlingaryan, A., Sukkarieh, S., & Whelan, B. (2018). Machine learning approaches for crop yield prediction and nitrogen status estimation in precision agriculture: A review. Computers and Electronics in Agriculture, 151, 61–69. https://doi.org/10.1016/j.compag.2018.05.012

Civillini, M. (2025, April 10). Power-hungry AI data centres seen driving demand for fossil fuels. Climate Home News. https://www.climatechangenews.com/2025/04/10/power-hungry-ai-data-centres-seen-driving-demand-for-fossil-fuels/

Cranford, S. (2023). Data science's communication problem in three films. Patterns, 4(1), 100675. https://doi.org/10.1016/j.patter.2022.100675

Crawford, K., & Joler, V. (2018). Anatomy of an AI system: The Amazon Echo as an anatomical map of human labor, data and planetary resources. AI Now Institute and Share Lab. https://anatomyof.ai

Dastin, J. (2018, October 9). Amazon scraps secret AI recruiting tool that showed bias against women. Reuters. https://www.reuters.com/article/world/insight-amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKCN1MK0AG/

Dayan, I., Roth, H. R., Zhong, A., Harouni, A., Gentili, A., Abidin, A. Z., Liu, A., Costa, A. B., Wood, B. J., Tsai, C. S., Yuan, N., Cheng, Y., Li, Q., Peng, Z., Ding, X., Moy, L., & Xu, Z. (2021). Federated learning for predicting clinical outcomes in patients with COVID-19. Nature Medicine, 27(10), 1735–1743. https://doi.org/10.1038/s41591-021-01506-3

DeepL. (2024, September 4). Introducing DeepL voice: Elevate your conversations with real-time translation. DeepL Blog. https://www.deepl.com/en/blog/deepl-voice

Del Valle, I. (2024, August 6). Greenwashing and AI: A growing concern [LinkedIn article]. LinkedIn. https://www.linkedin.com/pulse/greenwashing-ai-growing-concern-dr-ivan-del-valle-5n0oe

de Nadal, L., & Jančárik, P. (2024, August 22). Beyond the deepfake hype: AI, democracy, and "the Slovak case." Harvard Kennedy School Misinformation Review. https://misinforeview.hks.harvard.edu/article/beyond-the-deepfake-hype-ai-democracy-and-the-slovak-case/

De Vries, R. (2022). Using AI to monitor plastic density in the ocean. The Ocean Cleanup. https://theoceancleanup.com/updates/using-artificial-intelligence-to-monitor-plastic-density-in-the-ocean/

Duvvur, V. (2023). Leveraging AI to modernize legacy web applications. Online Scientific Research. https://www.onlinescientificresearch.com/articles/transforming-digital-landscapes-leveraging-ai-to-modernize-legacy-web-applications.html

Eberhard, David M., Gary F. Simons, and Charles D. Fennig (eds.). 2025. Ethnologue: Languages of the World. Twenty-eighth edition. Dallas, Texas: SIL International. Online version: https://www.ethnologue.com/insights/how-many-languages/

El Arab, R. A., Alkhunaizi, M., Alhashem, Y. N., Al Khatib, A., Bubsheet, M., & Hassanein, S. (2025). Artificial intelligence in vaccine research and development: An umbrella review. Frontiers in Immunology, 16, 1567116. https://doi.org/10.3389/fimmu.2025.1567116

Elbe, S., & Buckland-Merrett, G. (2017). Data, disease and diplomacy: GISAID's innovative contribution to global health. Global Challenges, 1(1), 33–46. https://doi.org/10.1002/gch2.1018

El Morr, C., Ozdemir, D., Asdaah, Y., Saab, A., El-Lahib, Y., & Sokhn, E. S. (2024). AI-based epidemic and pandemic early warning systems: A systematic scoping review. Health Informatics Journal, 30(1), 1–38. https://doi.org/10.1177/14604582241275844

Etherington, C. (2025, August 12). UK tax agency using AI to help target fraud and evasion. BetaNews. https://betanews.com/2025/08/12/uk-tax-agency-is-using-ai-to-help-target-fraud-and-evasion/

European Center for Not-for-Profit Law Stichting (ECNL). (2024, December 17). AI in public participation: Hope or hype? ECNL. https://ecnl.org/news/ai-public-participation-hope-or-hype

Flexential. (2025, April 10). AI & cybersecurity overview: What to know. https://www.flexential.com/resources/blog/ai-and-cybersecurity-overview

Food and Agriculture Organization. (2021). The State of Food and Agriculture 2021: Making Agrifood Systems More Resilient to Shocks and Stresses. FAO. https://doi.org/10.4060/cb4476en

Funk, A., Shahbaz, A., & Vesteinsson, K. (2023). Freedom on the net 2023: The repressive power of artificial intelligence. Freedom House. https://freedomhouse.org/report/freedom-net/2023/repressive-power-artificial-intelligence

Georgieva, K. (2024, January 14). AI will transform the global economy. Let's make sure it benefits humanity. International Monetary Fund. https://www.imf.org/en/Blogs/Articles/2024/01/14/ai-will-transform-the-global-economy-lets-make-sure-it-benefits-humanity

Global Landscapes Forum. (2025, June 16). Congolese miners are paying the price for the green transition. Global Landscapes Forum. https://thinklandscape.globallandscapesforum.org/73584/cobalt-mining-dr-congo-green-transition

Gordon, R. (2024, November 21). Advancing urban tree monitoring with AI-powered digital twins. MIT News. Massachusetts Institute of Technology. https://news.mit.edu/2024/advancing-urban-tree-monitoring-ai-powered-digital-twins-1121

Gregory, A. (2024, September 24). Women dying 'unnecessarily' of heart disease, say experts. The Guardian. https://www.theguardian.com/society/2024/sep/24/women-dying-unnecessarily-of-heart-disease-say-experts

Gupta, P. (2025, April 2). How AI is exposing greenwashing and false ESG claims. The Choice (ESCP Business School). https://thechoice.escp.eu/tomorrow-choices/greenwashing-in-corporate-sustainability-how-ai-is-exposing-false-esg-claims/

Gupta, G., & Kumar Pal, S. (2025). Applications of AI in precision agriculture. Discover Agriculture, 3, 61. https://doi.org/10.1007/s44279-025-00220-9

Haliva, D. (2024, July 18). Driving civic engagement: Unleashing the potential of AI to revolutionise municipal operations. Commbox. https://www.commbox.io/driving-civic-engagement-with-ai-is-revolutionizing-municipalities/

Hamdar, Y., Massally, K. N., & Peiris, G. (2023). Are countries ready for AI? How they can ensure ethical and responsible adoption. United Nations Development Programme.

https://www.undp.org/blog/are-countries-ready-ai-how-they-can-ensure-ethical-and-responsible-adoption

Hickel, J., Sullivan, D., & Zoomkawala, H. (2021, May 6). Rich countries drained $152tn from the Global South since 1960. Al Jazeera. https://www.aljazeera.com/opinions/2021/5/6/rich-countries-drained-152tn-from-the-global-south-since-1960

HiiL. (2021). Use of digital technologies in judicial reform and access to justice cooperation. The Hague Institute for Innovation of Law. https://www.hiil.org/wp-content/uploads/2021/11/HiiL-Use-of-digital-technologies-in-judicial-reform-and-access-to-justice-cooperation.pdf

Hjort, J., & Poulsen, J. (2019). The arrival of fast internet and employment in Africa. American Economic Review, 109(3), 1032–1079. https://doi.org/10.1257/aer.20161385

Horn-Muller, A. (2023, June 6). AI is shattering climate language barriers. Axios. https://www.axios.com/2023/06/06/ai-language-barriers-climate

Huber, G. A., Meredith, M., Morse, M., & Steele, K. (2021). The racial burden of voter list maintenance errors: Evidence from Wisconsin's supplemental movers poll books. Science Advances, 7(8), eabe4498. https://doi.org/10.1126/sciadv.abe4498

Human Rights Watch. (2018, February 26). China: Big data fuels crackdown in minority region. Human Rights Watch. https://www.hrw.org/news/2018/02/27/china-big-data-fuels-crackdown-minority-region

Human Rights Watch. (2019, May 1). China's algorithms of repression: Reverse engineering a Xinjiang police mass surveillance app. Human Rights Watch. https://www.hrw.org/report/2019/05/01/chinas-algorithms-repression/reverse-engineering-xinjiang-police-mass

Human Rights Watch. (2021, March 12). Myanmar: Facial recognition system threatens rights. Human Rights Watch. https://www.hrw.org/news/2021/03/12/myanmar-facial-recognition-system-threatens-rights

Hutson, M. (2024). How AI is being used to accelerate clinical trials. Nature, 627(8001), S2–S5. https://doi.org/10.1038/d41586-024-00753-x

Hutton, D. (2022, September 30). Study: Eyenuk artificial intelligence detects diabetic retinopathy with more sensitivity than dilated exams. Ophthalmology Times. https://www.ophthalmologytimes.com/view/study-eyenuk-artificial-intelligence-detects-diabetic-retinopathy-with-more-sensitivity-than-dilated-exams

IAEME. (2023). AI-driven solutions for sustainable infrastructure development and management (S. Balasubramanian, Ed.). International Journal of Artificial Intelligence in Engineering, 2(1), 1–15. https://iaeme.com/MasterAdmin/Journal_uploads/IJAIE/VOLUME_2_ISSUE_1/IJAIE_02_01_001.pdf

Iniesto, F., & Rodrigo, C. (2024). Understanding accessibility in MOOCs: Findings and recommendations for future designs. Journal of Interactive Media in Education, 2024(1), 20. https://doi.org/10.5334/jime.897

International Energy Agency. (2024). Energy and AI. IEA. https://iea.blob.core.windows.net/assets/34eac603-ecf1-464f-b813-2ecceb8f81c2/EnergyandAI.pdf

International Monetary Fund. (2020, December 2). How artificial intelligence could widen the gap between rich and poor nations. IMF. https://www.imf.org/en/Blogs/Articles/2020/12/02/blog-how-artificial-intelligence-could-widen-the-gap-between-rich-and-poor-nations

International Telecommunication Union. (2024). Measuring digital development: Facts and figures 2024. International Telecommunication Union. https://www.itu.int/itu-d/reports/statistics/facts-figures-2024/

Italian Institute for International Political Studies. (2025). The Digital Divide: A Barrier to Social, Economic and Political Equity. https://www.ispionline.it/en/publication/the-digital-divide-a-barrier-to-social-economic-and-political-equity-204564

Jacobs, J. (2020, February 24). AI, labor displacement, and the limits of worker retraining. Brookings Institution. https://www.brookings.edu/articles/ai-labor-displacement-and-the-limits-of-worker-retraining/

Jiao, W., Wang, Y., Chen, S., Wang, R., Liu, Z., Sun, M., & Huang, X. (2023). GPT-4: A state-of-the-art multilingual machine translation model. arXiv. https://doi.org/10.48550/arXiv.2303.08774

Jing, J., Di, H., Wang, T., Jiang, N., and Xiang, Z. (2025). Optimization of power system load forecasting and scheduling based on artificial neural networks. Energy Informatics, 8(6). https://doi.org/10.1186/s42162-024-00467-4

Johnson, K. (2023, January 10). Iran says face recognition will ID women breaking hijab laws. Wired. https://www.wired.com/story/iran-says-face-recognition-will-id-women-breaking-hijab-laws

Jutras, P., Prasher, S. O., & Mehuys, G. R. (2010). Artificial neural network prediction of street tree growth patterns. Transactions of the ASABE, 53(3), 983–992. https://doi.org/10.13031/2013.30048

Karunakaran, A., Mehrotra, A., Chikkala, H., & Kumar, R. (2024, February 16). Empowering multilingual support in Microsoft Copilot Studio: A step-by-step guide. Medium. https://medium.com/@karna19/empowering-real-multilingual-support-in-microsoft-copilot-bot-a-step-by-step-guide-e5ca585ea4cd

Kerry, C. F., & Meltzer, J. P. (2021, February 17). Strengthening international cooperation on AI. Brookings Institution. https://www.brookings.edu/articles/strengthening-international-cooperation-on-ai/

Kimathi, S. K. (2025, August 15). Sustainable switch: DR Congo and the cost of tech. Reuters. https://www.reuters.com/sustainability/sustainable-switch-dr-congo-cost-tech-2025-08-15

Knauf Automotive. (2025, May 7). Optimisation of production processes using artificial intelligence. https://knaufautomotive.com/optimisation-of-production-processes-using-artificial-intelligence/

Kubota, T. (2017, November 15). Algorithm better at diagnosing pneumonia than radiologists. Stanford Medicine News Center. https://med.stanford.edu/news/all-news/2017/11/algorithm-can-diagnose-pneumonia-better-than-radiologists.html

Kuffer, M., Thomson, D. R., Boo, G., Mahabir, R., Grippa, T., Vanhuysse, S., Pfeffer, K., Makau, J., & Sliuzas, R. (2020). Tech brief: Identifying informal settlements from space—United Arab Emirates case study (UACS). International WaterCentre. https://watercentre.org/wp-content/uploads/2024/04/TechBrief_InformalSettlementID_UACS_11Aug2020_final-1.pdf

Kwet, M. (2019, March 13). Digital colonialism is threatening the Global South. Al Jazeera. https://www.aljazeera.com/opinions/2019/3/13/digital-colonialism-is-threatening-the-global-south

Lendvai, G. F., & Gosztonyi, G. (2025). Algorithmic bias as a core legal dilemma in the age of artificial intelligence: Conceptual basis and the current state of regulation. Laws, 14(3), 41. https://doi.org/10.3390/laws14030041

Leslie, D. (2019). Understanding artificial intelligence ethics and safety: A guide for the responsible design and implementation of AI systems in the public sector. The Alan Turing Institute. https://doi.org/10.5281/zenodo.3240529

Lewis, A. A. (2025). Unpacking cultural bias in AI language learning tools: An analysis of impacts and strategies for inclusion in diverse educational settings. International Journal of Research and Innovation in Social Science, 9(1), 1878–1892. https://doi.org/10.47772/IJRISS.2025.9010151

Li, P., Yang, J., Islam, M. A., & Ren, S. (2025). Making AI Less "Thirsty": Uncovering and Addressing the Secret Water Footprint of AI Models. arXiv. https://arxiv.org/abs/2304.03271

López-Quílez, A. (2025). AI, IoT and remote sensing in precision agriculture. Applied Sciences, 15(6), 2890. https://doi.org/10.3390/app15062890

Macdonald, K., & Patrinos, H. A. (2020, June 26). What will automation do to the labor market if education quality doesn't improve? COVID-19 offers a preview. World Bank Blogs. https://blogs.worldbank.org/en/education/what-will-automation-do-labor-market-if-education-quality-doesnt-improve-covid-19-offers

Malakul, S., & Park, I. (2023). The effects of using an auto-subtitle system in educational videos to facilitate learning for secondary school students: Learning comprehension, cognitive load, and satisfaction. Smart Learning Environments, 10(4), Article 4. https://doi.org/10.1186/s40561-023-00224-2

Manyika, J., Lund, S., Chui, M., Bughin, J., Woetzel, J., Batra, P., Ko, R., & Sanghvi, S. (2017, December). Jobs lost, jobs gained: Workforce transitions in a time of automation. McKinsey Global Institute. https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages

Marine Biodiversity Science Center. (2025). AI predicts ocean's future: How digital ecosystems are saving marine life. Marine Biodiversity & Sustainability Learning Center. https://www.marinebiodiversity.ca/ai-predicts-oceans-future-how-digital-ecosystems-are-saving-marine-life/

Mbuvha, R., Yaakoubi, Y., Bagiliko, J., Potes, S. H., Nammouchi, A., & Amrouche, S. (2024). Leveraging AI for climate resilience in Africa: Challenges, opportunities, and the need for collaboration.Computers and Society. https://doi.org/10.48550/arXiv.2407.05210

Mercator Ocean International. (n.d.). Research & innovation: Driving cutting-edge advances in Ocean monitoring, modelling, and forecasting to empower sustainable decision-making. Retrieved August 2, 2025, from https://www.mercator-ocean.eu/ocean-data/research-innovation

Mitchell, S. (2025, April 9). The grim reason women are being overmedicated. The Advertiser. https://www.adelaidenow.com.au/lifestyle/the-grim-reason-women-are-being-overmedicated/news-story/5dcdc9046617220d197a64d68f1a7eb4

Mohamed, S., Png, M. T., & Isaac, W. (2020). Decolonial AI: Decolonial theory as sociotechnical foresight in artificial intelligence. Philosophy & Technology, 33. https://doi.org/10.1007/s13347-020-00405-8

Moosbrugger, L., Seiler, V., Wohlgenannt, P., Hegenbart, S., Ristov, S., Eder, E., & Kepplinger, P. (2025). Load forecasting for households and energy communities: Are deep learning models worth the effort? arXiv. https://arxiv.org/abs/2501.05000

Nabavi, S. A., Mohammadi, S., Motlagh, N. H., Tarkoma, S., & Geyer, P. (2024). Deep learning modeling in electricity load forecasting: Improved accuracy by combining DWT and LSTM. Energy Reports, 12, 2873–2900. https://doi.org/10.1016/j.egyr.2024.08.070

Nainwal, N., & Dua, P. (2024, October 16). Exploring the role of artificial intelligence in combatting greenwashing. BPAS Journals, 44(2), Article 2580. https://bpasjournals.com/library-science/index.php/journal/article/view/2580

Nallakaruppan, M. K., Gangadevi, E., Shri, M. L., Balusamy, B., Bhattacharya, S., & Selvarajan, S. (2024). Reliable water quality prediction and parametric analysis using explainable AI models. Scientific Reports. https://doi.org/10.1038/s41598-024-56775-y

National Skills Coalition. (2023). New report: 92% of jobs require digital skills, one-third of workers have low or no digital skills due to historic underinvestment, structural inequities. https://nationalskillscoalition.org/news/press-releases/new-report-92-of-jobs-require-digital-skills-one-third-of-workers-have-low-or-no-digital-skills-due-to-historic-underinvestment-structural-inequities/

NQuiringMinds. (2025, April 2). AI-Driven sentencing algorithms raise concerns over systemic biases. NQuiringMinds.

https://nquiringminds.com/ai-legal-news/AIDriven-Sentencing-Algorithms-Raise-Concerns-Over-Systemic-Biases/

Mytton, D. (2025, February 9). Data center energy and AI in 2025. dev/sustainability. https://www.devsustainability.com/p/data-center-energy-and-ai-in-2025

NYU Tandon School of Engineering. (2023, December 12). Women may pay a "mom penalty" when AI is used in hiring, new research suggests. https://engineering.nyu.edu/news/women-may-pay-mom-penalty-when-ai-used-hiring-new-research-suggests

OECD. (2021). Fighting bid rigging in Brazil: A review of federal public procurement. OECD Publishing. https://www.oecd.org/content/dam/oecd/en/publications/reports/2021/05/fighting-bid-rigging-in-brazil_a5135918/ea7e1690-en.pdf

Overney, C. (2025). Designing for constructive civic communication: A framework for human-AI collaboration in community engagement processes. arXiv. https://arxiv.org/abs/2505.11684

Owen, C., Scougall, B., Walker, S., & Sanderson, S. (2025, May). Environmental injustice: How informal e-waste recycling impacts human rights. Norton Rose Fulbright. https://www.nortonrosefulbright.com/en-in/knowledge/publications/f54afc62/environmental-injustice-how-informal-e-waste-recycling-impacts-human-rights

Pal, S., Lazzaroni, R. M., & Mendoza, P. (2024, October 10). AI's missing link: The gender gap in the talent pool. Interface. https://www.interface-eu.org/publications/ai-gender-gap

Prabhu, R. (2024). Informal settlement mapping from very high-resolution satellite data using a hybrid deep learning framework. Neural Computing and Applications, 37(4), 2877-2889. https://doi.org/10.1007/s00521-024-10826-7

Price, W. N. II. (2019, November 14). Risks and remedies for artificial intelligence in health care. Brookings Institution. https://www.brookings.edu/articles/risks-and-remedies-for-artificial-intelligence-in-health-care/

Prism Sustainability Directory. (2023). Integrating Indigenous knowledge into AI climate models. Sustainability Directory. https://prism.sustainability-directory.com/scenario/integrating-indigenous-knowledge-into-ai-climate-models-2/

ProfileTree. (2025, June 8). The dangers of SDG greenwashing: How to stay authentic. ProfileTree. https://profiletree.com/sdg-greenwashing/

Qiu, Y., Tang, Z., & Luo, Y. (2023). Cross-border technology integration in the field of artificial intelligence based on neural network algorithm. In Proceedings of the 2023 International Conference on Intelligent Computing and Communication Systems (pp. 77–89). Springer. https://link.springer.com/chapter/10.1007/978-3-031-36014-5_7

Rahman, R., & Das, K. N. (2025). Artificial intelligence and machine learning in soil analysis for precision agriculture: A review. Journal of Experimental Agriculture International, 47(5), 511–524. https://doi.org/10.9734/jeai/2025/v47i53440

Rahmati, Y. (2024). Artificial intelligence for sustainable urban biodiversity: A framework for monitoring and conservation. University of Copenhagen. https://doi.org/10.48550/arXiv.2501.14766

Rajpurkar, P., Irvin, J., Zhu, K., Yang, B., Mehta, H., Duan, T., Ding, D., Bagul, A., Langlotz, C., Shpanskaya, K., Lungren, M. P., & Ng, A. Y. (2017). CheXNet: Radiologist-level pneumonia detection on chest X-rays with deep learning [Preprint]. arXiv. https://arxiv.org/abs/1711.05225

Ram, A. L., & Shahzar, E. (2024, February 15). Indigenous challenges: Displacement, climate change and resilience. World Economic Forum. https://www.weforum.org/stories/2024/02/indigenous-challenges-displacement-climate-change/

Rao, P. (2025, February 4). Ranked: Google's Thirstiest Data Centers (Graphics/Design by B. Banerjee). Visual Capitalist. https://www.visualcapitalist.com/mapped-googles-data-centers-water-use/

RightsCoLab. (2025). BarefootLaw. RightsCoLab Case Studies. https://rightscolab.org/case_study/barefootlaw/

Rigney, P. (2017, March 1). The all-seeing eye – An HMRC success story? Institute of Financial Accountants. https://www.ifa.org.uk/media/653935/Tax-HMRC-Connect-system.pdf

SAS Institute. (n.d.). Using AI to protect public procurement integrity. SAS. https://www.sas.com/content/dam/SAS/documents/marketing-whitepapers-ebooks/ebooks/en/public-procurement-integrity-risk-114175.pdf

Shahin, M., Hosseinzadeh, A., & Chen, F. F. (2025). AI-enabled sustainable manufacturing: Intelligent package integrity monitoring for waste reduction in supply chains. Electronics, 14(14), 2824. https://doi.org/10.3390/electronics14142824

Shaik, D. A. (2024). Predictive analytics in cybersecurity using AI. Insights2TechInfo. https://insights2techinfo.com/predictive-analytics-in-cybersecurity-using-ai/

Shimkus, B. (2025, August 6). Ford's AI cameras are catching hard-to-spot manufacturing errors. It could solve the company's costly recalls. Business Insider. https://www.businessinsider.com/ford-uses-ai-cameras-in-factories-prevent-recalls-costly-rework-2025-8

Strain, D. (2024, August 5). AI for mental health screening may carry biases based on gender, race. CU Boulder Today. https://www.colorado.edu/today/2024/08/05/ai-mental-health-screening-may-carry-biases-based-gender-race

Strubell, E., Ganesh, A., & McCallum, A. (2019). Energy and policy considerations for deep learning in NLP. Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics, 3645–3650. https://doi.org/10.18653/v1/P19-1355

Sun, R., & Trefler, D. (2023). The impact of AI and cross-border data regulation on international trade in digital services: A large language model (NBER Working Paper No. 31925). National Bureau of Economic Research. https://www.nber.org/papers/w31925

Tech Desk. (2024, February 8). How to have real conversations in different languages with Google Translate. The Indian Express. https://indianexpress.com/article/technology/tech-news-technology/how-to-real-time-google-translate-conversations-9150867/

Trappett, L. (2023, August 30). 10 ways to use artificial intelligence (AI) in community engagement. Social Pinpoint. https://www.socialpinpoint.com/ways-to-use-artificial-intelligence-ai-in-community-engagement/

UNESCO. (2021). Recommendation on the ethics of artificial intelligence. United Nations Educational, Scientific and Cultural Organization. https://unesdoc.unesco.org/ark:/48223/pf0000380455

UNESCO. (2022, September 1). 244M children won’t start the new school year. United Nations Educational, Scientific and Cultural Organization. https://www.unesco.org/en/articles/244m-children-wont-start-new-school-year-unesco

UNESCO. (2024). Addressing digital colonialism: A path to equitable data governance. UNESCO Inclusive Policy Lab.

https://en.unesco.org/inclusivepolicylab/analytics/addressing-digital-colonialism-path-equitable-data-governance

United Nations. (2025). Infrastructure and industrialization – United Nations Sustainable Development. https://www.un.org/sustainabledevelopment/infrastructure-industrialization/

United Nations, Department of Economic and Social Affairs. (2025). The Sustainable Development Goals report 2025. United Nations. https://unstats.un.org/sdgs/report/2025/

University College London. (2022, July 27). Gender bias revealed in AI tools for screening liver disease. UCL News. https://www.ucl.ac.uk/news/2022/jul/gender-bias-revealed-ai-tools-screening-liver-disease

U.S. Government Accountability Office. (2025). Generative artificial intelligence: Information on environmental and human effects (GAO-25-107172). https://www.gao.gov/assets/gao-25-107172.pdf

Vinuesa, R., Azizpour, H., Leite, I., Balaam, M., Dignum, V., Domisch, S., Felländer, A., Langhans, S., Tegmark, M., & Nerini, F. F. (2020). The role of artificial intelligence in achieving the Sustainable Development Goals. Nature Communications, 11(1), 233. https://doi.org/10.1038/s41467-019-14108-y

Wakunuma, K., Ogoh, G., Akintoye, S., & Eke, D. O. (2025). Decoloniality as an essential trustworthy AI requirement. In D. O. Eke, K. Wakunuma, S. Akintoye, & G. Ogoh (Eds.), Trustworthy AI (Chap. 12). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-75674-0_12

Wang, S., Chen, N.-L., Song, Y.-D., Wang, T.-T., Wen, J., Guo, T.-Q., Zhang, H.-J., Mo, L., Ma, H.-R., & Xiang, L. (2024). ML-Net: A multi-local perception network for healthy and bleached coral image classification. Journal of Marine Science and Engineering, 12(8), 1266. https://doi.org/10.3390/jmse12081266

Webb, A. (2025, April 30). Artificial intelligence and the Sustainable Development Goals: Operationalizing impact. UN Global Compact. https://unglobalcompact.org/compactjournal/artificial-intelligence-and-sustainable-development-goals-operationalizing

West, D. M. (2024, February 9). AI and the next digital divide in education. Brookings Institution. https://www.brookings.edu/articles/ai-and-the-next-digital-divide-in-education/

West, S. M. (2019). Discriminating systems: Gender, race, and power in AI - Report. Retrieved from. AI Now Institute.

https://ainowinstitute.org/publication/discriminating-systems-gender-race-and-power-in-ai-2

Wilser, J. (2024). "A Chatbot for Farmers.". Time. https://time.com/7094874/farmerline-darli-ai

Wodecki, B. (2022, July 18). Meet Bloom: The “most important AI model of the decade”: Bloom is the first open source, large multilingual model not owned by Big Tech. AI Business. https://aibusiness.com/nlp/meet-bloom-the-most-important-ai-model-of-the-decade-#close-modal

Wordly.ai. (2025, February 25). How AI translation can increase civic engagement. Wordly.ai. https://www.wordly.ai/blog/civic-engagement

World Bank. (2022). Digital Rwanda: Leveraging technology for inclusive development (World Bank Digital Economy Assessment). Washington, DC: World Bank.

World Bank. (2023). FDI spillovers and linkages: How can policies maximize benefits? Washington, DC: World Bank.

World Health Organization. (2021). WHO guidance on ethics and governance of artificial intelligence for health. Geneva: World Health Organization. https://www.who.int/publications/i/item/9789240029200

World Health Organization. (2024, October 1). Electronic waste (e-waste) [Fact sheet]. World Health Organization. https://www.who.int/news-room/fact-sheets/detail/electronic-waste-%28e-waste%29

XenonStack. (2023). "What is Edge Computing in Agriculture?". XenonStack. https://www.xenonstack.com/glossary/edge-computing-agriculture

Zhang, D., Lawrence, C., Sellitto, M., Wald, R., Schaake, M., Ho, D. E., Altman, R., & Grotto, A. (2022). Enhancing international cooperation in AI research: The case for a multilateral AI research institute. Stanford Institute for Human-Centered Artificial Intelligence. https://hai-production.s3.amazonaws.com/files/white-paper-enhancing-international-cooperation-ai-research-case-multilateral-ai-research-institute.pdf

Annexes

Annex A: Authors and Researchers

Author and Research Lead:

Mohammed Rakib Anam,
The Pennsylvania State University

Co-authors and Researchers:

Bruke Tewodros Amare,
The College of William & Mary

Nicolas DePaula,
The Pennsylvania State University

Andrew Joseph Diez,
The Pennsylvania State University

Logan Hage,
The Pennsylvania State University

Jerry Huang,
Harvard University

Jennifer McCauley,
The Pennsylvania State University

Vaisnavi Nemala,
Carnegie Mellon University

Juan Oliver,
The Pennsylvania State University

Catherine Page,
American University

Giana Isabel Rodriguez,
The Pennsylvania State University

Jayme Canseco Roter,
The Pennsylvania State University

Ananya Sharma,
University of North Carolina at Charlotte

Abdul Turay,
The Pennsylvania State University

Annex B: Subject Matter Experts and External Conversation Circle Contributors

Bilel Al Souaied

Elaf Alkazzaz

Oyinkansola Babayode

Einass Bakhiet

Iesha Baldwin

Benedict Ballman

Frank Barbano

Patrick Bennett

Denise Bowen

Josh Braden

Diego Bueno Pichardo

Joshua Cooper

Sanskriti Deva

Yajat Dewan

Carl Philip Dybwad

Eric Farrall

Mitchell Garber

Diana Godinho

Savitri Grover

Anjali Gulati

Rida Hamid

Michael Helbing

Oghenekome Igbogidi

Katherine Ilkhani

Shaun Karakkattu

Aya Atassi Khanji

Nathan Leo

Thomas Liu

Kate Mallory

Taha Masud

Virgil Parker

Alexa Dominique Pascual

Kabi Paudel

Sananshi Pidyar

Maya Poncelet

Sean Schrader

Charlyn Stanberry

Tanav Thanjavuru

Federico Trotta

Zachary Walnock

Raymond Yan

Jeff Zhou

Annex C: Conversation Circles Timeline

SDG(s)	Date
	Conversation Circle 1 March 5, 2025
	Conversation Circle 2 March 12, 2025
	Conversation Circle 3 March 19, 2025
	Conversation Circle 4 March 26, 2025
	Conversation Circle 5 April 2, 2025
	Conversation Circle 6 April 9, 2025
	Conversation Circle 7 April 16, 2025

SDG(s)	Date
	Conversation Circle 8 April 23, 2025
	Conversation Circle 9 April 30, 2025
	Conversation Circle 10 May 7, 2025
	Conversation Circle 11 May 14, 2025
	Conversation Circle 12 May 21, 2025
	Conversation Circle 13 May 28, 2025
	Conversation Circle 14 June 4, 2025

Annex D: Methodological Detail

This annex provides additional information on the design and implementation of the Conversation Circles and the broader research process. These details are meant to enhance the understanding of the methodology section of the paper.

Conversation Circles

At the heart of this initiative were 14 weekly virtual Conversation Circles, as seen in Annex C, held between March 5 and June 4, 2025, each dedicated to one or more of the 17 Sustainable Development Goals (SDGs). These sessions served as the primary mode of qualitative data gathering and were intentionally designed to center youth voices and grassroots lived experiences.

Each Conversation Circle ran for 60 minutes and followed a semi-structured format rooted in restorative dialogue and culturally responsive inquiry practices. Facilitators opened with framing questions, encouraged equitable participation, and documented insights in real time. Academic research on dialogue-based approaches (e.g., Brown & Lallo, 2020; Chacon et al., 2023) highlights their value for surfacing diverse perspectives, a rationale that informed this design.

SDG Coverage

Each Conversation Circle was organized around a specific SDG. There was intentional overlap of SDG topics in three sessions. SDG 8 & 9 was linked by themes of economic growth, labor, and industry. SDG 14 & 15 focused on environmental ecosystems: marine and terrestrial. SDG 16 & 17 were unified by themes of governance, partnership, and institutions.

Participation

A total of 14 circles covering 17 SDGs featured an average of 50 participants per session, drawing from UNA-USA chapters, youth-led NGOs and startups, student coalitions, and civil society organizations. A total attendance of 500+ took part in this unprecedented open dialogue initiative.

Expert Contributions

To guide these conversations, each panel featured 2 to 5 Subject Matter Experts (SMEs) including academics, industry professionals, technologists, and policy experts, who shared real-world perspectives on AI's impact across their respective SDG domains. In total, 40+ SMEs contributed their experience and expertise across this research campaign.

Thematic Analysis and Additional Research

Following each circle, facilitators compiled documents summarizing the key insights, stakeholder concerns, real-world case studies, and policy tensions raised in the dialogue. These summaries formed the raw analytical core of the research.

These research documents were then reviewed through qualitative thematic analysis, identifying cross-cutting patterns across SDG discussions. Rather than treating each SDG in isolation, researchers began identifying recurring AI-related themes, such as predictive analytics, algorithmic bias, or governance challenges, that surfaced across multiple goals. This approach helped illuminate how certain AI dynamics operate systemically.

After the formal research campaign concluded in June, the research team dedicated three weeks to desk research and synthesis. Insights from the Conversation Circles were cross-referenced with global data and real-world case studies from organizations such as the United Nations and its agencies, the World Bank reports and peer-reviewed academic literature. This step ensured that lived experiences were contextualized and supported by empirical evidence, grounding the paper in both community knowledge and institutional data.

Originally, this paper was structured SDG by SDG, reflecting the organization of the Conversation Circles. However, analysis revealed a pattern consistent with prior research: AI's impact does not conform to individual goal boundaries (Vinuesa et al., 2020). Recurring dynamics — such as data-driven efficiency, environmental cost, and labor displacement — emerged across multiple SDGs, linking them into broader societal, economic, and environmental domains.

This realization led to a thematic consolidation approach: the research team reorganized the paper around eight AI-focused themes (four positive, four negative), each drawing from multiple SDG insights. This structure enabled a systems-level view of AI's influence on global development while reducing redundancy and improving clarity.

Limitations

This paper was developed through a youth-led process that created space for dialogue and surfaced insights from a wide range of voices. At the same time, there are important limitations to acknowledge. The Conversation Circles engaged participants from different regions and sectors, but most were individuals with access to digital platforms and international networks. As a result, the perspectives of communities with limited connectivity or those often excluded from global conversations may not be fully represented here.

The findings are also based on qualitative reflections and shared experiences rather than quantitative data. They point to emerging patterns and concerns but are not intended to serve as

statistically representative conclusions. The value of this process lies in surfacing lived experiences, practitioner knowledge, and youth perspectives that might otherwise be overlooked.

In addition, the examples and references in this paper draw on a variety of sources, including peer-reviewed research, organizational reports, and practitioner case studies. This mix offers a broad view of how AI intersects with the SDGs, though the strength and type of evidence is not uniform across every theme. Finally, the scope of the project — covering all 17 Sustainable Development Goals within a 20-week timeline — allowed us to illustrate the interconnected nature of AI and sustainable development but necessarily limited the depth of exploration within each goal.

By naming these limitations, the paper is positioned as a transparent foundation for further dialogue, research, and action, while underscoring the importance of continued youth-led contributions to global policy conversations.

UNITED NATIONS ASSOCIATION
OF THE UNITED STATES OF AMERICA