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# **A LEGAL ANALYSIS ON AI EMPOWERING SUSTAINABILITY IN INDIA**

AUTHORED BY - TRIVENI. T & YESHWANTH SHARMA. P

## **Abstract**

The Integration Of Artificial Intelligence (AI) Into Various Sectors Is Revolutionizing The Approach To Achieving Sustainable Development, Particularly In The Context Of The United Nations' Sustainable Development Goals (SDGS). AI Has Demonstrated Significant Potential In Enhancing Healthcare By Improving Diagnostic Accuracy And Personalizing Treatment Plans, Thereby Contributing To Better Health Outcomes. In The Education Sector, AI Is Transforming Learning Experiences Through Intelligent Tutoring Systems And Personalized Education Plans, Ensuring More Inclusive And Effective Learning. For Water Management, AI Technologies Are Optimizing Resource Allocation And Monitoring Water Quality, Which Is Essential For Addressing Water Scarcity In India. Furthermore, AI's Role In Promoting Responsible Consumption Through Waste Reduction And Pollution Monitoring Highlights Its Potential In Driving Sustainable Industrial Practices. This Paper Explores The Legal And Regulatory Dimensions Of Deploying AI In India To Address Key SDGS: Good Health And Wellbeing (Goal 3), Quality Education (Goal 4), Clean Water And Sanitation (Goal 6), And Responsible Consumption And Production (Goal 12). The Paper Also Critically Examines The Intersection Of AI With Legal Frameworks, Focusing On The Importance Of Ethical Standards And Regulatory Compliance In Relevance To The Information Technology Act, 2000 And Drawing Attention On Global Guidelines Such As The Oecd AI Principles And The Eu AI Act, The Study Underscores The Necessity Of Robust Legal Measures To Ensure Data Privacy, Algorithmic Transparency, And Equitable Access To AI Technologies. India's Initiatives, Including The National Strategy For Artificial Intelligence And The Digital India Program, Are Analyzed To Illustrate How The Country Is Aligning AI Deployment With Ethical And Regulatory Standards. In Conclusion, The Paper Emphasizes That The Responsible Deployment Of AI, Supported By Strong Legal And Ethical Frameworks, Is Crucial For Maximizing Its Benefits And Advancing The SDGS. By Addressing These Regulatory And Ethical Challenges, AI Can Significantly Contribute To A Sustainable And Equitable Future For India.

**Keywords:** Artificial Intelligence, Climate Change Adaptation, Education, Healthcare, Legal System, Pollution, Sustainable Development Goals, Water And Waste Management, Data Privacy, Data Bias, Environmental And Social Issues In India.

### **Scope Of The Study**

The Objective Of This Research Paper Is To Explore The Integration Of Artificial Intelligence (AI) In Achieving Sustainable Development Goals (SDGS) In India, Specifically Focusing On Sdg 3 (Good Health And Well-Being), Sdg 4 (Quality Education), Sdg 6 (Clean Water And Sanitation), And Sdg 12 (Responsible Consumption And Production). This Paper Aims To Analyze The Potential Of AI To Address Key Challenges In These Sectors, Examine The Existing Legal And Regulatory Frameworks, And Provide Recommendations For Ethical And Responsible AI Deployment. By Investigating National And Global Initiatives, Relevant Legal Provisions, And Case Studies Of AI Applications, The Paper Seeks To Highlight The Transformative Role Of AI In Promoting Sustainable Development And Offer A Comprehensive Roadmap For Its Integration In India's Quest To Achieve SDGS.

### **Research Problem**

The Integration Of Artificial Intelligence (AI) Presents A Transformative Opportunity To Address Key Challenges In Achieving Sustainable Development Goals (SDGS) In India. However, This Potential Is Hindered By Several Issues, Including A Lack Of Comprehensive Legal And Regulatory Frameworks, Ethical Concerns, And Insufficient Public Awareness. Specifically, There Is A Gap In Understanding How AI Can Be Effectively And Responsibly Deployed To Achieve Sdg 3 (Good Health And Well-Being), Sdg 4 (Quality Education), Sdg 6 (Clean Water And Sanitation), And Sdg 12 (Responsible Consumption And Production).

### **Research Questions**

1. How Does AI Integration Accelerate Progress Towards Specific SDGS In India, Particularly In Education, Health Care , Water & Waste Management And Pollution Free Environment.
2. What Are The Cyber Security And Data Privacy Challenges Associated With AI Applications In These Sectors
3. How Effective Are Current Indian Cyber Laws In Addressing These Challenges And What Are The Improvement Needed?

## Research Gap

Despite The Growing Interest In AI And Its Potential To Achieve SDGS, There Is Limited Research On The Specific Legal And Regulatory Measures Required To Ensure Its Ethical And Responsible Use In India. This Paper Aims To Fill This Gap By Providing A Comprehensive Analysis Of The Current Legal Framework, Identifying Potential Challenges, And Offering Recommendations For Improvement.

## Research Methodology

Doctrinal Research

### 1. Introduction

The Development Of Instruments And Methods For Tackling Some Of The Most Pressing Global Issues And Producing Results With Substantial Social And Economic Effects Is Made Possible By Artificial Intelligence (AI). The 17 Sustainable Development Goals (SDGS) Set Forth By The United Nations Agenda 2030 Serve As A Framework For Prosperity And Peace On A Global Scale. An Evaluation Of Artificial Intelligence's (AI) Impact On The Accomplishment Of The Sustainable Development Goals Is Necessary Given The Technology's Emergence And Growing Influence Across Numerous Industries. The Combination Of Artificial Intelligence (AI) With Legal Frameworks Seems As A Powerful Force For Transformative Change In The Goal Of Sustainable Development. AI-Driven Solutions Are At The Vanguard Of Environmental Stewardship, Offering Previously Unheard-Of Capacities In Waste Management, Pollution Monitoring, Health Care And Educational Aspects. Artificial Intelligence Provides Stakeholders With Practical Insights To Minimise Environmental Degradation And Promote Resilience, Like Predictive Analytics For Air Quality Assessment. In Addition, AI Applications Have The Potential To Solve Socioeconomic Disparities By Promoting Inclusive Growth, Financial Accessibility, And Alternative Ways Of Reducing Poverty And Promoting Equal Access To Education And Health Care Facilities. AI Enables Targeted Interventions Suited To The Particular Requirements Of Marginalised Populations By Utilising Predictive Modelling And Data Analytics, Which Promotes Sustainable Development Trajectories.

### 2. Social Issues In India

Health And Education Are Vital For India's Development, Fostering A Healthy, Educated Population That Drives Economic Growth And Social Progress. AI Integration In Healthcare

Enhances Diagnostics And Patient Care, Addressing Access And Quality Issues. In Education, AI Personalizes Learning And Improves Outcomes, Bridging Gaps In Accessibility. This Technological Advancement Supports The Goals Of Equitable And Efficient Service Delivery, Crucial For Sustainable Development.

## 2.1. Good Health And Well Being

The Government, Tech Companies, And Traditional Healthcare Providers Are Collaborating More Now That AI For Healthcare Has Become A Priority. For Instance, Microsoft, The Medical Technology Start-Up Forus Health, And The Government's Official Policy Think Tank Niti Aayog Are Collaborating To Create A Pilot Program For The Early Identification Of Dr.<sup>1</sup> In Order To Establish The International Centre For Transformational Artificial Intelligence (ICTAI), Which Will Concentrate On Rural Healthcare, The Maharashtra State Government Has Also Inked A Memorandum Of Understanding With Niti Aayog And The Wadhvani AI Group<sup>2</sup>. The Microsoft Intelligent Network For Eyecare, Which Was Created In Collaboration With The Hyderabad-Based Lv Prasad Eye Institute, Has Also Been Adopted By The Telangana State Government<sup>3</sup> (Aayog Niti, 2018a). Apollo Radiology International (Ari), A Part Of Apollo Hospitals, Leverages Advanced Technology To Provide High-Quality Radiological Services. They Use AI To Enhance Diagnostic Accuracy And Early Disease Detection, Partnering With Global Organizations For Clinical Validation Of Machine Learning Algorithms.

According To The Recently Released Draft National Strategy For Artificial Intelligence In India, "Increased Technological Advancements, Along With Interest And Activity From Innovators, Provide An Opportunity For India To Solve Some Of Its Long-Standing Challenges In Providing Appropriate Healthcare To A Large Section Of Its Population." (Aayog Niti, 2018a). Integrating AI Into Healthcare Is Advantageous Due To Improved Diagnostic Accuracy, Personalized Treatments, And Efficient Resource Management. However, This Comes With Significant Legal Challenges, Such As Ensuring Data

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<sup>1</sup>Maheshwari R, "AI in Healthcare: What It Is and How It Works" *Forbes Advisor INDIA* (April 4, 2023) <<https://www.forbes.com/advisor/in/health-insurance/ai-in-healthcare/>>

<sup>2</sup>Prajakta Hebbar, "Maharashtra CM Launches New Artificial Intelligence Centre for Rural Healthcare" (*Analytics India Magazine*, August 12, 2019) <<https://analyticsindiamag.com/ai-news-updates/maharashtra-cm-launches-new-artificial-intelligence-centre-for-rural-healthcare/>>.

<sup>3</sup>Indiatimes, "Microsoft Intelligent Network's Applying the Power of AI to Help Millions Get Eyecare" *Indiatimes* (December 21, 2016) <<https://www.indiatimes.com/technology/news/microsoft-intelligent-network-s-applying-the-power-of-ai-to-help-millions-get-eyecare-267836.html>>.

Privacy, Obtaining Informed Consent, And Maintaining Algorithmic Transparency. These Issues Must Be Addressed To Protect Patient Rights And Ensure Ethical AI Deployment, Balancing The Benefits Of Technological Advancement With Robust Legal Safeguards For Achievement Of **Sdg 3 (Good Health And Wellbeing)**.

## 2.2. Education

India Is A Major Player In The Global Education Sector And Home To One Of The Biggest Networks Of Universities Worldwide. There Is A Strong Need To Implement AI Education At Different Levels Of The Indian Educational System, According To The Committee Study That Was Published In June 2023. The National Credit Framework And The National Higher Education Qualifications Framework Will Be Aligned With These AI Courses To Ensure That AI Education Is Delivered Consistently Throughout The Nation.<sup>4</sup>

Having Access To A High-Quality Education Is Essential For Both Individual Empowerment And Socioeconomic Advancement. Even With Its Amazing Achievements, India Still Struggles To Guarantee That All Of Its Citizens, Especially Those Living In Rural And Impoverished Areas, Have Equitable Access To Education. The Revolutionary Opportunity Presented By The Integration Of Artificial Intelligence (AI) Into Educational Systems Is To Address These Challenges. By Customizing Instruction, Providing Content In Regional Languages, And Providing Personalized Learning Experiences, AI-Driven Adaptive Learning Systems May Enhance Learning Outcomes And Close Educational Disparities.

Teachers Play A Crucial Role In The Educational System, But They Frequently Find It Difficult To Meet The Needs Of Each Individual Student And MAIntAIn A Variety Of Classroom Environments. AI-Powered Systems May Help Teachers By Automating Repetitive Tasks, Providing Them With Insights Into Their Students' Progress, And Offering Instructional Strategies.

With AI, Teachers Will Be Able To Focus More Of Their Time On Creating Engaging Learning Experiences And Less On Administrative Tasks, Which Will Ultimately Enhance Student Performance And Teaching Efficacy. The World Economic Forum Estimates That The Application Of AI To Administrative Duties Might Free Up 20% Of The Time Currently Spent On Regular Administrative Tasks, Giving Teachers More

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<sup>4</sup>“India to Have AI Education in the School Curriculum” (*INDIAai*) <<https://indiaai.gov.in/article/india-to-have-ai-education-in-the-school-curriculum>>.

Time To Mentor And Instruct Students.<sup>5</sup>

Project Embibe Is An AI-Driven Edtech Platform In India, Aiming To Democratize Education By Providing Personalized Learning Experiences. It Leverages AI To Create Customized Learning Paths For Students, Helping Them Achieve Better Academic Outcomes. Embibe's System Has Been Optimized To Work On Low-Bandwidth Internet And Low-Cost Devices At Scale, As Internet Connectivity Becomes A Concern For Students In Rural Areas Of The Country.<sup>6</sup>

It Collects Extensive Data From Students Interacting With Its Platform, Including Their Responses To Questions, Time Spent On Various Activities, And Learning Preferences. This Data Is Analyzed To Personalize Learning Experiences And Improve Educational Outcome. However, The Integration Of AI In Education Brings Legal Complexities, However This RAises Issues Such As Data Privacy Concerns And The Need For Regulatory Frameworks In Order To Ensure Students Data Is Ethically And Securely Handled. Despite These Challenges, AI In Education Sector Contributes To The Sustainable Development Goal (Sdg) 4, Which Focuses On Quality Education, By Making Learning Accessible And Effective For Millions Of Students Across India .Therefore, It Is Imperative That The Application Of AI In Education Be Done In An Approach That Upholds Moral Principles, Is Inclusive, And Is Consistent With The Goals Of Sustainable Development And Student Welfare.

### 3. Environmental Issues In India

Air Pollution And Water And Waste Management Are Critical Issues In India Due To Industrial Emissions, Vehicular Pollution, Stubble Burning, And Inadequate Infrastructure. Over Extraction Of Groundwater And Pollution From Industrial And Agricultural Runoff Exacerbate Water Scarcity. Inefficient Waste Management, Including Open Dumping And Plastic Waste, Further Degrades The Environment. Addressing These Challenges Is Essential For Public Health, Environmental Sustainability, And Economic Growth. Artificial Intelligence (AI) Can Be Used By The Government To Enforce Environmental Laws Pertaining To Waste Management Practices, Industrial Carbon Emissions, Littering, And Water Body Pollution. For Example, China Has Created AI Software That Tracks The Registration Plates Of Cars To Monitor Citizen

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<sup>5</sup>ibid.

<sup>6</sup>“Embibe: Changing the Face of Education” (*EMBIBE - the Most Powerful AI-powered Learning Platform*, October 7, 2024) <<https://www.embibe.com/in-en/embibe-in-news/embibe-changing-the-face-of-education/>>.

Littering And Subsequently Delivers Fines To The Offending Party.

### 3.1. Water And Waste Management

Water-Related Issues In India Include Shortages, Pollution, And Inefficient Distribution, All Of Which Put The Long-Term **Sustainability** Of Water Management Programs In Jeopardy. Due To Increasing Demands From Industry, Agriculture, And Urban Areas, As Well As A Growing Population, It Is Imperative To Ensure Access To Clean And Reliable Water Sources. India Is Ranked 120th Out Of 122 Countries In Terms Of Water Quality, With An Alarming 70% Of The Nation's Freshwater Sources Being Contaminated, According To Research By Niti Aayog.<sup>7</sup>

Artificial Intelligence Systems Have The Ability To Immediately Analyse Massive Amounts Of Data From Rivers, Lakes, And Groundwater Reservoirs. Through The Identification Of Subtle Fluctuations That May Indicate Contamination, These Systems Provide Timely Intervention Prior To The Reaching Hazardous Pollution Levels. Wegot Utility Solutions Is An Innovative Company That Provides Iot Based Water Management Solutions. Their Smart Water Meters And Sensors Help Monitor And Manage Water Usage In Real-Time, Significantly Reducing Water Wastage. By Providing Detailed Consumption Data, Wegot Helps Users And Administrators Make Informed Decisions To Conserve Water And Lower Costs. Their Technology Has Been Instrumental In Saving Billions Of Liters Of Water, Contributing To Sustainable Water Management Practices.<sup>8</sup>

Waste Management Agencies Can Save Operating Costs And Lessen Traffic And Pollution In Cities By Employing This Streamlined Approach. Artificial Intelligence (AI) Also Assists In Locating Potential Recycling Opportunities Within The Waste Stream, Focusing Efforts On Diverting Valuable Materials From Landfills And Towards Environmentally Friendly Channels For Recycling And Reuse. Google Is Collaborating With Bangalore-Based Saahas Zero Waste (Szw) To Deploy Its Circularnet AI Model To Improve Plastic Waste Sorting And Recycling. Circularnet Uses Machine Learning To Identify Materials And Streamline The Sorting Process, Thereby Reducing Waste Sent

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<sup>7</sup>Kumar A, "How Using AI Can Optimise Water Distribution" *Inc42 Media* (October 7, 2023) <<https://inc42.com/resources/revolutionising-water-management-how-using-ai-can-optimise-water-distribution/#:~:text=Real%2DTime%20Optimisation%3A%20Picture%20AI,like%20a%20perfectly%20choreographed%20dance.>>

<sup>8</sup>"Smart Water Meters for Residential and Commercial Buildings | Save up to 50% of Water | WEGoT" <<https://www.wegot.in/>>.

To Landfills And Supporting India's Circular Economy.<sup>9</sup>Saahas Zero Waste Aims To Manage Over 500 Tons Of Waste Daily By 2026, With AI Playing A Crucial Role In Driving Efficiency And Profitability In The Sector. With AI's Comprehensive Approach, India Can Lead The World In Sustainable Water And Waste Management, Safeguarding Vital Resources And Environmental Health For Future Generations. By Implementing AI-Driven Innovations, India May Mitigate The Negative Effects Of Rapid Industrialization And Urbanization, Creating A Society That Is More Resilient And Environmentally Conscious In The Process.<sup>10</sup> This Efficiency Aligns With **Sdg 6 (Clean Water And Sanitation)** Making AI An Indispensable Tool In India's Quest For Sustainable Development. However, **Maintaining** This Efficiency Requires Overcoming Challenges Such As Ensuring Data Privacy, Algorithmic Transparency, And Regulatory Compliance. Addressing These Issues Is Crucial To Leveraging AI's Full Potential While Safeguarding Public Trust And Adhering To Legal Standards. By Doing So, AI Can Significantly Contribute To Achieving Sustainable Development Goals In India.

### 3.2. Air Pollution

The Quality Of The Air In India Is A Serious Concern, Especially In Places Like Delhi. AI Can Assist In Real-Time Air Pollution Monitoring With The Use Of Sensors And Satellite Data. India Has To Involve As Many Real-Time Monitoring Stakeholders In AI As Possible Because, As Of December 1, 2023, The Nation's Air Pollution Levels Were Among The Highest In The World, Seriously Endangering Both The Economy And The Health Of The Nation. The Most Dangerous Pollutant, Ambient Pm 2.5, Is Present At Unsafe Levels In All 1.4 Billion Inhabitants Of India Due To A Multitude Of Causes.<sup>11</sup> AI-Powered Models Are Able To Forecast Trends In Air Quality And Recommend Pollution Mitigation Measures Including Streamlining Traffic, Locating Pollution Sources, And Controlling Pollutants From Industry. AI-Powered Systems Are Able To Combine Information From Several Sources, Such As Weather Forecasts, Satellite

<sup>9</sup>“MSN” <<https://www.msn.com/en-in/money/topstories/googles-ai-push-in-india-targets-healthcare-waste-management-and-smart-farming/ar-AA1sub8c>>.

<sup>10</sup>Eawater and Eawater, “From Crisis to Connectivity: Transforming India's Water Management with IoT and AI | EverythingAboutWater” (*EverythingAboutWater*, February 3, 2024) <<https://www.eawater.com/casestudy/from-crisis-to-connectivity-transforming-indias-water-management-with-iot-and-ai/>>.

<sup>11</sup>“Catalyzing Clean Air in India” (*World Bank*) <<https://www.worldbank.org/en/country/india/publication/catalyzing-clean-air-in-india#:~:text=The%20air%20pollution%20levels%20in,pollutant%20%2D%20emanating%20from%20multiple%20sources>>.

Imaging, And Ground-Level Sensors, To Offer Real-Time Air Quality Monitoring. These Systems Have The Ability To Evaluate Data Streams Continually In Order To Determine Pollution Levels, Locate Hotspots, And Notify Authorities And The Public About Possible Health Dangers.

India's Project Geoal Is A Cutting-Edge Program Designed To Locate And Reduce Air Pollution Hotspots Caused By Brick Kilns. The Initiative, Which Is A Partnership Between The Bihar State Pollution Control Board (BSPCB) And The United Nations Development Programme (UNDP), Uses Artificial Intelligence (AI) And Satellite Technology To Track And Manage Emissions From Brick Kilns.<sup>12</sup>The Deployment Of Geoal In India RAises Significant Legal Complexities, Including The Need For Stringent Data Privacy Protections And The Requirement For Transparent, Accountable AI Algorithms. Ensuring Compliance With Existing Environmental And Data Protection Regulations Is Essential To Maximize The Benefits Of This Technology. This Effectiveness Aligns With **Sdg 12** (Responsible Consumption And Production), Positioning AI As A Critical Asset In India's Journey Towards Sustainable Development.

#### **4. Global And National Effort For AI Integration**

The Organization For Economic Co-Operation And Development (OECD) Plays A Crucial Role In The Attainment Of Sustainable Development Goals (SDGS) By Providing Policy Advice, Research, And Tools To Help Countries Devise Strategies, Strengthen Governance Frameworks, And Measure Progress Towards Achieving These Goals<sup>13</sup>The OECD Also Promotes Policy Coherence, Effective Institutions, And Innovative Solutions To Address Global Challenges. Integrating Artificial Intelligence (AI) Into This Framework Can Significantly Accelerate Progress Towards The SDGS By Enhancing Decision-Making, Optimizing Resource Use, And Fostering Innovation Across Various Sectors. AI Can Be Leveraged To Improve Healthcare, Education, Climate Action, And More, While Ensuring Equitable Access And Ethical Use Of Technology. This Integration Presents A Promising Avenue For Achieving A Sustainable And Equitable Future<sup>14</sup>The OECD AI Principles Outline Key Recommendations To Ensure Responsible AI Development And Deployment. These Include Promoting AI Applications That

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<sup>12</sup>"GeoAI Platform Is Helping Target Brick Kiln Hotspots of Air Pollution" (*INDIAai*) <<https://indiaai.gov.in/case-study/geoai-platform-is-helping-target-brick-kiln-hotspots-of-air-pollution>>.

<sup>13</sup>"Sustainable Development Goals (SDGs)" (*OECD*) <<https://www.oecd.org/en/topics/sustainable-development-goals-sdgs.html>>.

<sup>14</sup>"OECD Artificial Intelligence Papers" (*OECD iLibrary*) <[https://www.oecd-ilibrary.org/science-and-technology/oecd-artificial-intelligence-papers\\_dee339a8-en](https://www.oecd-ilibrary.org/science-and-technology/oecd-artificial-intelligence-papers_dee339a8-en)>.

Support Inclusive Growth, Sustainable Development, And Well-Being, Ensuring AI Respects Human Rights And Promotes Fairness And Equality, Fostering Transparency And Explainability In AI Systems To Build Trust, And Developing Robust, Secure, And Safe AI Systems To Prevent Harm And Ensure Reliability. Additionally, Clear Accountability Frameworks Are Established To Address Potential Risks And Ensure Compliance With Ethical Standards And Handling Data Legally. These Principles Aim To Guide The Development Of Trustworthy AI That Benefits Society While Minimizing Risks, Thus Providing A Solid Foundation For Integrating AI Into Sustainable Development Efforts.<sup>15</sup>

In The Last Several Years, India Has Introduced Initiatives And Guidelines For The Responsible Development And Deployment Of AI Technologies, But There Are Currently No Specific Laws Regulating AI In India. The Apex Public Policy Think Tank In India, Niti Aayog, Was Given A Mandate By The Government To Create Rules And Regulations For The Creation And Application Of Artificial Intelligence. In 2018, The Niti Aayog Launched The National Approach For Artificial Intelligence #Aiforall Approach, Which Comprised AI Research And Development Guidelines Centered On Healthcare, Agriculture, Education, “Smart” Cities And Infrastructure, And Smart Mobility And Transformation. The Increased Advances In Technology, And Interest And Activity From Innovators, Provide An Opportunity For India To Solve Some Of Its Long-Existing Challenges In Providing Appropriate Healthcare To A Large Section Of Its Population," According To The Recently Released Draft National Strategy For Artificial Intelligence In India<sup>16</sup>

Members Of The Global Partnership On Artificial Intelligence (GPAI) Include India. At The 2023 Gpa

I Summit, Which Was Recently Held In New Delhi, GPAI Professionals Emphasized Their Work On Responsible AI, Data Governance, And The Future Of Work, Innovation, And Commercialization. Experts Ensured That Artificial Intelligence (AI) Is Used Responsibly To Address Urgent Global Concerns Under The 2023 Themes Of Global Health, Climate Change, And Societal Resilience. Prominent Experts From Several Fields Such As Research, Industry, Civil Society, International Organizations, And National Governments Come Together Under The Umbrella Of The Global Partnership On Artificial Intelligence (GPAI), Which Is Pronounced "Gee-Pay." They Are All Committed To The Same Cause. Through Supporting Innovative

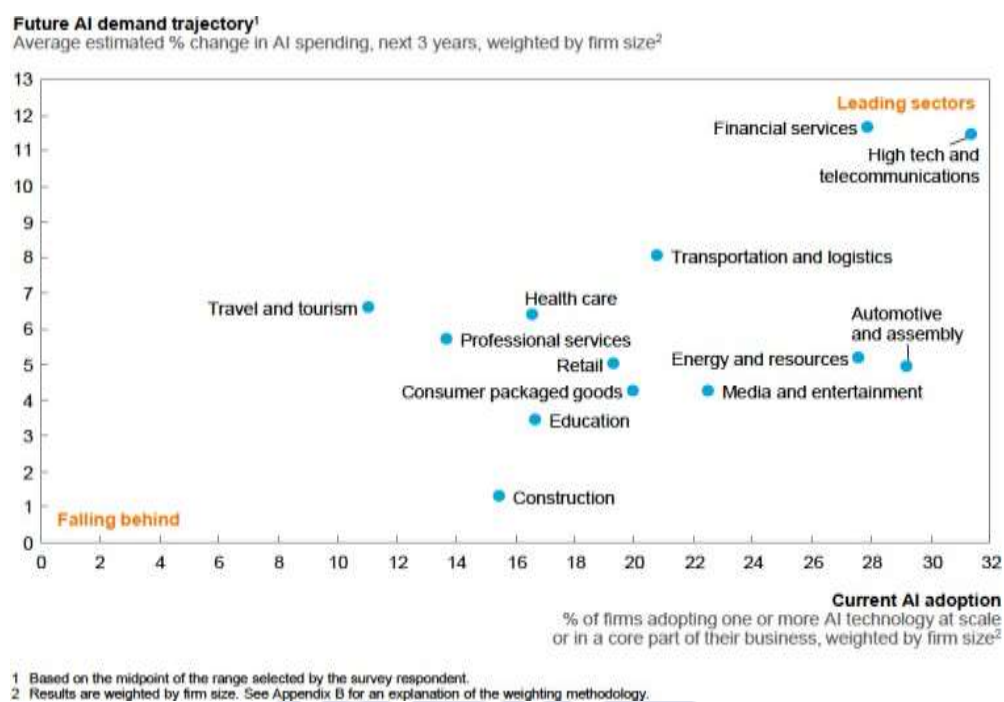
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<sup>15</sup>OECD, “Recommendation of the Council on Artificial Intelligence” (OECD 2019) report <<https://oecd.ai/en/assets/files/OECD-LEGAL-0449-en.pdf>>.

<sup>16</sup>Arnab Kumar and others, “National Strategy for Artificial Intelligence” report <<https://www.niti.gov.in/sites/default/files/2023-03/National-Strategy-for-Artificial-Intelligence.pdf>>.

Research And Applied Initiatives In AI-Related Issues, GPAI Aims To Close The Gap Between Theoretical Comprehension And Real-World Application Of AI.<sup>17</sup>

The Ministry Of Electronics And Information Technology, One Of The Other Indian Ministries Working On AI Policy, Has Established Committees On The Subject And Received Reports From Them Regarding Its Development, Safety, And Ethical Implications.<sup>18</sup> A Committee On Artificial Intelligence (AI) Has Been Established By The Bureau Of Indian Standards, The Country's National Standards Organization, And It Is Currently Formulating Draft AI Standards.<sup>19</sup>



**Figure 1**(Source From Niti Aayog)<sup>20</sup>

This Image Clearly Depicts The Sectors Like Healthcare And Education Have Quite A Lot Of Ground To Cover As Far As AI Adoption Is Concerned. Healthcare, Despite Being One Of The Hottest Areas Of AI Startup Investments Is Tricky, Especially In The Indian Context. Niti Aayog Has Evaluated Various Sectors That Will Be Impacted By AI And Has Taken A Conscious Decision To Focus On A Select Set Of Sectors Where Only Private Sector Led Initiatives Will Not Lead To Achieving Desired Societal Outcomes. Focusing Upon These Sectors Would Effectively Contribute Towards The Achievement Of The Sgds.

<sup>17</sup>“Global Partnership on Artificial Intelligence” (GPAI) <<https://gpaidelhi2023.indiaai.gov.in/about>>.

<sup>18</sup>“Artificial Intelligence Committees Reports | Ministry of Electronics and Information Technology, Government of India” <<https://www.meity.gov.in/artificial-intelligence-committees-reports>>.

<sup>19</sup>“Standards” (July 21, 2022)

<[https://www.services.bis.gov.in/php/BIS\\_2.0/dgdashboard/Published\\_Standards\\_new/standards?commttid=Mzg2&commttname=TEIURCAzMA%3D%3D&aspect=&doe=&from=2022-07-21&to=2023-07-21](https://www.services.bis.gov.in/php/BIS_2.0/dgdashboard/Published_Standards_new/standards?commttid=Mzg2&commttname=TEIURCAzMA%3D%3D&aspect=&doe=&from=2022-07-21&to=2023-07-21)>.

<sup>20</sup>ibid.

## 5. Challenges To Integrate AI In Achieving SDGS

### 5.1. Data Gaps

One Such Factor Is A Lack Of Data. It's Important To Make Sure There Isn't A Data Divide As Many People Have Voiced Concerns About The Digital Divide. Recent Incidents Demonstrate How Difficult It Is To Have Inadequate, Biassed, Incomplete, Or Poor-Quality Data Sets Since They Can Lead To Unfair Outcomes And Reinforce Existing Practices And Biases.<sup>21</sup>

### 5.2. Lack Of Accountability Framework

Even Though Algorithms Have Been Around For An Extended Period, Their Technological Sophistication And Range Of Applications Is Always Growing. A Versatile Structure For Evaluating The Suitable Extent And Technological Practicability Of Diverse Accountability Systems Would Aid In Optimizing The Advantages That Algorithms Provide While Minimizing Any Possible Disadvantages. The Best Way To Go About Doing This Is Using Multiple Ways Such As To Define Best Practices For Closely Examining The Data Sets That The Algorithms Were Trained On, Making Sure That The Sets Are Not Biassed, Incomplete, Erroneous, Or Overly Or Under-Represented In Terms Of Specific Populations, Ensure Accurate Or Account For Data Labels—Both For Individual Data Points And For "Metadata" Pertaining To The Dataset (E.G., Source, Date/Method Of Production, Etc.)

And To Ensure Data Sets Are Suitable For The Intended Use, And Sensitive Data Is Utilized Sensibly, Legally, And In Accordance With The Guideline To Use Least Personally Identifiable Information As Possible.

### 5.3. No Regulatory Outlook

There Are Many Ways That AI Might Affect Society, Which Is Why The Government, Along With Other Stakeholders, Must Play A Crucial Role In Ensuring Favorable Outcomes. Horizontal Controls On AI Technologies Would Hinder Innovation, Make It Harder For The Law To Keep Up With Technological Advancements, And Inefficiently Control The Application Of AI In Crucial Areas Like Justice Access, Which Would Call For An Understanding Beyond The Scope Of General Laws. Thus, Rather Than A Universal Rule, A Sectoral Approach To AI Regulation

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<sup>21</sup>Mattu JAL Lauren Kirchner,Surya, "Machine Bias" *ProPublica* (December 20, 2023) <<https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>>

Would Enable More Flexibility, More Efficient Implementation, And Focused Approaches That Could Better Manage Certain Areas. There Are Currently Several General Rules (Like The It Act Spi Rules)<sup>22</sup> And Industry-Specific Regulations Covering Everything From Communications To Transportation To Health. Sectoral Experts May Require Assistance To Develop AI Competence, But They Are Usually In A Prime Position To Evaluate Context-Specific Applications, The Effects, And Outcomes Of New Technology.

#### 5.4. Data Privacy

The Digital Economy Of India Depends On Data-Driven Innovation And Data-Driven Governance, Two Fundamental Concepts For The Long-Term Application Of Artificial Intelligence. According To The Apec Privacy Framework, A Preventing Harm Principle Is A Framework That Aids In Achieving Data Protection While Balancing Innovation. As Long As User Transparency, Empowerment, And Control (Such As The Opportunity To Quickly Withdraw From A Service Later On) Are Combined With Organizational Accountability, The Collection And Processing Of Personal Data Should Be Permitted With The Fewest Possible Constraints. Additionally, This Will Boost User Confidence In AI Technology, Which Is Necessary For Their Broad Adoption.<sup>23</sup>

### 6. Information Technology Act, 2000 And AI Framework

Protect Data. It States That If A Body Corporate (Which Includes Companies, Firms, Sole Proprietorships, Or Other Associations Engaged In Commercial Or Professional Activities) Is Negligent In Implementing And **Maintaining** Reasonable Security Practices And Procedures, And This Negligence Causes Wrongful Loss Or Wrongful Gain To Any Person, The Body Corporate Shall Be Liable To Pay Damages By Way Of Compensation To The Affected Person<sup>24</sup>

Section 43a Of The It Act Can Be Adapted To Address AI-Specific Concerns, Ensuring That Organizations Deploying AI Systems Are Held Accountable For Data Security And Privacy. Here

<sup>22</sup>MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY and Department of Information Technology, "Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011" (2011) <<https://www.dataguidance.com/sites/default/files/in098en.pdf>>.

<sup>23</sup>"APEC Privacy Framework | APEC" (APEC) <[<sup>24</sup>Government of India, \*THE INFORMATION TECHNOLOGY ACT, 2000\* \(2000\) <\[https://www.indiacode.nic.in/bitstream/123456789/13116/1/it\\\_act\\\_2000\\\_updated.pdf\]\(https://www.indiacode.nic.in/bitstream/123456789/13116/1/it\_act\_2000\_updated.pdf\)>.](https://www.apec.org/Publications/2005/12/APEC-Privacy-Framework#:~:text=The%20APEC%20Privacy%20Framework%20promotes%20a%20flexible%20approach,th e%20creation%20of%20unnecessary%20barriers%20to%20information%20flows.></a>.</p>
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Integration Of Section 43a Into The AI Framework Can Be Done By Expanding The Definition Of Sensitive Personal Data By Including The Data Collected And Processed By AI Systems, Such As Biometric Data, Behavioral Data, And Any Other Data Used For Training AI Models And Mandate AI-Specific Security Practices By Establishing Guidelines For Reasonable Security Practices Specifically Tailored For AI Systems. This Includes Secure Data Storage, Encryption, Access Controls, And Regular Audits To Ensure Compliance.

**Section 66** Of The Information Technology Act, 2000 Deals With Computer-Related Offenses. It States That If Any Person Dishonestly Or Fraudulently Does Any Act Referred To In Section 43, They Shall Be Punishable With Imprisonment For A Term Which May Extend To Three Years, Or With A Fine Which May Extend To Five Lakh Rupees, Or With Both.<sup>25</sup>

Adapting Section 66 To Explicitly Address AI-Related Offenses Such As Unauthorized Access And Use Of AI Algorithms Without Permission Or AI Driven Malware Or Bots Used For Exploitation Will Ensure A Robust Legal Framework That Keeps Pace With Technological Advancements, Promoting Responsible AI Use And Safeguarding Public Interest. This Interpretation Aligns Section 66 With The Broader Objectives Of Ensuring Safe, Ethical, And Legal AI Deployment In India.

**Section 72** Of The It Act Addresses The Breach Of Confidentiality And Privacy. It States That If A Person, By Virtue Of Their Authority Under The Act, Accesses Any Electronic Record Or Information Without The Concerned Person's Consent, And Discloses Such Information, They Can Be Punished With Imprisonment For Up To Two Years, A Fine Up To One Lakh Rupees, Or Both.<sup>26</sup>

Section 72 Of The It Act Can Be Adapted To Address AI-Specific Concerns Regarding Confidentiality And Privacy Such As Ensuring That AI Systems Handling Personal Data Comply With Strict Confidentiality Protocols. Access To Data Should Be Limited And Monitored. By Mandating Explicit Consent For The Use Of Personal Data In AI Applications. Users Must Be Informed About How Their Data Will Be Used, Stored, And Shared And Requiring AI Developers To Document Data Usage And Ensure Transparency In AI Processes. Any Unauthorized Access Or Disclosure Should Be Traceable And Accountable. And Applying The

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<sup>25</sup>ibid.

<sup>26</sup>ibid.

Same Penalties For Unauthorized Access And Disclosure Of Data By AI Systems As Outlined In Section 72. Lastly By Encouraging The Adoption Of Ethical AI Practices That Prioritize User Privacy And Data Security. Integrating These Measures Will Ensure That AI Systems Respect Confidentiality And Privacy, **Maintaining** Trust And Compliance With Legal Standards.

## 7. The Eu Artificial Intelligence Act

The Eu Artificial Intelligence Act Includes Several Provisions Related To Data Collection And Ethical Standards To Ensure The Responsible Use Of AI

**7.1. Article 5 Outlines Specific AI Practices That Are Prohibited** Due To Their Potential To Cause Significant Harm. These Include AI Systems That Use Subliminal, Manipulative, And Deceptive Techniques To Distort Behavior And Impair Informed Decision Making, And Those That Exploit Vulnerabilities Of Individuals Or Groups Based On Age, Disability, Or Social/Economic Situations, Causing Significant Harm.<sup>27</sup> It Also Prohibits AI Systems That Evaluate Or Classify People Based On Social Behavior Or Personal Traits, Leading To Detrimental Or Unjustified Treatment, And Those That Predict The Risk Of Criminal Offenses Based Solely On Profiling Or Personality Traits, Except When Supporting Human Assessments Based On Objective Facts. Lastly, It Bans Unrestricted Facial Recognition Databases Created Through Untargeted Scraping Of Images From The Internet Or Cctv Footage. These Prohibitions Aim To Safeguard Individual Rights And Societal Norms.<sup>28</sup>

**7.2. Article 10 Focuses On the Quality And Governance Of Data Used In High-Risk AI Systems.** It Mandates That Training, Validation, And Testing Datasets Meet Specific Quality Criteria To Ensure The Reliability And Safety Of AI Systems The Article Outlines Data Governance Practices, Including Design Choices, Data Collection Processes, Data-Preparation Operations, And Bias Detection And Mitigation<sup>29</sup>. It Also Emphasizes The Need For Datasets To Be Relevant, Representative, Error-Free, And Tailored To The Intended Purpose Of The AI System.

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<sup>27</sup>“Futurium | European AI Alliance - Navigating Article 5 of the EU AI Act: What Enterprises Need to Know” <<https://futurium.ec.europa.eu/en/european-ai-alliance/document/navigating-article-5-eu-ai-act-what-enterprises-need-know>>.

<sup>28</sup>Intersoft Consulting Services AG, “Art. 5 AI Act - Prohibited AI Practices - AI Act” (*AI Act*, August 20, 2024) <<https://ai-act-law.eu/article/5/>>.

<sup>29</sup>Support, “Article 10 - Data and Data Governance - EU Artificial Intelligence Act” (*EU Artificial Intelligence Act*, July 13, 2024) <<https://www.aiact-info.eu/article-10-data-and-data-governance/>>.

**7.3. Article 60 Addresses Accountability For AI Crimes.** It Establishes Rules For Market Monitoring, Surveillance, Governance, And Enforcement To Ensure Compliance With The Act. National Authorities Are Responsible For Supervising AI Systems, And Individuals Can File Complaints With These Authorities. Violations Of The Act Can Result In Significant Fines, Ensuring That AI Systems Are Used Responsibly And Ethically. Ensuring That AI Systems Adhere To Ethical Standards And Legal Requirements, The Article Supports The Creation Of Just And Inclusive Societies, Strengthening Institutions And Fostering Trust In AI Technologies.<sup>30</sup>

**7.4. Article 72ensures Post-Market Monitoring By Providers And Post-Market Monitoring Plan For High-Risk AI Systems** Of The Eu Artificial Intelligence Act Focuses On The Obligations Of Providers To Monitor AI Systems After They Have Been Placed On The Market. Providers Must Establish A Post-Market Monitoring Plan To Ensure The Ongoing Safety And Performance Of High-Risk AI Systems. This Includes Tracking And Evaluating Any Incidents, Taking Corrective Actions If Necessary, And Reporting To The Relevant Authorities. The Goal Is To Continuously Improve The Safety And Reliability Of AI Systems Throughout Their Lifecycle.<sup>31</sup>

**7.5. Article 101of The Eu Artificial Intelligence Act Imposes Fines On Providers Of General-Purpose AI Models For Intentional Or Negligent Infringements.** The Fines Can Be Up To 3% Of The Provider's Annual Global Turnover Or €15 Million, Whichever Is Higher And Article 100 Addresses Administrative Fines For Eu Institutions, Bodies, Offices, And Agencies That Fail To Comply With The Act. This Ensures Accountability And Adherence To AI Regulations Across All Entities Within The Eu. These Articles Establish A Robust Framework For Enforcing Compliance And Accountability In AI Regulation Within The Eu.

India Should Consider Adopting Provisions Inspired By The Eu Artificial Intelligence Act To Ensure The Safe Use Of AI In Achieving Sustainable Development Goals (SDGS). Establishing A Centralized Regulatory Authority To Oversee AI Development, Implementing Risk-Based Frameworks, Promoting Transparency And Accountability, And Enhancing

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<sup>30</sup>“Article 60: Testing of High-Risk AI Systems in Real World Conditions Outside AI Regulatory Sandboxes | EU Artificial Intelligence Act” <<https://artificialintelligenceact.eu/article/60/>>.

<sup>31</sup>“Article 74: Market Surveillance and Control of AI Systems in the Union Market | EU Artificial Intelligence Act” <<https://artificialintelligenceact.eu/article/74/>>.

Awareness And Education Are Essential Steps. Encouraging International Cooperation And Investing In Research And Development Can Further Support Ethical AI Practices.

## **8. Recommendations**

Under Indian And International Laws, As Well As Best Practices, Commission A Sector-By-Sector Investigation To Determine How Current Legal Frameworks Relate To AI-Enabled Systems And Identify Any Gaps That May Exist, Particularly With Regard To The Information Technology Act,2000 And Make Amendments To Include AI Specific Provisions And By Developing Sector Specific AI Guidelines Would Promote A Positive Integration Of AI In SDGS. Establishing A Dedicated AI Regulatory Authority Can Oversee AI Development And Deployment, Ensuring Adherence To Ethical Standards And Legal Requirements. This Authority Would Classify AI Applications Based On Their Risk Levels, Implementing Stringent Regulations For High-Risk Applications To Safeguard Public Interests.

Data Governance Practices Must Be Standardized. High-Quality, Representative, And Unbiased Datasets Should Be Mandated For AI Systems, With Clear Documentation Of Data Sources And Processing Methods. This Ensures Transparency And Reliability In AI-Driven Decisions.

Accountability Mechanisms Should Be Strengthened. Clear Guidelines For AI Developers And Providers Can Help Mitigate Risks And Ensure Responsible AI Use. Implementing Rigorous Testing And Validation Protocols, Especially For High-Risk AI Applications, Will Enhance Safety And Efficacy.

International Cooperation Is Crucial. Collaborating With Global Partners To Harmonize AI Standards And Share Best Practices Will Help India Stay At The Forefront Of AI Innovation While Ensuring Ethical Deployment.

Public Awareness And Education Initiatives Are Essential To Promote Understanding And Trust In AI Technologies. Enhancing Digital Literacy Will Empower Citizens To Engage With AI Responsibly. By Appointing An Advisory Committee To Cooperate On AI Governance Issues, Including Representatives From The AI Research Community, Industry, And Civil Society Will Accelerate The Overall Development Of The Nation And Boost The Attainment Of SDGS By The Year 2030.

## 9. Conclusion

The Intersection Of Artificial Intelligence (AI) And The Legal System Presents A Powerful Opportunity To Advance The Sustainable Development Goals (SDGS) In An Era Characterized By Unparalleled Obstacles. By Means Of An Extensive Investigation Including Environmental Conservation, Socio-Economic Integration, And Regulatory Oversight, This Article Highlights The Revolutionary Capacity Of Artificial Intelligence In Tackling Urgent Worldwide Issues. Through The Utilization Of Predictive Analytics, Data-Driven Interventions, And Adaptive Technology, Artificial Intelligence (AI) Presents Inventive Approaches To Reduce Pollution, Promote Socio-Economic Resilience, And Improve Healthcare And Educational Results. To Assure Accountability, Transparency, And FAir Access, However, The Ethical And Regulatory Aspects Of AI Deployment Need To Be Carefully Assessed Within A Strong Legal Framework. India Aims To Bring Its AI Governance Into Line With International Trends, Especially After The European Union (Eu) Passed The AI Act, A Significant Regulatory Milestone. This Legislation Serves As A Benchmark For India's Regulatory Aspirations. The Symbiotic Relationship Between AI And The Legal System Is Essential For Navigating The Intricacies Of Technology Innovation And Societal Consequences Since It Fosters Interdisciplinary Collaboration And Stakeholder Participation. Leveraging The Synergies Between Artificial Intelligence And Legal Procedures Holds Promise In Crafting A World Where Resources Are Really Inclusive And Opportunities Abound For Everyone As We Set Out On A Collective Journey Towards A More Egalitarian, Resilient, And Sustainable Future.

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