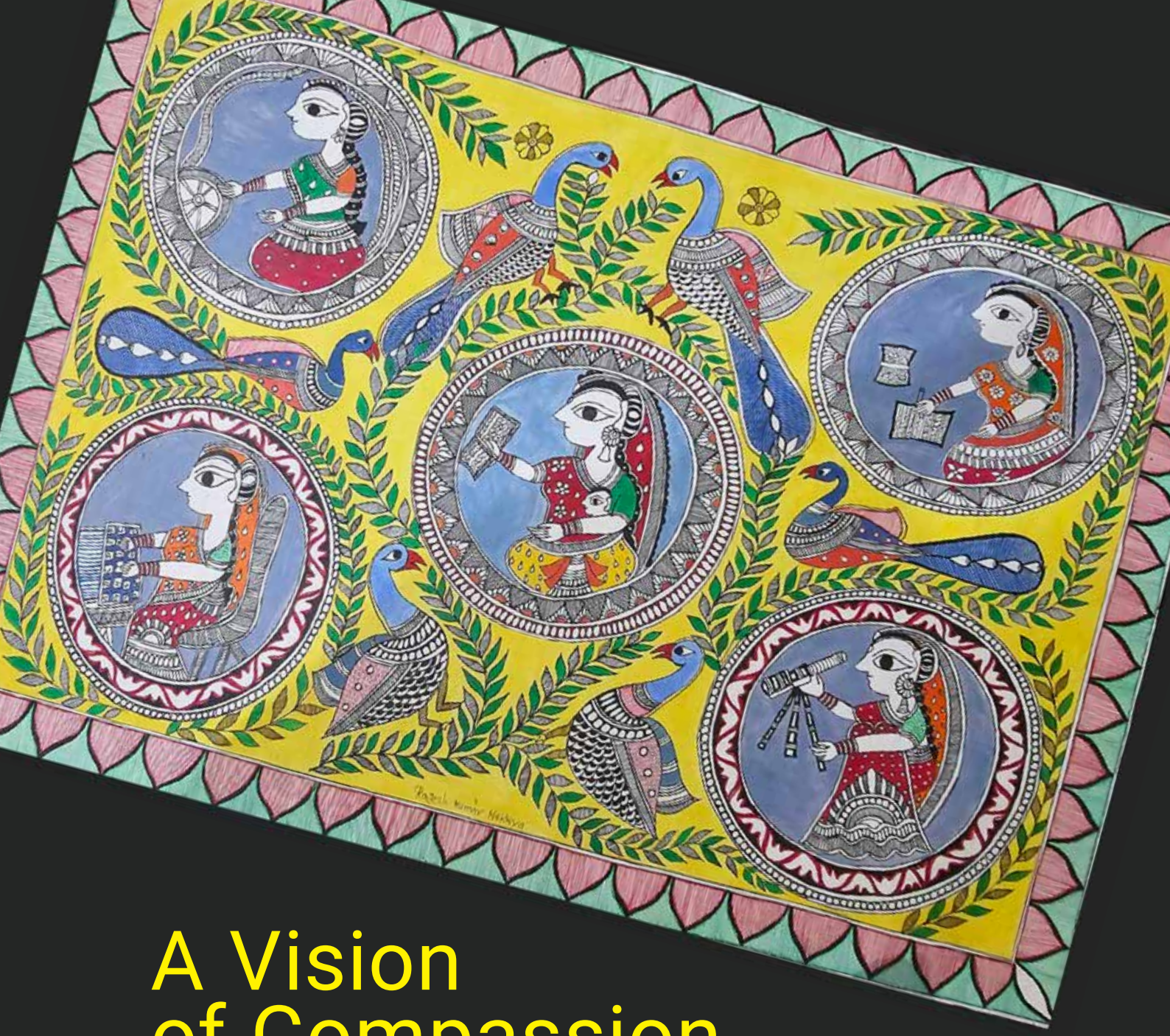
AMRITA VISHWA VIDYAPEETHAM

DEEMED TO BE UNIVERSITY

SUSTAINABILITY REPORT 2023-24



A Vision of Compassion

and Responsibility through Education

Amrita Vishwa Vidyapeetham preserves, documents, and digitally archives Madhubani painting, strengthening cultural heritage and artisan livelihoods. Through capacity building, AR/VR cultural experiences, and global visibility, the initiative reduces migration, fosters sustainable local economies, and enables worldwide audiences to engage with this eco-friendly tradition in immersive and deeply educational ways globally.

The Madhubani painting (on the left side) celebrates women's strength, creativity, and knowledge, showing them engaged in learning, weaving, reading, teaching, and nurturing. It reflects the same spirit upheld at Amrita, where women are empowered through skill development, education, and capacity building. The artwork beautifully echoes Amrita's commitment to helping women grow as learners, creators, and leaders with dignity.

Content

SUSTAINABLE DEVELOPMENT GOAL (SDG) INDEX:

OUR CHANCELLOR

A Vision of Compassion and Responsibility through Education

Our world is standing at a crucial juncture, urging us to reflect and act to safeguard the planet's beauty for generations to come. True progress extends beyond material success; it thrives in our capacity to uphold compassion, equity, and respect for all life. The Sustainable Development Goals provide a roadmap to this future, yet achieving them demands our collective resolve and unity.

Sustainability begins with recognizing that all life is interconnected. When we view ourselves as part of nature, not separate from it, we embark on a journey toward genuine fulfillment. Change must start within, nurtured by simplicity, contentment, and empathy, with each action creating ripples that affect lives across distances and generations.

Our natural resources are sacred and diminishing. We must protect and cherish them with humility and gratitude. By adopting lifestyles that reduce waste, conserve resources, and uplift those in need, we create a legacy of peace and harmony.

At Amrita Vishwa Vidyapeetham, we embed these values in our students, ensuring education becomes a transformative experience that shapes compassionate and responsible individuals. Through research, community service, and sustainable initiatives, we aim to cultivate seeds for a brighter, sustainable future.

Let us transcend divisions and build a world where peace and compassion guide every effort. May our shared journey be held in the prayer:

Lokah Samastah Sukhino Bhavantu—May all beings everywhere be happy and free.

With love and blessings,

Mata Amritanandamayi Devi
Chancellor, Amrita Vishwa Vidyapeetham

PROVOST MESSAGE

Journey of Compassion and Sustainability

Dear Amrita Community and Friends,

It is with immense pride and gratitude that I share this message in our latest sustainability report, a testament to our enduring commitment to advancing the United Nations Sustainable Development Goals (SDGs). At Amrita Vishwa Vidyapeetham, we see sustainability not only as an institutional responsibility but as a profound moral imperative. As the UNESCO Chair on Experiential Learning for Sustainable Innovation and Development, I am privileged to witness firsthand how education, research, and community engagement come together to create real-world impact, particularly for marginalized communities and vulnerable populations.

This past year has been marked by significant achievements aligned with the SDGs. Hosting the Global Summit for Gender-Related Chairs and Networks brought together over 36 UNESCO Chairs from 46 countries to address gender issues, fostering a spirit of collaboration for transformative change for women and girls.

Amrita's pioneering research, like the Wireless Sensor Network system for landslide warnings, reflects our dedication to tackling practical challenges. Projects in renewable energy, waste reduction, and carbon footprint minimization have advanced our goal of becoming a Zero Waste campus. Our outreach efforts have also extended to underserved communities, promoting sustainable practices.

Through partnerships with governments, NGOs, and international organizations, we are driving sustainability across borders. As we celebrate these accomplishments, we remain committed to inspiring positive change, encouraging our students, faculty, and partners to build a sustainable future. Together, let's continue working towards a world that values the dignity, security, and well-being of all beings.

Warm regards,
Dr. Maneesha V. Ramesh
Provost, Amrita Vishwa Vidyapeetha

Amrita Vishwa Vidyapeetham Institutional Overview

CAMPUSES

STUDENT BODY

Over **24,000** Students from more 50 countries

Female enrolment

81%

Nearly every Indian state

FACULTY AND RANKINGS

Over **1,700** faculty memebers

37 recognized among World's Top 2% Scientists (2025)

RESEARCH THEMES

Education for Sustainable Development

Disaster Resilience
Healthcare Innvoation
Sustainable Livelihoods

Offere > 250+ degree programs

Patents, translational research, community impact

Top **41** universities worldwide for supporting the Nd tiones Sustainable Development Goals (SDGs)


SUSTAINABLE
DEVELOPMENT
GOALS
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

SDG OVERVIEW

Amrita Vishwa Vidyapeetham adopts a holistic and compassion-driven approach to the United Nations Sustainable Development Goals (SDGs). The university integrates SDG principles across education, research, outreach, and campus operations, aiming for measurable real-world impact.

SDG Strategy and Implementation

1. The curriculum is built around the E4LIFE framework—Experience, Embrace, Empower, and Engage—which emphasizes community-based experiential learning.

2. Amrita collaborates closely with rural communities, enabling faculty and students to co-design and implement sustainable solutions alongside local stakeholders.

3. The Amrita Center for Sustainable Development Goals leads international partnerships, develops SDG dashboards, and fosters data-driven policy and innovation.

High Impact and Global Recognition

1. Amrita ranks 1st in India and 41st globally in the Times Higher Education Impact Rankings 2025 for SDG performance, with global top 50 rankings in SDG 4 (Quality Education), SDG 7 (Affordable and Clean Energy), SDG 5 (Gender Equality), SDG 3 (Good Health and Wellbeing), SDG 9 (Industry, Innovation, Infrastructure), SDG 6 (Clean Water), and SDG 13 (Climate Action).

2. SDG themes are actively promoted through academic programs, UNESCO Chairs, innovation, and large-scale conferences focused on sustainability and resilience.

Amrita's approach to SDGs exemplifies its mission to harmonize academic excellence with ground-level impact, positioning it as a leader in sustainable development practices and social responsibility in higher education.

INTERNATIONAL COLLABORATIONS

Global Partnerships and Academic Networks

Amrita Vishwa Vidyapeetham maintains a broad and growing global presence through formal agreements, joint programming, research ties, and student/faculty mobility. The **Amrita Center for International Programs (ACIP)** continues to steer this expansion, serving as a strategic node for managing MoUs, dual degrees, exchanges, collaborative research, and global outreach.

Amrita's academic reputation is strengthened through a robust network of international partnerships that connect its faculty and students to leading institutions around the world. These collaborations open new pathways for dual degrees, joint research, student and faculty exchanges, and co-taught courses that enhance both academic rigour and global exposure.

University of New Mexico (UNM), USA:

The partnership with UNM enables student and faculty exchanges, dual-degree pathways, and integrated coursework in engineering and computer science. This collaboration bridges American and Indian academic frameworks, encouraging collaborative research and innovation in artificial intelligence, sustainable engineering, and information systems.

University of Paderborn, Germany Amrita's partnership with the University of Paderborn facilitates joint curriculum development, research collaborations, and semester exchange opportunities in computer science and engineering. This academic linkage supports German–Indian cooperation in automation, embedded systems, and digital manufacturing.

MoU Between Amrita Vishwa Vidyapeetham and the University of Minnesota Formalised:

A Memorandum of Understanding (MoU) between Amrita Vishwa Vidyapeetham and the University of Minnesota, Twin Cities, was formalised to advance global collaboration in research and education. The collaboration enables joint degrees, research partnerships, innovation initiatives, and technology transfer. The University of Minnesota—founded in 1851 and regarded as a top U.S. public research university—is recognised for hosting engineering, medical, law, veterinary, and agricultural schools on a single campus, making this partnership especially impactful.

AIMS-Harvard Medical School Collaboration Formalised Through Landmark MoU

A landmark Memorandum of Understanding (MoU) between the Amrita Institute of Medical Sciences (AIMS) and Harvard Medical School was signed, marking the first such partnership between an Indian hospital and the institution. The collaboration was established to advance work in critical care, pain medicine, and anaesthesiology.

Under the MoU, opportunities were created for joint research, faculty and student exchanges, specialised training programmes, and the development of advanced fellowships. The first joint research project was designated to focus on sepsis.

Five-day certificate programmes in ICU management, acute medicine, and quality assurance were proposed for postgraduate students of Amrita School of Medicine, and access was offered to Harvard's simulation facilities for advanced training in bronchoscopy, ultrasound, and pain management.

Politecnico di Milano (POLIMI), Italy: Amrita and POLIMI have introduced dual-degree and remote-teaching models in architecture, design, and engineering. These programs combine Italian design thinking and Amrita's technology-oriented education to foster innovation in sustainable architecture, renewable materials, and smart infrastructure.

Telecom & IT institutes in Europe: Collaborations with institutions such as Grenoble INP (France), University of Twente (Netherlands), Aalto University (Finland), and Halmstad University (Sweden) enable structured 3+2 and 4+1 programs, wherein Amrita students can pursue integrated bachelor's and master's degrees. These arrangements provide global academic mobility and align Amrita's programs with European credit transfer and qualification systems (ECTS), ensuring academic compatibility and recognition across continents.

Strategic Research Alliances

Beyond academic coursework, Amrita's strategic research alliances with globally renowned universities elevate its position as a hub for knowledge creation and innovation. Formal Memoranda of Understanding and collaborative research networks link Amrita with **Harvard University, Columbia University, University of Tokyo, KTH Royal Institute of Technology (Sweden), VU Amsterdam, King's College London, University of Oxford**, and several leading German, Italian, and Australian institutions.

These alliances span a broad range of disciplines including biomedical engineering, public health, data science, sustainable energy systems, and climate resilience. Joint projects focus on addressing pressing global challenges—such as climate adaptation, digital equity, and community resilience—through technology-enabled, human-centred solutions. Collaborative workshops, visiting fellowships, and joint doctoral supervision provide scholars at Amrita with opportunities to work alongside some of the world's foremost experts, thereby fostering a culture of global academic exchange.

In fact, when Amrita entered a Letter of Intent (LoI) with the **University of Arizona (UA)**, the collaboration was presented as "one of the largest ever international university collaborations in India," aiming to facilitate **dual-degree programs at bachelor's and master's levels** in engineering, biotech, public health, and agriculture, benefitting some 200+ students annually for semester exchange.

Amrita Vishwa Vidyapeetham has established a **Joint Centre of Excellence in Water Sustainability with Delft University of Technology (Netherlands)** to advance research, education, and community impact. The Centre integrates TU Delft's strengths in hydrology and water engineering with Amrita's field presence and social innovation to deliver scalable solutions for sustainable water resource management, climate resilience, and water quality. Priority themes include watershed and river-basin decision support,

real-time monitoring using IoT and remote sensing, flood–drought risk modelling and nature-based solutions, low-cost treatment and circular water reuse, and community-centred water governance.

National and Industry Partnerships

Domestically, Amrita has strengthened strategic collaborations with industry and institutions that enhance its curriculum relevance, particularly in technology, infrastructure, and applied innovation:

A notable recent partnership is with **MathWorks,** makers of MATLAB and Simulink, launched in August 2024. This collaboration embeds **Model-Based Design for IoT** (using MATLAB & ThingSpeak) into Amrita's engineering curriculum, supported by faculty development programs and hands-on student workshops during the 2024–2025 academic session. Through its research centers (e.g., AmritaWNA — Amrita Center for Wireless Networks & Applications), Amrita leverages external collaborations in electronics, prototyping, IoT, smart systems, and technology translation.

Live-in-Labs®: A Model for Experiential Learning and Sustainable Development

From an academic standpoint, Live-in-Labs® functions as both a **curricular component** and a **research platform**, bridging the gap between theoretical frameworks and real-world problem-solving. It is embedded into degree programs as a **credit-bearing course** (e.g., 24CLT690) open to undergraduate, postgraduate, and PhD students across engineering, social sciences, health sciences, management, and humanities disciplines. Students earn credits through multi-phase engagement: pre-field orientation, participatory research design, on-site implementation, and reflective analysis.

Academic Framework and Pedagogical Philosophy

At its core, Live-in-Labs® represents a **transdisciplinary learning laboratory** that redefines how higher education can contribute to sustainable development.

Its academic model draws on four principles aligned with Amrita's **E4LIFE framework** — Experience, Embrace, Empower, Engage.

- **Experience:** Students gain first-hand exposure to socio-economic and ecological realities beyond the classroom.
- **Embrace:** Participants cultivate empathy by understanding local perspectives, indigenous knowledge systems, and social structures.
- **Empower:** Faculty and students co-develop low-cost, context-appropriate technologies and social innovations.
- **Engage:** The outcomes are re-integrated into academic programs through theses, publications, and technology transfer.

Scope, Reach, and Academic Outcomes

Over a decade, Live-in-Labs® has evolved into one of India's most extensive experiential education platforms. According to institutional data, the program has:

- Implemented more than **300 field projects** in **25 Indian states**, involving **over 400,000 hours** of community engagement.
- Reached more than **1 million rural residents** through interventions in **water, health, energy, sanitation, waste, housing, and education.**

- Engaged **50+ academic departments and 30 international partners**, including Rutgers University (USA), Uppsala University (Sweden), University of Twente (Netherlands), and Politecnico di Milano (Italy).

- Produced numerous **student dissertations, design projects, journal publications, and conference papers** linking science, sustainability, and society.

Live-in-Labs® projects often evolve into research outputs and technology prototypes, enabling students to pursue **thesis work, start-ups**, or **policy collaborations.** For example, research on solar micro-grids, low-cost water filtration, and AI-based telehealth systems originated as Live-in-Labs® field pilots before scaling through funded grants.

Thematic Focus and Interdisciplinary Approach

Live-in-Labs® projects address multiple Sustainable Development Goals (SDGs) simultaneously, demonstrating how universities can act as catalysts for holistic societal change. Key focus areas include:

- **Clean Water & Sanitation (SDG 6)** – Developing low-cost water purification systems, rainwater harvesting, and greywater reuse models.
- **Affordable & Clean Energy (SDG 7)** – Installing solar micro-grids and biogas systems for community electrification.
- **Health & Well-being (SDG 3)** – Implementing telemedicine networks, nutrition awareness programs, and rural health monitoring systems.

- **Sustainable Agriculture (SDG 2)** – Designing soil-testing kits, irrigation optimization tools, and organic farming technologies.

- **Gender Equality (SDG 5)** – Developing ergonomically improved tools for women workers (e.g., load-carrying aids).

- **Sustainable Communities (SDG 11)** – Promoting waste management, eco-housing, and disaster-resilient infrastructure.

Times Higher Education (THE) Asia Award 2024

The international acclaim for Live-in-Labs® reached a milestone when Amrita Vishwa Vidyapeetham received the **Times Higher Education (THE) Asia Award 2024** for **Outstanding Contribution to Environmental Leadership** — making it the **only Indian university** to win in that category.

The award recognized how Live-in-Labs® "mobilizes university intellect and compassion to solve complex environmental and developmental challenges at the grassroots." Judges highlighted its ability to combine scientific rigor with human values, describing it as "a powerful demonstration of how higher education can be a force for environmental stewardship and community resilience."

Three projects were cited in the award citation:

- **"Ricycle"** – A low-cost rice planting device that improves rural farm productivity.

- **Load-carrying aid for women** – Reduces physical strain for women in agrarian communities.

- **Compressed Earth Block housing** – Sustainable construction using local soil and low-energy materials.

The judges emphasized that these projects exemplified how applied research, field empathy, and student innovation can lead to tangible environmental and social benefits. The award situates Amrita's Live-in-Labs® as a global exemplar of education linked with the Sustainable Development Goals (SDGs).

The award recognized how Live-in-Labs® "mobilizes university intellect and compassion to solve complex environmental and developmental challenges at the grassroots." Judges highlighted its ability to combine scientific rigor with human values, describing it as "a powerful demonstration of how higher education can be a force for environmental stewardship and community resilience."

Three projects were cited in the award citation:

- **"Ricycle"** – A low-cost rice planting device that improves rural farm productivity.
- **Load-carrying aid for women** – Reduces physical strain for women in agrarian communities.
- **Compressed Earth Block housing** – Sustainable construction using local soil and low-energy materials.

The judges emphasized that these projects exemplified how applied research, field empathy, and student innovation can lead to tangible environmental and social benefits. The award situates Amrita's Live-in-Labs® as a global exemplar of education linked with the Sustainable Development Goals (SDGs).

E4Life PhD Programme: Empowering Global Scholars for Sustainable Development

Amrita Vishwa Vidyapeetham proudly marked a major milestone with the graduation of the inaugural cohort of its flagship **E4Life PhD Programme,** a pioneering fully-funded doctoral initiative dedicated to sustainable development. Launched in 2020 under the visionary guidance of **Amma, Chancellor of Amrita**, the programme is hosted by the **School for Sustainable Futures** and is designed to nurture future-ready researchers capable of transforming communities through science, innovation, and compassion.

The first graduating batch comprises **23 scholars representing 9 countries**—India, Zambia, Nigeria, Zimbabwe, Uganda, Ghana, Iran, Tanzania, and the United Kingdom. Many of these scholars come from disadvantaged or underrepresented backgrounds, reflecting the programme's strong commitment to **equity, global inclusion, and capacity building.**

Through its integrated approach—combining interdisciplinary research, field immersion, and community-centric solutions—the E4Life PhD Programme contributes directly to multiple SDGs, especially **SDG 4 (Quality Education), SDG 10 (Reduced Inequalities),** and **SDG 17 (Partnerships for the Goals).** The graduation of this diverse cohort marks a significant step in advancing global sustainable development leadership through education.

Amrita School for Sustainable Futures: Advancing Education, Research, and Community Impact for a Sustainable Tomorrow

The Amrita School for Sustainable Futures drives community-focused sustainability through experiential learning, interdisciplinary research, and global collaborations. Its curriculum integrates immersive field projects, multi-disciplinary teaching, and thematic focus areas such as climate resilience, environmental stewardship, sustainable livelihoods, and community development.

A diverse student community strengthens peer learning and global perspectives. The School hosts the fully funded E4LIFE PhD Program, enabling scholars to conduct SDG-aligned, impact-driven research with strong field engagement.

Guided by an international advisory committee, and supported by global partners, the School continues to build knowledge, tools, and human capacity for sustainable and resilient communities.

Amrita in the World's Top 2% Scientists List 2025

We are proud to share that 37 faculty members from Amrita Vishwa Vidyapeetham have been recognized among the World's Top 2% Scientists, according to the global ranking compiled by Stanford University, in collaboration with Elsevier and SciTech Strategies.

This marks the sixth consecutive year that Amrita's researchers have earned this distinction — a testament to our university's sustained excellence in research, innovation, and global impact across diverse disciplines. This year's recognition spans career-long achievements and single-year impact, highlighting Amrita's growing influence in science, medicine, technology, business, and sustainable development. With 12 faculty honored in both categories, Amrita continues to advance compassion-driven research — transforming knowledge into solutions for humanity.

SDG 1

1.1 Research on Poverty
Publications within SDG 1: No Poverty (2022-2024)

Parameter	Data
Scholarly Output	40
Field-Weighted Citation Impact	1.69
Citation Count	244

From 2022 to 2024, **Amrita Vishwa Vidyapeetham** made significant strides in advancing the United Nations Sustainable Development Goal 1 — *No Poverty* — through impactful research that bridges technology, innovation, and community empowerment. The university produced **40 high-quality scholarly outputs** with a **Field-Weighted Citation Impact of 1.69**, surpassing the global average and reaffirming Amrita's leadership in poverty alleviation research. Core themes such as **Participatory Rural Appraisal, Community Engagement, Microcredit, and Self-Help Groups** underscore Amrita's deep commitment to fostering inclusive and sustainable rural development. Simultaneously, research on **Blockchain, FinTech, and Smart Contracts** demonstrates how Amrita integrates frontier technologies to strengthen financial inclusion and enhance transparency in poverty reduction initiatives. With **1,707 views and 244 citations**, Amrita's SDG 1 research continues to generate global visibility and influence, reflecting its mission to eradicate poverty through

knowledge, innovation, and compassion-driven action.

Amrita Vishwa Vidyapeetham has implemented extensive initiatives advancing SDG 1, focusing on financial inclusion, educational access, entrepreneurship, and rural and tribal empowerment. These multi-campus programs directly benefit poor and marginalized communities, with documented outcomes and recognition at national and international forums.

Entrepreneurship and Seed Grants:

Launched in June 2024, the Amrita Center for Entrepreneurship Seed Grant Scheme awards competitive grants (up to ₹200,000) to student- and community-led startups from disadvantaged backgrounds,

providing both seed funding and structured mentorship for business model development. The ARISE 2024 Startup Festival supported such ventures with equity-free grants and incubation services.

Student Support: Full Funding and Scholarships:

The E4Life PhD Fellowship and several scholarship schemes offer full tuition, accommodation, stipends, and research grants to low- and lower-middle-income students. The Rekha Eipe Memorial Scholarship ensures full funding for economically disadvantaged women, and additional support covers health, housing, and food for bottom 20% income-group scholars. Over 2,500 students received need-based scholarships in 2024, achieving a 92% continuation rate.

Rural and Tribal Empowerment through STI Hubs:

Through partnerships with the Department of Science and Technology and Mizoram University, the STI Hub initiative reached over 4,400 direct beneficiaries and 170,000 indirectly, training rural and tribal youth in digital skills, preventive health, and small-scale product manufacturing.

(Caption: Our local leaders have reached out to about 9,000 people in their communities with 70% of them women and girls.)

Community Training and Welfare Access:

The "Bridging the Gap" program in October 2024 connected hundreds of villagers to government welfare schemes by training them in digital documentation, Aadhaar services, and public benefits. AMMACHI Labs and ALARM outreach events delivered education and hygiene awareness to underserved schools.

(caption: A Week in Kanti, Haryana – Learning, Sharing, and Growing Together)

Affirmative Admission Policies:

Amrita prioritizes admission of students from the lowest income quintiles, guided by transparent policies grounded in economic need and affirmative action for socially backward communities. Merit, economic need, and social factors guide the allocation of partial or full tuition waivers, living stipends, and health benefits.

Experiential and Sustainability Education:

The Sustainability Education @ AMRITA program integrates circular economy, ethical leadership, and impact measurement into coursework, while the Live-in-Labs® program immerses students in rural communities to co-create solutions for critical needs like water, sanitation, healthcare, and digital access.

Policy Engagement and National Recognition:

Amrita's SDG 1 impact extends to policy advice and implementation at local, state, and national levels. In 2024, Amrita's UNESCO Chair led dialogues and presented research on rural poverty, skill development, and digital inclusion at national SDG summits.

(Caption: Amrita Provost Dr. Maneesha Ramesh showcased the University's commitment to SDGs at the Times Higher Education's Global Sustainable Development Congress.)

SDG 2

2.1. Research on Hunger
Publications within SDG 2: Zero Hunger (2022-24)

Parameter	Data
Scholarly Output	230
Field-Weighted Citation Impact	4.28
Citation Count	2717

From 2022 to 2024, Amrita Vishwa Vidyapeetham made remarkable contributions toward advancing United Nations Sustainable Development Goal 2 — Zero Hunger, through cutting-edge research integrating technology, sustainability, and food security. The university produced 230 scholarly outputs with an exceptional Field-Weighted Citation Impact of 4.28, underscoring the global excellence and transformative influence of its research in sustainable agriculture and food systems. Amrita's work spans critical areas such as Food Security, Sustainable Agriculture, Organic Farming, and Climate Change Adaptation, showcasing its commitment to enhancing agricultural productivity and resilience in India. Through pioneering applications of Artificial Intelligence, Machine Learning, Deep Learning, and Internet of Things (IoT), Amrita is driving innovation to reduce crop loss and strengthen data-driven farming solutions. With 53 international collaborations, 9,140 views, and 2,717 citations, Amrita's SDG 2 research demonstrates outstanding global impact and leadership in ensuring equitable, technology-enabled, and sustainable food futures.

2.2. Campus Food Waste

Journey to a Greener Future | Amrita Sustainable Solid Waste Management Centre

Amrita Vishwa Vidyapeetham manages campus food waste through a closed-loop, data-driven system: dining halls and canteens practice "prevention first" (menu engineering, smaller default portions with opt-ups, bulk-to-plate conversion near closing time, and visual nudges at buffet lines); food is source-segregated into four streams—(1) untouched surplus fit for donation, (2) prep scraps/plate waste (organics), (3) recyclables, and (4) rejects/contaminants—with color-coded bins and steward oversight. Surplus fit for human consumption is cooled, labeled, and dispatched via registered partners under time-temperature logs; the rest of the organics go to on-site treatment—biogas digesters (for kitchen gas/steam make-up) and aerobic composters (for campus landscaping and kitchen gardens), with simple meters to track gas output and compost yield. Each outlet uses a weigh-and-log station (pre-consumer, post-consumer, and surplus), producing weekly

dashboards on diversion rate, plate-waste grams per diner, hotspots by meal/time, and estimated methane avoided; findings feed back into menu tweaks, vendor KPIs, and student campaigns. SOPs cover segregation, allergen and food-safety checks for donation, cleaning of bins and carts, odour/pest control, and contingency routing if a digester/composter is offline. Green teams (students + facility staff) run audits and challenges (e.g., "Clean Plate" weeks), while contracts require caterers to comply with segregation, donation, and reporting clauses. Overall, the system prioritizes prevention, ensures safe redistribution, converts unavoidable organics into energy and compost, and continuously improves against targets aligned with SDG 12.3.

2.3. Student Hunger

Zero Hunger on Campus: Amrita's Food Security & No-Waste Dining

In 2024, Amrita launched a Campus Food Security Taskforce and expanded Sustainable Dining/No Food Waste initiatives to ensure no student goes hungry. The Taskforce conducts systematic, multi-campus surveys to identify food insecurity, then coordinates emergency meal coupons, subsidized dining hall passes, and discreet packet distribution via hostel committees. In parallel, "Zero Hunger" drives reduce plate waste and safely redirect surplus prepared meals from dining halls to students in need. A confidential sign-up system enables any student—whether facing short-term or ongoing challenges—to request support, while trained faculty–student volunteers manage need assessments, time-temperature controls, and equitable, private delivery. Together, these efforts align waste reduction with targeted food access, closing the loop between prevention, surplus recovery, and student well-being.

2.5 National Hunger

School of Agricultural Sciences offers free access to knowledge, skills, and technology related to food security, sustainable agriculture, and aquaculture for local farmers through initiatives like training, community outreach and extension and student-led farmer engagement.

Pancha Krishi in Action: One Farm, Five Streams for Sustainable Profit

An awareness training on Pancha Krishi was organized on 21 July 2023 to educate farmers on sustainable farming practices. The session covered integrated approaches combining crops, livestock, aquaculture, and composting to enhance soil health, reduce costs, and promote eco-friendly, profitable agriculture.

Empowering Farmers with Sustainable Aquaculture Skills at Amrita

A training on aquaculture was conducted on 21 July 2023 to help farmers enhance their livelihood opportunities. The session covered fish pond management,

water quality maintenance, and species selection. Farmers learned sustainable techniques to increase productivity and income through efficient and eco-friendly aquaculture practices.

Amrita Empowers Farmers with Training on Value-Added Tomato Products

A training session on the preparation of value-added tomato products was held on 21 July 2023 to help farmers and entrepreneurs increase income through product diversification. Participants learned to make tomato ketchup, sauce, and puree, gaining insights into processing, preservation, and marketing for better economic returns.

Amrita Promotes Sustainable Livelihoods through Aquaculture Training

A training program on aquaculture was organized on 21 July 2023 to support farmers in improving their livelihood opportunities. The session focused on sustainable fish farming practices, including pond preparation, water management, and feed formulation. Farmers gained practical knowledge to enhance productivity and income through eco-friendly aquaculture methods.

Amrita Equips Farmers with Skills in Sustainable Nursery Production

A nursery production training was conducted on 21 July 2023 to equip attendees with practical skills in raising healthy seedlings. The session covered

seed selection, soil mixture preparation, and pest management techniques. Farmers learned efficient nursery practices to ensure better crop establishment and improved farm productivity.

Amrita Facilitates Farmer–Scientist Dialogue on Tackling Tomato Price Fluctuations

A group discussion was held on 21 July 2023 between farmers and scientists to address tomato price fluctuations. The session focused on identifying market challenges, analyzing production trends, and developing practical management strategies to stabilize income and ensure fair pricing through better planning and post-harvest handling.

Amrita Empowers Women Farmers through Mushroom Cultivation Training

A training program on mushroom production was conducted on 21 July 2023 for women farmers to promote income generation and self-reliance. Participants learned about spawn preparation, substrate management, and cultivation techniques. The session emphasized low-cost production methods and market opportunities to support rural livelihoods and women's empowerment.

Amrita Supports Rural Livelihoods through Silkworm Rearing Training

A silkworm rearing training was conducted on 21 July 2023 to help farmers develop alternative livelihood options. The program covered mulberry cultivation, silkworm care, cocoon harvesting, and post-rearing management. Participants gained hands-on experience in sustainable sericulture practices to improve income and promote rural entrepreneurship.

Amrita Promotes Sustainable Farming through Azolla Production Training

A training session on Azolla production was organized to educate farmers about its benefits as a biofertilizer and livestock feed supplement. Participants learned about cultivation methods, water management, and maintenance practices. The training emphasized Azolla's role in reducing input costs, improving soil fertility, and

supporting sustainable farming.

Amrita Enhances Farmers' Livestock Management Skills through Animal Husbandry Training

A training program on animal husbandry was conducted to enhance farmers' knowledge of livestock care and management. The session focused on nutrition, breeding, disease control, and housing practices. Farmers learned techniques to improve animal health and productivity, supporting sustainable income generation and overall farm development.

Amrita Strengthens Farmer Networks through Community Outreach and Extension Initiatives

Community outreach and extension activities were carried out to raise awareness and encourage farmers to adopt appropriate agricultural solutions. Several initiatives were implemented, including the distribution of extension teaching materials, customized agro-advisories, and crop-specific WhatsApp groups. These platforms helped farmers access timely information, expert guidance, and best practices directly from agricultural professionals. The approach aimed to strengthen farmer-to-farmer communication, improve decision-making, and promote the adoption of sustainable technologies. Overall, these initiatives contributed to enhancing farmers' knowledge, productivity, and livelihood security.

Amrita Empowers Farmers with Practical Extension Learning Materials

Extension teaching materials were distributed to farmers to provide clear and practical guidance on improved farming techniques. These materials included leaflets, posters, and manuals covering

crop management, pest control, and soil health. The resources helped farmers understand and apply modern practices effectively in their fields, enhancing productivity and sustainability.

Amrita and IMD Collaborate to Deliver Customized Weather-Based Agro-Advisory Bulletins

The Customized Agro-Advisory Bulletin was developed through a collaboration between the India Meteorological Department (IMD), New Delhi, and the Amrita School of Agricultural Sciences. The initiative aims to deliver location-specific, timely, and actionable weather-based advisories to farmers, helping them make informed decisions in crop management.

The bulletin integrates real-time meteorological data from IMD with local agricultural expertise from Amrita's faculty. Together, they tailor weekly advisories covering key aspects such as rainfall forecasts, temperature variations, humidity levels, and potential weather anomalies. These insights are translated into practical recommendations for field operations, irrigation scheduling, pest and disease management, and fertilizer application.

Amrita RAWE Program Bridges Classroom Learning with Real-World Farming Solutions

As part of the Rural Agricultural Work Experience (RAWE) program, final-year students engaged directly with farmers in their fields to understand cultivation practices and identify the challenges they face. With guidance from agricultural scientists, students worked to find suitable solutions and shared this knowledge through awareness sessions and on-field demonstrations. They also assisted farmers in adopting these improved practices, helping to enhance productivity, reduce crop losses, and strengthen sustainable farming systems. The program served as a valuable bridge between academic learning and community-based agricultural development.

Amrita NSS Initiatives Foster Environmental Awareness and Community Service

Under the National Service Scheme (NSS), several community-oriented activities were carried out to promote environmental awareness and campus cleanliness. A Parthenium eradication drive was conducted at the ASA campus on 21 September 2023, where students performed brush cutting and removal of invasive weeds from the instructional farm.

On World Environment Day, 5 June 2024, students actively participated in sowing tree seeds in polybags to promote green cover and sustainability. These initiatives encouraged environmental responsibility and hands-on community service among

students.

Amrita Celebrates World Environment Day to Promote Sustainable Agriculture and Conservation

World Environment Day was celebrated on 5 June 2023 at Sadivayal to raise awareness about environmental protection and soil conservation among farmers and students. The event included discussions on sustainable agriculture, the importance of biodiversity, and practical steps to protect natural resources for future generations.

Amrita Leads Parthenium Eradication Drive to Protect Soil and Crop Health

A Parthenium eradication campaign was held on 21 September 2023 to control the spread of this invasive weed species.

Farmers and students jointly participated in brush cutting and manual removal activities, learning about the harmful impacts of Parthenium on soil health, crops, and human health.

Amrita Hosts Exposure Visit for Tribal Farmers to Promote Experiential Learning in Agriculture

On 31st July 2023, the tribal farmers of Sadivayal, Coimbatore, visited the Amrita School of Agricultural Sciences. During the visit, they explored the available facilities, innovative agricultural practices, and ELP (Experiential Learning Programme) demonstration units on campus. The knowledge transfer was facilitated by students and scientists, who provided hands-on explanations and guidance.

Amrita Supports Farmers with Soil and Water Testing for Sustainable Agriculture

Soil and water testing services were offered to local farmers and food producers through the facilities of the Amrita School of Agricultural Sciences. By providing access to university laboratories, advanced testing equipment, and expert guidance, farmers were able to assess the quality and nutrient status of their soil and water

resources. The analysis helped them make informed decisions about fertilizer use, irrigation management, and crop selection to ensure sustainable and efficient farming practices. This initiative strengthened the link between academic research and community application, promoting long-term soil health, better water management, and improved agricultural productivity.

Amrita Integrates Mushroom Cultivation with Campus Nutrition and Student Learning

Mushrooms cultivated in the ELP demonstration units are regularly harvested and supplied to the campus kitchen. This not only provides nutritious food but also supports experiential learning for students through hands-on cultivation and post-harvest management practices.

Amrita Distributes Quality Seedlings to Support Local Farmers and Sustainable Agriculture

Seedlings grown in the nursery units are distributed to local farmers and community members. This helps promote sustainable agriculture by encouraging the use of healthy, high-quality planting materials

and improving crop productivity in nearby villages.

Amrita Promotes Sustainable Farming with Organic and Value-Added Products

The farm also produces a variety of value-added and organic products, including vermicompost, vermiwash, biofertilizers, biopesticides, cocoon-based products, and nursery seedlings. These items are used for internal farm operations and distributed locally, strengthening eco-friendly and self-sustaining agricultural practices.

SDG 3

3.1. Research on Health and Well-Being
Publications within SDG 3: Health and Well-Being (2022-24)

Parameter	Data
Scholarly Output	1753
Field-Weighted Citation Impact	3.38
Citation Count	22,712

Between 2022 and 2024, **Amrita Vishwa Vidyapeetham** made an extraordinary contribution to advancing **United Nations Sustainable Development Goal 3 — Good Health and Well-being,** through pioneering research at the intersection of medicine, technology, and societal impact. With an impressive **1,753 scholarly outputs** and a **Field-Weighted Citation Impact of 3.38**, Amrita's health sciences research stands significantly above the global benchmark, reflecting both excellence and innovation. The university's research portfolio spans transformative themes such as **COVID-19, Cancer Diagnosis**, Cardiology, and Diabetic Retinopathy, where advanced technologies including **Deep Learning, Convolutional Neural Networks, and Transfer Learning** are driving breakthroughs in early detection and clinical decision support. Through **555 international collaborations**, Amrita has strengthened global partnerships to accelerate medical innovation and improve patient outcomes worldwide. Garnering over **56,000 views and 22,700 citations**, Amrita's SDG 3 research exemplifies its leadership in using digital health, artificial intelligence, and compassionate science to enhance global health resilience and well-being.

3.3 Collaborations and health services

Amrita's Health Network: Local Roots, Global Reach

Amrita Vishwa Vidyapeetham has built a multi-tier healthcare partnership network to strengthen access to quality care. In 2024, Super Specialty Medical Camps were organized in remote areas such as

Marayoor, serving 746 patients, while tribal health teams reached Wayanad

communities. A formal collaboration with the Nagaland Government launched monthly specialty clinics, and the "TB-Free Haryana" consortium advanced infectious-disease control. Internationally, Amrita joined Stanford's SPARK Global Program, becoming the first Indian institution in the network. These initiatives collectively move India closer to universal healthcare.

Health for All: Amrita's Grassroots Wellness Crusade

Amrita's community health outreach delivers medical care and wellness education to vulnerable groups across India. In 2024, multi-specialty medical camps were held in rural villages, supported by specialized Ayurveda and eye-care services. The "MathruSparsham" initiative provided free heart surgeries for children, while the **Amrita Village Health Champions Training Program** certified 36 villagers from 15 states as community health advocates. With student volunteers from NSS and ALIVE, Amrita now

supports 101 villages through continuous engagement and follow-up care.

Safe and Supported: On-Campus Sexual Health Services

Amrita Vishwa Vidyapeetham ensures free, confidential, and comprehensive sexual and reproductive healthcare for students and staff. On-campus clinics provide contraceptive counseling, STI screening and treatment, and gynecological consultations. Educational workshops on reproductive health and consent are paired with individualized counseling and a 24-hour confidential helpline. The program promotes health literacy, personal safety, and inclusive medical access within the campus community.

Your Mind Matters: Free Mental Health Support for Students

Amrita's Bengaluru campus offers comprehensive, free mental-health services to every student. Individual counseling, group-therapy sessions, and a 24-hour crisis helpline provide safe, immediate access to care. Regular workshops on mindfulness and stress

management encourage help-seeking and reduce stigma. The initiative ensures that emotional well-being remains a core part of student life, reflecting Amrita's belief that education and mental health must grow together.

Supporting the Supporters: Wellness Network for Staff

Amrita extends its mental-health outreach to faculty and staff through programs such

as **Mastery Over Mind (MaOM)** and **Amrita Soukhyam**. By 2024, more than 1,000 employees participated in campus meditation, counseling, and psychiatric-care sessions. Dedicated helplines handled over 500 calls per month during peak stress periods, and workplace workshops promoted healthy coping and work-life balance. This system reinforces a culture of holistic wellness across Amrita's campuses.

Empowering Future Advocates: Workshop on Women's Health

To mark the 9th Ayurveda Day on **October 10, 2024**, Amrita's Department of

Gynaecology and Obstetrics conducted an awareness workshop for social-work students. The program focused on menstrual hygiene, PCOS management, breast and cervical cancer awareness, and reproductive health education. By training future social workers to address women's health challenges, Amrita strengthens community-level advocacy and reduces stigma around reproductive issues.

Building Resilience: Life Skills for Student Mental Health

In August 2024, Amrita's Mental Health Team under AMMACHI Labs and AIAR hosted interactive sessions for over 500 incoming students from computing and cyber-security programs. The workshops explored emotional regulation, stress management,

WISE

Amrita University's Center for Women's Empowerment and Gender Equality started the WISE (Women in Sustaining Environment) initiative in Karnataka, which aims to train rural women as Water

Ambassadors, i.e. champions for safe water management, by equipping them with relevant technologies and soft skills. Expected outcomes include improved household-level water management practices and strengthened community ownership of water systems.

Kenya Eye Care

In October 2024, Amrita University's Center for Women's Empowerment and Gender Equality launched a pilot eye-health

training programme in Samburu County, Kenya, Africa, training approx. 30 local women to identify and prevent common eye diseases within their communities. This initiative plays a crucial role in advancing women's empowerment by equipping them to serve as community health advocates in eye care.

SDG 4

4.1 Research on Quality Education Publications within SDG 4: Quality Education (2022-24)

Parameter	Data
Scholarly Output	165
Field-Weighted Citation Impact	2.68
Citation Count	1,691

From 2022 to 2024, Amrita Vishwa Vidyapeetham made significant advancements in achieving United Nations Sustainable Development Goal 4 — Quality Education, through impactful research that integrates technology, pedagogy, and inclusivity. With 165 scholarly outputs and a Field-Weighted Citation Impact of 2.68, Amrita's education research stands well above global standards, reflecting its commitment to advancing educational excellence and accessibility. The university's work spans diverse themes such as Learning Analytics, Educational Data Mining, Virtual Reality, and Electronic Learning, driving innovation in teaching, learning, and student engagement across all levels of education. Focus areas including K–12 Education, Learning Disabilities, Employability, and Higher Education highlight Amrita's dedication to equitable learning and skill development for sustainable futures. Supported by 58 international collaborations and achieving over 12,000 views, Amrita's SDG 4 research underscores its global leadership in transforming education through

technology-driven and learner-centered approaches.

4.2 Lifelong learning measures

Amrita's Vishwamrit Project Empowers Rural Women through Tailoring Training

Amrita launched the Vishwamrit Project at Punlar to empower rural women with vocational tailoring skills. Through a structured five-month programme, participants were trained in sewing and design, equipping them with employable skills and self-reliance. Beyond technical training, the project also provided mentorship and access to markets, ensuring that women could transform their skills into sustainable livelihoods. This initiative exemplifies Amrita's commitment to equal access and directly contributes to SDG 4 by building vocational pathways for disadvantaged communities.

Amrita's Accelerated Learning Program Strengthens Teaching and Learning in Primary Education

Amrita's **Accelerated Learning Program (ALP)** focused on improving literacy and numeracy outcomes in primary schools while simultaneously building teacher capacity. Teachers were trained in phonics, differentiated instruction, and formative assessment, while students benefitted from innovative teaching methodologies. The programme also offered postgraduate teacher training qualifications, thereby contributing to the supply of certified educators. By strengthening both teaching quality and student learning, ALP advances

SDG 4's call for free, equitable, and quality primary education.

Amrita's ARISE Initiative Fosters Innovation and Lifelong Learning through Public Engagement

ARISE (Amrita Research and Innovation for Sustainable Education) brought together scholars, students, and the wider public through workshops, exhibitions, and seminars designed to share knowledge across disciplines. The event, open to all, served as a hub for dialogue, innovation,

and learning. By hosting free and inclusive sessions, ARISE provided a model for lifelong learning and public engagement, reinforcing Amrita's role as an institution that democratizes access to knowledge.

Anokha Techfest: Inspiring Lifelong Learning in STEM

The annual **Anokha Techfest** at Amrita's Coimbatore campus provided a vibrant platform for innovation and learning. Hosting competitions, workshops, and exhibitions in engineering, computing, and sustainable technologies, Anokha drew participation from thousands of students and the general public. As an open educational event, it contributed to SDG 4 by promoting science, technology, and

innovation learning beyond the boundaries of formal classrooms, reinforcing lifelong learning as a core institutional value.

Wayanad

Following the July 2024 Wayanad landslide, Amrita University began immediate support for affected communities, combining early relief with livelihood restoration and skills training. As part of these efforts, the Center for Women's Empowerment and Gender Equality trained 112 women in Self-Employed Tailoring and Computer courses to strengthen their resilience and economic independence. Later, a comprehensive post-disaster assessment, completing over 1,300 household, mental-health, and landslide surveys, was conducted by social work students from Amrita University, to inform targeted interventions and guide long-term recovery planning in the region.

HaKsh-E: AI-Powered Social Robot to Promote Good Hand Hygiene Practices in Children

Amrita University's AMMACHI Labs developed HaKsh-E, a social robot designed to help young children cultivate healthy hand-washing habits through friendly, interactive engagement. Using

AI-based vision, HaKsh-E recognizes whether children are following the WHO-recommended steps and provides real-

time feedback to guide, correct, and encourage proper hygiene. Built as an embodied agent with an expressive, conversational face, it interacts playfully and supportively with children, motivating long-term behavioral change through positive social cues. Over time, HaKsh-E also enables stakeholders to gather objective data on hygiene practices, strengthening school and community health initiatives.

Enhancing Teaching and Learning of Vocational Skills through Machine Learning and Cognitive Training (MCT)

For the past 15 years, AMMACHI Labs has trained women in diverse vocational trades to strengthen their skills, tools, and market opportunities. In 2024, the team launched a new research project to complement this work by generating neurocognitive, data-driven insights on dexterous vocational performance, specifically in tailoring. By

assessing tailors' psychomotor abilities using standardized measures, the project provides empirical evidence to inform technology-enabled training models and enhance overall skill proficiency.

AI for Humanitarian Impact at ITU WTSA-24 Expo in New Delhi

In October 2024, AMMACHI Labs participated in Amrita Vishwa Vidyapeetham's "AI for Good" stall at the ITU WTSA-24 Expo in New Delhi, showcasing the university's commitment to using AI for humanitarian impact. Held from October 14–18 and inaugurated by Prime Minister Shri Narendra Modi, the event featured Amrita's AI innovations in disaster

management, agriculture, education, and healthcare, developed with partners such as the Government of India and UN agencies. AMMACHI Labs demonstrated cutting-edge tools including the HaKsh-E social-good robot and the AI-based sapling health monitoring system from the WADI project in Rasol Panchayat, Odisha.

The 2nd Foundation Workshops

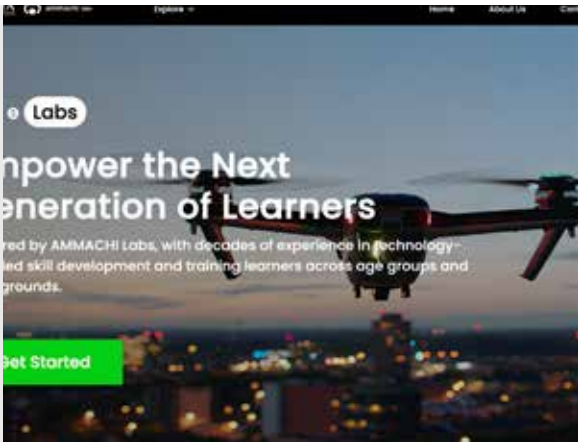
In 2024, The 2nd Foundation, an initiative of Amrita University Research Center's AMMACHI Labs, conducted a wide range

of STEM workshops across multiple Amrita Vidyalayam campuses, focusing on Game Development & AI, IoT & Robotics, 3D Modeling & Design, AI & ML and Virtual Circuit Design. These workshops trained 480+ students through hands-on sessions using tools like Scratch, Tinkercad, circuit simulators, and beginner-friendly AI/ML platforms. Across locations such as Tirupur, Kanyakumari, Puducherry, Nallampalayam, Erode, and Kochi, students created games, built IoT prototypes, designed 3D models, and developed functional AI/ML projects.

In addition to technical workshops, The 2nd Foundation also delivered mentorship programs at Amrita Vidyalayam Thalassery and Puthiyakavu for the Atal Innovation Mission's School Innovation Marathon. These programs supported nearly 60 students across 21 teams, helping them refine problem statements, build prototypes, and prepare final presentations.

Skills e-Labs

Developed by AMMACHI Labs, Skill e-Labs is an innovative platform created by a multidisciplinary team of educators, designers, and technologists to make learning immersive, practical, and



future-ready. It offers skill and technical training through videos, AR, VR, and 3D simulations, enabling students to learn complex concepts by doing. With a vision to provide high-quality, hands-on training to learners everywhere, Skill e-Labs bridges the gap between theory and practice, makes vocational education engaging, and equips students with real-world career skills, including on drones, solar energy fundamentals, electrical vehicles and basic life support skills.

Amrita Skills for Life

AMMACHI Labs launched the "Amrita Skills for Life" YouTube channel to provide accessible vocational and life-skills training. The platform offers over 16 courses across six languages, comprising more than 3,000 videos and 300+ learning hours. Aligned with the National Occupational Standards, these resources can be used by learners in ITIs, Jan

Shikshan Sansthans, secondary schools, and vocational training centers, supporting widespread skill development and self-paced learning.

Skill-eLabs Projects / VET-Sankalp

Launched in December 2024 under the SANKALP initiative, the Skill-eLabs project, implemented by AMMACHI Labs in collaboration with MSDE, DGT, and

NIMI, aims to strengthen India's vocational education system through technology-enhanced learning. Guided by an expert committee of national training institutions, the project addresses the gap in evidence-based research on digital tools in skill development. Skill-eLabs introduces a scalable, sustainable framework for industry-relevant training, supported by a pilot implementation and impact evaluation that measures gains in student learning, skill acquisition, confidence, and instructor feedback on tool usability. Skills training includes solar technicians and electronics mechanics trade.

Virtual Skill Labs Project

Virtual Skill Labs (VSL) are interactive, simulation-based environments that enable learners to practice real-world vocational skills through 3D simulations, animations, and hands-on virtual tasks. Developed by Amrita University's Research Center AMMACHI Labs, in collaboration with PSSCIVE, Bhopal, under NCERT and EdCIL (India) Limited, these labs aim to strengthen vocational education across schools and training institutes. They provide digital, scalable, and experiential learning solutions aligned with NEP 2020

and NCF 2023. VSLs bridge the gap between theory and practice, allowing students and teachers to engage in safe, repeatable, and cost-effective skill training even without physical infrastructure.

SDG 5

5.1 Research on Gender Equality

Parameter	Data
Scholarly Output	71
Field-Weighted Citation Impact	17.85
Citation Count	3,396

Between 2022 and 2024, Amrita Vishwa Vidyapeetham demonstrated exceptional leadership in advancing United Nations Sustainable Development Goal 5 — Gender Equality, through transformative research and community-driven initiatives empowering women across India. With 71 scholarly outputs and an extraordinary Field-Weighted Citation Impact of 17.85, Amrita's research on gender equality far exceeds global performance benchmarks, underscoring its international recognition and influence. The university's studies encompass critical areas such as Rural Women Empowerment, Self-Help Groups, Vocational Training, and Women's Political Participation, fostering inclusive socio-economic development and leadership among women. Integrating Mobile Applications, Participatory Rural Appraisal, and Water Quality Monitoring, Amrita leverages technology and community engagement to enhance women's agency in sustainable development. With 27 international collaborations, 8,740 views, and 3,396 citations, Amrita's SDG 5 research exemplifies its global impact and unwavering commitment to creating equitable, safe, and opportunity-rich environments for women and girls.

Amrita UNESCO Chairs at "Transforming Knowledge for Africa's Future" Summit

Amrita's UNESCO Chair professors, **Dr. Maneesha Ramesh and Dr. Bhavani Rao**, participated in the international forum "*Transforming Knowledge for Africa's Future*" held in Addis Ababa, Ethiopia. The event brought together global UNESCO Chairs, UNITWIN networks, and scholars to foster dialogue on inclusive education and research. Their participation reinforced Amrita's global leadership in advancing gender equality and women's empowerment in academia.

Gender-Sensitive Data for Ethical AI: UNESCO "Women 4 Ethical AI" Conference

At the UNESCO headquarters in Paris, **Dr. Bhavani Rao**, UNESCO Chair for Gender Equality and Women's Empowerment, presented on "Women's Data in AI." Her talk emphasized gender-sensitive data practices as essential for building fair and ethical AI systems. This engagement showcased Amrita's contribution to shaping global discussions on ethics, equity, and inclusivity in technology.

5.3. Women's application in underrepresented subjects

Empowering Women for Blue Growth: Implementing Sustainable Seaweed and Seagrass Cultivation for Climate Action

This significant workshop convened at Amrita Vishwa Vidyapeetham, bringing together international and national marine experts, policymakers, and local stakeholders. Organized by the Amrita School of Social and Behavioural Sciences, the UNESCO Chair on Gender Equality and Women's Empowerment, and AMMACHI Labs, the event focused on empowering women to lead sustainable marine practices.

Discussions addressed pressing environmental and socio-economic challenges faced by coastal communities. Key themes included marine biodiversity conservation, sustainable livelihoods through seaweed cultivation, and climate action. Experts shared best practices from Japan, Indonesia, Israel, and India, highlighting innovative, women-led methodologies. The workshop underscored the critical role of women in driving a sustainable and climate-resilient "Blue Growth," reinforcing Amrita's commitment to community empowerment and addressing global climate challenges.

5.6 Women's Progress Measures

The Vishwamrit Project: Empowering Women through Skill Development and Community Engagement

Organized by **AMMACHI Labs** and the **Center for Women's Empowerment and Gender Equality (CWEGE)**, the Vishwamrit Project empowered women from Kerala's Vishwakarma community through vocational and leadership training. Modules included tailoring, communication, digital literacy, and civic participation. The project promoted both livelihood generation and women's

leadership in community development, directly contributing to SDG targets 5.1

(ending discrimination) and 5.5 (ensuring participation and equal opportunities).

AServe

Across multiple Amrita SERVE villages, the Center for Women's Empowerment and Gender Equality led a wide range of women-centred skill development, livelihood, health, and governance initiatives. Highlights for 2014 include inaugurating new computer centers in Bihar, certifying women in computer training, beekeeping, agarbatti/candle making, and mushroom cultivation, and helping SHG members submit 70 livelihood applications. Community Organizers - local women trained as catalysts - reached nearly 2,000 beneficiaries through 820 interventions connecting families to government schemes, health services,

and social protection. Women's groups across Punjab, Haryana, Himachal Pradesh, Uttarakhand, UP, and West Bengal actively engaged in cleanliness drives, nutrition and health awareness, school-based hygiene sessions, and community-led governance actions such as petitions for water access. These efforts collectively strengthened women's skills, leadership, digital literacy, health awareness, and economic independence, while fostering vibrant, self-reliant rural communities.

Beekeeping => this can also go to SDG2 or SDG4

Linking women's empowerment, skills training, and environmental stewardship, the Center for Women's Empowerment and Gender Equality launched the "Empowering Women & Communities through the Art of Beekeeping" project. The

initiative targeted the villages of Nala, Bhiri, and Giriya in Uttarakhand, training 65 SHG women in beekeeping and establishing apiaries in each community.

WADI

In Odisha, Amrita's Center for Women's Empowerment and Gender Equality has been implementing the WADI project to strengthen the independence and resilience of tribal communities, especially rural women, in the Hindol Block of Dhenkanal District, Odisha.

Supported by NABARD, the initiative promotes sustainable income generation through agri-horti-forestry on small and

underutilised lands, along with water-resource development and the use of technologies. Cooperative community groups have been formed across six villages. With new wells enabling intercropping of seasonal vegetables and oilseeds, and parallel livelihood support through goat rearing for 288 women in 12 villages, the project is helping the poorest tribal households build long-term socio-economic resilience.

Mushroom Cultivation

To advance women's empowerment, strengthen skills, and enhance community nutrition, mushroom cultivation training was conducted in 2024 across four villages in Odisha, reaching approximately 200 women. These women have now formed

three mushroom farmer groups and begun production, supported by training in cultivation, financial management, and life-skills education. The initiative has improved nutrition, especially for women and children, and increased women's financial independence, agricultural capabilities, and decision-making power within their households.

SANKALP

Following the severe socio-economic impacts of COVID-19 on rural India, particularly women and transgender communities, Amrita University was entrusted to implement the Government of India's SANKALP project, in partnership with MSDE, NSDC, and the World Bank. The initiative provided vocational training and certification for 4,500 participants across six states, empowering SHG women and transgender individuals to build

sustainable livelihoods and collective enterprises. Beyond technical skills in areas such as organic farming, mushroom and seaweed cultivation, tailoring, beauty therapy, and beekeeping, the model integrated life enrichment education, entrepreneurship, digital literacy, and SHG leadership, strengthening both economic and social resilience.

WE Store

Amrita's Center for Women's Empowerment began pioneering large-scale skill development initiatives that have transformed vocational education

for underserved women in India. The WE Project Store, an online platform showcasing products made by women's groups trained by Amrita University, is a key outcome of this effort. Through technology-enabled training in 24+ trades, thousands of women have gained confidence, financial independence, and the ability to contribute to their communities.

Gender Sensitisation Workshop:

Breaking Stereotypes, Building Harmony: The Impact of CWEGE's Workshop at

Amrita School of Dentistry
In March 2024, on the occasion of International Women's Day, the Center for Women's Empowerment & Gender Equality organized gender sensitisation workshops for students at Amrita School of Dentistry, Kerala and Amrita Dental School, Kochi. The session was attended by 52 second-year Bachelor of Dental Surgery students. The workshop emphasized gender awareness and inclusivity, with compassion as its guiding principle.

Sameekshanam

Amrita's Center for Women's Empowerment and Gender Equality launched pioneering workshops to strengthen mental health, emotional wellbeing, and gender sensitization within

India's Central Reserve Police Force (CRPF), who face heightened risks of stress, family discord, and suicide. Amrita's multi-factor workshop model addresses mental health, healthy communication, masculinity, and gender equality at individual, household, and community levels. The programme has already reached 28,000 personnel in CRPF forces in Kashmir, 8,000 in the Southern Sector, and extended to 15,000 personnel in the Telangana State Special Police.

Rising Women: A Women First Founder investor conclave

In March 2024, AMMACHI Labs participated in the two-day Rising Women: A Women First Founder investor conclave held at the American Center in Kolkata to mark Women's History Month. Bringing together women leaders, entrepreneurs, investors, and experts from India, Nepal, Bangladesh, and the U.S., the event explored two themes: InvestInHerBusiness, focusing on challenges and opportunities in funding women-led enterprises, and InvestInHerSkills, highlighting the importance of education, STEM participation, and 21st-century skill development. AMMACHI Labs Senior Researcher and Assistant Professor Gayathri Manikutty served as a guest speaker, presenting on implementing G20 recommendations for women-led businesses.

SDG 6

6.1 Research On SDG 6: Clean Water And Sanitation

Parameter	Data
Scholarly Output	206
Field-Weighted Citation Impact	4.20
Citation Count	2,935

From 2022 to 2024, Amrita Vishwa Vidyapeetham made remarkable contributions toward achieving United Nations Sustainable Development Goal 6 — Clean Water and Sanitation, through pioneering research and technological innovation in sustainable water management. With 206 scholarly outputs and a Field-Weighted Citation Impact of 4.20, Amrita's research performance stands well above the global average, reflecting its excellence in advancing water sustainability science. The university's work spans vital areas such as Water Quality Monitoring, Water Conservation, Pollution Control, and Desalination, addressing India's most pressing challenges of water scarcity and contamination. By integrating advanced technologies like the Internet of Things (IoT) with Participatory Rural Appraisal methods, Amrita bridges scientific innovation with community participation to ensure equitable access to safe and sustainable water resources. Supported by 53 international collaborations, 9,214 views, and 2,935 citations, Amrita's SDG 6 research demonstrates its global leadership and steadfast commitment to ensuring clean water and sanitation for all.

6.2 Wave of Change: Amrita Vishwa Vidyapeetham Launches a Month-long Water Sustainability Initiative on World Water Day 2024

In commemoration of **World Water Day 2024, Amrita Vishwa Vidyapeetham**, through its **School for Sustainable Futures (ASF)** and the **UNESCO Chair on Experiential Learning for Sustainable Innovation and Development**, launched a transformative community initiative titled **"Wave of Change: Water for a Sustainable Future."** The month-long campaign, inaugurated on **March 22, 2024**, in **Kallikkadu, Alappuzha, Kerala**, represents a major step toward empowering communities to take

ownership of their water resources and to promote long-term sustainability practices aligned with **United Nations Sustainable Development Goal 6 — Clean Water and Sanitation.**

The inaugural ceremony was graced by **Sheeb Mansoor**, Vice President of Alappuzha Municipality, and **Saju Prakash**, Ward Member of Kallikkadu, alongside **Vandana V.**, Coordinator of Amrita Shree Cluster. Faculty members and researchers from the **Amrita School for Sustainable Futures**, including **Prof. Vinod P.T., Dr. P. Raji, Dr. Sajith Kumar, and Dr. Shruthi**, along with Ph.D. scholars specializing in **Water Sustainability**, actively engaged in knowledge-sharing sessions and community interactions. The event witnessed the enthusiastic participation of around **150 women residents**, reflecting the strong grassroots engagement and inclusive approach that defines Amrita's community development philosophy.

The program addressed crucial aspects of **water conservation and management**, such as **rainwater harvesting, wastewater reuse, waterway protection, and household-level monitoring of water consumption**. Experts from Amrita conducted interactive sessions to demonstrate practical and locally adaptable solutions, thereby bridging scientific expertise with traditional wisdom. The discussions emphasized the importance of **individual responsibility and behavioral change** in achieving water sustainability at the community level.

A distinctive feature of the **Wave of Change** initiative is the introduction of **"Water Champions"**—local community members identified through assessments conducted by Amrita's water experts. These champions are trained and mentored to become **ambassadors of water stewardship**, equipped with the knowledge, tools, and motivation to inspire collective action within their communities. Their role extends beyond awareness creation—they serve as facilitators of behavioral transformation and as leaders who mobilize others toward sustainable water use and conservation practices.

By fostering a **network of informed, committed, and empowered individuals**, the initiative aims to create a **multiplier effect**—a ripple that spreads awareness and drives tangible action across diverse communities. Through participatory education and collaborative problem-solving, the initiative not only enhances local capacity but also promotes a **sense of environmental responsibility and shared ownership** of water resources.

To strengthen academic and global engagement, the initiative also launched a **Distinguished Lecture Series** featuring eminent international experts in water sustainability. The series commenced on **March 22, 2024**, with a keynote lecture by **Dr. Prof. Miroslav Černík**, Director of the Centre for Nanomaterials, Advanced Technologies, and Innovation (CXI), **Technical University of Liberec, Czech Republic**, who shared insights on advanced technologies and integrated approaches for sustainable water management.

Building on the momentum of the launch, **Amrita Vishwa Vidyapeetham** plans to **extend the Wave of Change initiative to 108 communities across India**, conducting awareness sessions, training

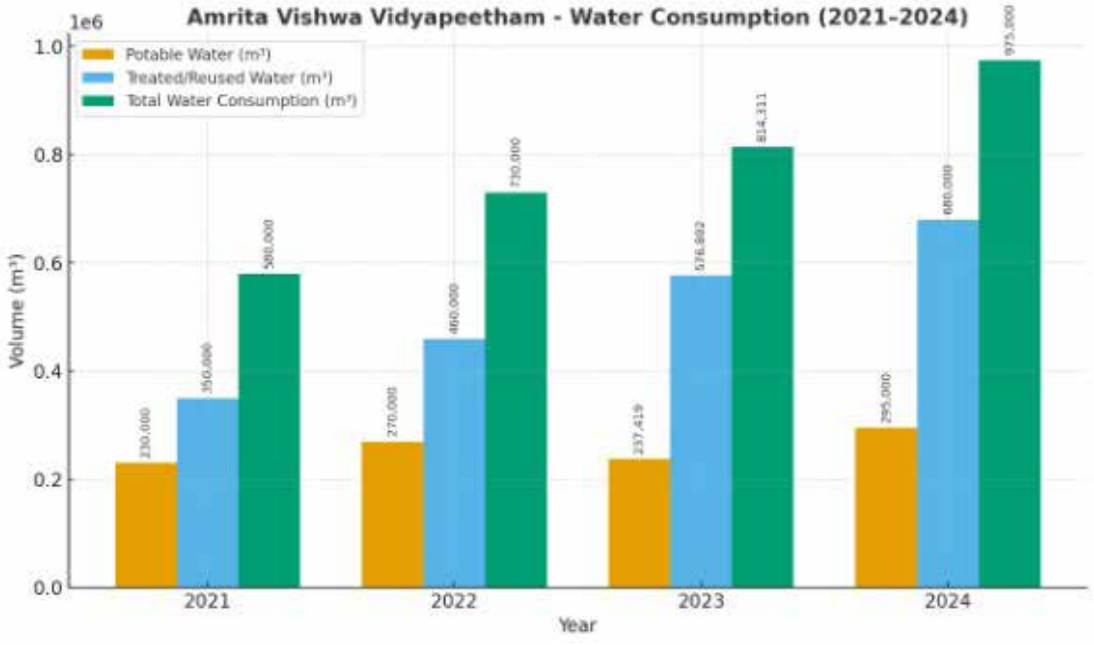
programs, and certification workshops to scale the impact of its community-centered approach. This large-scale rollout aligns with Amrita's vision of nurturing responsible water stewardship and resilient ecosystems across diverse socio-ecological landscapes.

The **Wave of Change** initiative thus exemplifies Amrita's commitment to **applied sustainability education, community empowerment, and cross-sectoral collaboration**. By transforming awareness into action and science into social good, Amrita continues to lead by example in advancing water sustainability — a cornerstone of its institutional mission and a vital contribution to the global SDG agenda.

6.3 Integrated Water Management System At Amrita Vishwa Vidyapeetham

Amrita Vishwa Vidyapeetham demonstrates strong alignment with the United Nations **Sustainable Development Goal 6 (Clean Water and Sanitation)** through continuous, technology-enabled monitoring of water consumption across all campuses. using IoT-based smart meters, sub-meters, and digital dashboards to track real-time usage, detect leaks, and ensure resource efficiency. The university's **Sustainable Campus Policy (updated November 2024)** introduced several measures such as low-flow taps, dual-flush toilets, and automated monitoring systems to reduce

Year	Total Population	Potable Water (m^3)	Treated/ Reused Water (m^3)	Total Water Consumption (m^3)	% Reuse	Avg. Per-Person Consumption (m^3/person/year)
2021	22,000	230,000	350,000	580,000	60%	26.4
2022	25,000	270,000	460,000	730,000	63%	29.2
2023	26,000	237,419	576,892	814,311	71%	31.3
2024	35,500	256,800	688,200	945,000	73%	26.6



freshwater demand.

- Potable (mains + borewell) water in 2024- 256,800 m^3 (27% of Total)

- Reused / recycled wastewater in 2024- 688,200 m^3 (73% of Total)

Between **2021 and 2024**, Amrita implemented extensive **rainwater harvesting, wastewater treatment, and reuse systems** across all campuses. These initiatives align with the university's goal of achieving near self-sufficiency in water usage and promoting environmentally responsible campus operations.

In **2023**, total water consumption across all campuses was **814,311 cubic meters**, with **576,892 cubic meters treated and reused**, reflecting a reuse rate of over **70%**. In **2024**, total water consumption is projected to reach 945,000 cubic meters, primarily due to population growth (31,000+ students and 4,500+ staff) while maintaining **high water reuse efficiency (~73%)** through sustainable water management practices.

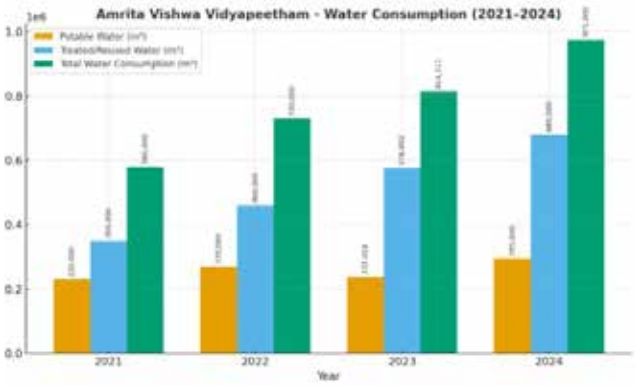
The university's total water consumption remains **~45% lower than the national benchmark of 135 Liters per person per day**, underscoring its leadership in sustainable campus management.

Amrita's Integrated Water Management Program emphasizes real-time monitoring, water reuse, and sustainable infrastructure. Since 2021, the university has consistently maintained reuse levels above 60%, implemented IoT-based water tracking systems, and expanded rainwater harvesting across campuses. The university's per-person water consumption remains well below national standards, reflecting its long-term commitment to environmental stewardship and sustainable development.

6.4 Empowering Rural India: Amrita Vishwa Vidyapeetham's Water Sustainability and Community Empowerment Initiative

In alignment with the United Nations Sustainable Development Goal 6 – *Clean Water and Sanitation*, Amrita Vishwa Vidyapeetham continues to lead transformative grassroots initiatives that bring sustainable development to the heart of rural India. Through its flagship Live-in-Labs® experiential learning program, Amrita launched an impactful *Community Water Awareness and Conservation Initiative* in Maruthur village, Kanyakumari District, Tamil Nadu, that has empowered local communities with the knowledge, tools, and technology to manage their water resources sustainably.

This initiative, jointly led by the Amrita School for Sustainable Futures and the School of Biotechnology, reflects the university's enduring commitment to blending scientific innovation with human compassion to create tangible social and environmental change. The program emphasized community-driven water



stewardship by combining awareness, education, and action. Through interactive sessions and field workshops, villagers were sensitized to the critical importance of water conservation, rainwater harvesting, and responsible daily usage, fostering a deep sense of local accountability.

A pioneering aspect of the project was the distribution of household water consumption cards, enabling residents to track their daily water usage for essential needs such as cooking, cleaning, and bathing. This low-cost behavioral tool promoted awareness of consumption patterns and encouraged households to adopt water-efficient practices. The simplicity of this innovation made it both scalable and replicable across other rural communities in India.

The initiative was further strengthened by the installation of a community-based water purification system under Amrita's Jivamritam purified drinking water program, ensuring access to clean and safe drinking water for all residents. This decentralized water management model not only improved public health but also cultivated a strong sense of ownership among community members, who were actively involved in the system's operation and maintenance.

Amrita's intervention in Maruthur has gone beyond awareness—it has fostered a lasting behavioral transformation within the community. By empowering women and youth as custodians of local water resources, the initiative has created a ripple effect of responsible water stewardship and sustainable living. It stands as a replicable example of how academia can drive rural transformation through research-led community engagement and social innovation.

Through the Maruthur project, Amrita Vishwa Vidyapeetham reinforces its mission of integrating education, compassion, and sustainability to uplift rural communities across India.

SDG 7

7.1 Research on Affordable & Clean Energy

Parameter	Data
Scholarly Output	904
Field-Weighted Citation Impact	1.54
Citation Count	7,288

Between 2022 and 2024, Amrita Vishwa Vidyapeetham made substantial contributions toward advancing United Nations Sustainable Development Goal 7 — Affordable and Clean Energy, through impactful research focused on renewable energy systems, electric mobility, and sustainable power technologies. With 904 scholarly outputs and a Field-Weighted Citation Impact of 1.52, Amrita's research demonstrates both depth and global relevance in driving energy innovation for a sustainable future. The university's studies span critical areas such as Electric Vehicles, Renewable Energy Integration, Solar Panels, Lithium-Ion Batteries, and Energy Management Systems, showcasing a comprehensive approach to clean energy transition. Pioneering work on Vehicle-to-Grid technologies, Battery Management, and Solar Power Optimization underscores Amrita's commitment to developing efficient, affordable, and resilient energy solutions. Supported by 231 international collaborations, over 30,000 views, and 7,288 citations, Amrita's SDG 7 research highlights its global leadership in fostering sustainable energy innovation and advancing India's clean energy transformation.

7.2 University measures towards affordable and clean energy

Innovation in Solar Energy Technology (Patents Granted 2023)

In 2023, Amrita Vishwa Vidyapeetham advanced renewable energy research through two major patented technologies. The Solar Electric Vehicle, patented on July 4, 2023, demonstrated a cost-effective and sustainable mobility solution powered entirely by solar energy. Later, on October 10, 2023, a Solar Monitoring System for Measuring Solar Radiation Intensity was patented to enhance the precision of solar performance evaluation. These innovations strengthen Amrita's

leadership in applied clean energy research and sustainable technology development.

Adoption of Energy Efficiency Standards for New Constructions

On November 24, 2023, Amrita implemented a formal policy mandating all new buildings and renovations to comply with institutional energy efficiency standards. The policy includes requirements for reflective roofing, insulated walls, high-efficiency glazing, and optimized HVAC controls. This initiative ensures that future infrastructure development contributes to sustainable campus operations and reduces overall carbon emissions.

Retrofitting and Energy Optimization Across Campuses (2023)

Throughout 2023, existing campus buildings were systematically upgraded with LED retrofits, motion sensors, and centralized monitoring systems. These improvements reduced energy wastage and improved efficiency in classrooms, labs, and administrative offices. The upgrades demonstrate measurable reductions in electricity consumption and operational costs.

Building Energy Monitoring and Management System

The Building Energy Monitoring and Management System at Amrita provides a comprehensive platform for tracking and optimizing campus energy performance. The real-time dashboard monitors consumption patterns, visualizes usage trends, and computes key performance indicators such as Energy Use Intensity (EUI) and Power Usage Effectiveness (PUE). It also measures the building's carbon footprint and generates automated alerts to identify anomalies or inefficiencies.

Through remote access and system control, facility managers can make data-driven decisions to minimize energy waste and operational costs while promoting sustainable campus operations. This initiative has resulted in an annual energy saving of **379,200 kWh**, translating to

a reduction of **311 metric tons of CO_2** emissions each year, reinforcing Amrita's commitment to environmental stewardship.

7.4 Energy and the community

Energy Conservation Week and World Bicycle Day (27-30 November 2023)

Between November 27 and 30, 2023, Amrita conducted Energy Conservation Week alongside World Bicycle Day celebrations under NSS. Students and

faculty organized rallies, exhibitions, debates, and art events to promote energy conservation and sustainable commuting.

The initiative fostered awareness on responsible energy use among campus and local communities.

Renewable Energy Pledge Campaign (November 2023)

In November 2023, Amrita launched a Renewable Energy Pledge encouraging students, staff, and nearby residents to commit to 100% renewable energy usage.

Awareness sessions, exhibitions, and discussions helped participants explore practical ways to adopt solar and other clean energy options.

Smart Energy Systems and Solar EV Infrastructure Projects

Amrita Vishwa Vidyapeetham actively promotes low-carbon innovation through applied research projects that integrate technology with sustainability. Under this initiative, researchers and faculty developed Smart Energy Systems to enhance energy efficiency and enable intelligent demand management across campus facilities. In parallel, Solar-Powered EV Battery Swapping Stations were designed and implemented to support clean mobility and reduce dependence on fossil fuels.

SDG 8

8.1 Research on Decent Work and Economic Growth

Parameter	Data
Scholarly Output	257
Field-Weighted Citation Impact	2.17
Citation Count	7,234

From 2022 to 2024, Amrita Vishwa Vidyapeetham made impactful strides in advancing United Nations Sustainable Development Goal 8 — Decent Work and Economic Growth, through research that integrates technology, sustainability, and inclusive economic development. With 257 scholarly outputs and a Field-Weighted Citation Impact of 2.17, Amrita's research demonstrates global excellence and a strong commitment to fostering sustainable livelihoods and economic resilience. The university's work encompasses diverse themes such as Sustainable Agriculture, Precision Farming, Finance, and Participatory Rural Appraisal, emphasizing innovation-driven growth and community empowerment. By leveraging Machine Learning, Support Vector Machines, and Learning Systems, Amrita applies advanced analytics to enhance agricultural productivity, optimize resource use, and strengthen rural economies. Supported by 64 international collaborations and over 15,700 views, Amrita's SDG 8 research reflects its global leadership in promoting sustainable economic growth, technological inclusion,and equitable opportunities for all.

8.2 Employment Practices

Amrita maintains transparent, equitable, and inclusive employment policies that ensure fair treatment, equal opportunity, and merit-based recruitment. All appointments, promotions, and remunerations are guided by the university's Employee Service and Conduct Rules, which explicitly prohibit discrimination based on gender,

caste, religion, or political affiliation. The policy framework guarantees freedom of expression, professional development, and access to grievance redressal mechanisms for all employees. A structured internal appeals system allows staff to raise and resolve workplace concerns effectively, fostering institutional accountability and workplace satisfaction. The absence of

formal trade unions is balanced by open communication channels and leadership engagement at all levels. Amrita also emphasizes employee well-being through continuous professional development, training, and leadership workshops designed to improve both technical skills and ethical awareness. These measures collectively promote a respectful and equitable work culture, reflecting Amrita's long-standing commitment to decent work, fair employment, and human-centered organizational growth aligned with SDG 8.

8.3 Expenditure per Employee

Amrita demonstrates significant institutional investment in its workforce through sustained financial commitment to employee welfare, development, and retention. The university's expenditure per staff member in FY 2022–23 was approximately ₹2.5 million,

nearly eight times higher than Kerala's per capita GDP. This substantial figure reflects a prioritization of academic excellence, research capability, and faculty welfare. Expenditure categories include competitive compensation, research funding, travel grants, and infrastructure support, ensuring a conducive environment for professional growth. In addition to salary benefits, Amrita provides opportunities for continuous learning, faculty exchange, and sabbatical programs, enabling long-term professional and personal development. The institution's budgetary focus on human capital reflects its goal of building a motivated and capable workforce while maintaining global competitiveness. By investing consistently in its people, Amrita enables both academic and administrative staff to contribute meaningfully to research, teaching, and community engagement. This approach underscores the university's commitment to creating decent work opportunities and fostering sustainable institutional growth.

8.4 Student Work Placements

Amrita's placement and internship ecosystem ensures that every eligible student is prepared for meaningful employment through structured industry engagement and experiential learning. The university's career development centers facilitate internships for all students, typically lasting between one and six months, across leading industries in India and abroad. Partnerships with multinational companies provide opportunities for research-driven training in emerging fields such as artificial intelligence, renewable energy, healthcare, and sustainable manufacturing. Students receive personalized mentorship, resume workshops, and skill assessments that enhance employability and confidence. These placements are often integrated with academic credit, allowing students to translate theoretical learning into professional practice. The emphasis on ethical employment, gender inclusion, and social responsibility ensures that graduates enter the workforce as skilled and conscientious contributors. Amrita's strong record of graduate employability and entrepreneurship outcomes underscores its commitment to SDG 8 by promoting sustained, inclusive, and productive employment for youth while supporting national and global economic development objectives.

SDG 9

9.1 Research on Industry

Parameter	Data
Scholarly Output	672
Field-Weighted Citation Impact	1.56
Citation Count	6,388

Between 2022 and 2024, Amrita Vishwa Vidyapeetham made significant contributions toward achieving United Nations Sustainable Development Goal 9 — Industry, Innovation and Infrastructure, through cutting-edge research driving technological advancement and sustainable industrial growth. With 672 scholarly outputs and a Field-Weighted Citation Impact of 1.56, Amrita's research demonstrates global competitiveness and a strong focus on innovation-led development. The university's research portfolio spans transformative areas such as Industry 4.0, Artificial Intelligence, Internet of Things (IoT), Lean Manufacturing, and Supply Chain Management, reinforcing its role in shaping the future of sustainable and intelligent industries. Emerging frontiers like Blockchain, Fused Filament Fabrication, and Tribology highlight Amrita's leadership in advancing smart manufacturing and resilient infrastructure solutions. Supported by 202 international collaborations, over 33,600 views, and 6,388 citations, Amrita's SDG 9

research exemplifies its global impact and unwavering commitment to fostering innovation, industrial efficiency, and sustainable infrastructure development.

Amrita Accelerates Research Impact through Global Collaborations and Innovation Symposia

Amrita organized multi-campus innovation symposia under the ARISE initiative throughout 2024, serving as platforms to showcase interdisciplinary research in smart systems, green technologies, data analytics, AI, and digital infrastructure. Hosted across campuses in Coimbatore (January 7–10, 2024), Bengaluru (March 10–11, 2024), Kochi (May 18–19, 2024), and Amaravati (June 3–4, 2024), these events featured interactive exhibitions, workshops on patent filing, and entrepreneurship mentoring sessions. Student-led innovations were recognized through AIRA 2024 Awards, while national

forums like Anokha Techfest (October 17–19, 2024) and Cython '24 fostered collaboration among researchers and industry professionals.

9.2 Patents Citing University Research

Patents Advancing Societal Impact through Amrita Research

Between September 2023 and February 2024, Amrita recorded multiple patents demonstrating research relevance to healthcare, energy, infrastructure, and cybersecurity. These innovations exemplify the translation of academic research into practical technologies with broad societal benefit. Key patents include:

- US Patent 11,903,961: Hemostatic Agent and Method of Production Thereof (February 20, 2024)
- Indian Patent 503394: Portable Secure Health Record Device & System for Patient–Provider Communication (January 25, 2024)
- Indian Patent 500165: Hand Orthosis Control Using Electrooculography (January 17, 2024)
- Indian Patent 492341: Fabric-Based Floating Coastal Reservoirs (December 30, 2023)
- Indian Patent 489807: Transparent System for Mitigating Web Vulnerabilities (December 27, 2023)

Indian Patent 459006: Systems and Methods for Remote Health Monitoring and Management (October 13, 2023)

These patents highlight Amrita's expanding influence in applied innovation, bridging scientific research with real-world industrial needs.

9.3 University Spin-Offs

Fostering Innovation and Future Spin-Offs

While no new university spin-offs were formally registered during the reporting period (July 2023–December 2024), Amrita continued to build an entrepreneurial

pipeline through its national events and innovation platforms. Initiatives like ARISE, Anokha Techfest, and the Utkarsh MSME Idea Hackathon empowered students and researchers to prototype market-ready solutions. Faculty mentors guided participants in developing IP-based business models and connecting with investors and incubators. These consistent efforts establish the foundation for future technology ventures emerging from Amrita's research ecosystem.

9.4 Research Income from Industry and Commerce

Driving Sustainable Mobility: Amrita Signs MoU with Renault-Nissan

On December 19, 2023, a Memorandum of Understanding was signed between Amrita Vishwa Vidyapeetham and Renault Nissan Technology & Business Centre India at the Coimbatore campus to foster innovation in automotive and thermal engineering.

The collaboration opens avenues for student placements, internships, MTech programs, and elective courses such as NVH Engineering. Joint research focuses include vehicle emissions, alternative fuels, battery chemistry, sensor analytics, and digital twin modeling. Renault-Nissan also donated a research vehicle to support projects in eMobility and vehicle dynamics. This partnership strengthens Amrita's applied research capacity in sustainable automotive technologies.

Amrita and Volvo Group Collaborate for Industry-Integrated Education

On December 5, 2024, Amrita Vishwa Vidyapeetham entered into a strategic collaboration with Volvo Group India Pvt. Ltd. to launch a two-to-four semester credit-based program in automotive engineering. The partnership bridges academia and industry by integrating real-world experience through research projects, expert lectures, faculty training, and internships. Special provisions include scholarships for women and pre-placement opportunities for outstanding

students. This initiative equips graduates with hands-on industrial exposure, fostering a future-ready workforce for the automotive sector.

Amrita, Continental & MathWorks Drive Next-Gen Automotive Innovation

Amrita launched the Continental–MathWorks AUTOSAR Training Initiative to

enhance automotive software and system design capabilities. The program included expert-led talks and faculty development sessions from August 30 to September 21, covering automotive protocols, architectures, and model-based design. This collaboration strengthens Amrita's role in advanced driver-assistance systems (ADAS), connected vehicles, and software-defined mobility research. It reflects the university's focus on aligning education with emerging industrial technologies.

Utkarsh Industry Collaborations Advance Innovation in Smart Systems

From July–September 2023, under the Utkarsh initiative, Amrita partnered with several industry leaders to drive applied research in sustainable technologies. Collaborations included funded projects with MulticoreWare (Smart Health, Smart City, and Industry 4.0), LionsBot (robotics), Telesto Energy (digital transformation), Parachute Kalpavriksha (agri-innovation), and Reep Industries (EV development). Additional engagements with Saint-Gobain and Garuda Aerospace expanded research into drones, materials, and green energy. These partnerships fostered joint research, technology transfer, and innovation-led funding, strengthening Amrita's contribution to India's industrial ecosystem.

AIRA 2024 Awards Recognize Excellence in Research and Innovation

The AIRA 2024 Awards, held on January 18, 2024 as part of the ARISE initiative, celebrated outstanding research and innovation at Amrita. A total of 570 faculty were honored across categories including the Chancellor's Research Excellence, Innovation, and Publication Awards. Over INR 200 million in seed grants were distributed to support compassion-driven, industry-relevant research projects. Twenty-four scientists featured in Stanford's Top 2% Researchers list were recognized by the Chancellor, with special guests Dr. Akhilesh Gupta (SERB) and Venu

Govinda Raju underscoring the importance of multidisciplinary collaboration.

PQC-Enhanced eSIM Framework: Driving Innovation, Cybersecurity, and Smart-City Resilience

This research aligns strongly with SDG 9 by advancing secure and innovative digital infrastructure through post-quantum cryptography for IoT devices. It also supports SDG 16 by strengthening data protection, authentication, and cybersecurity resilience for institutions and users. Additionally, the solution contributes to SDG 11 by enabling safer and more reliable smart-city and connected-community applications.

SDG 10

10.1 Research on SDG 10: Reduced Inequalities

Parameter	Data
Scholarly Output	107
Field-Weighted Citation Impact	3.04
Citation Count	1,203

From 2022 to 2024, Amrita Vishwa Vidyapeetham made impactful contributions toward advancing United Nations Sustainable Development Goal 10 — Reduced Inequalities, through interdisciplinary research addressing social, economic, and digital disparities. With 107 scholarly outputs and a Field-Weighted Citation Impact of 3.04, Amrita's research excellence stands well above global standards, reflecting its influence in promoting inclusive and equitable growth. The university's work encompasses critical themes such as Gender Equality, Poverty Alleviation, and the Informal Sector, highlighting its commitment to empowering marginalized communities and bridging socio-economic divides. By integrating Artificial Intelligence, Generative AI, and Participatory Rural Appraisal, Amrita advances technology-enabled inclusion and data-driven solutions for equitable development. Supported by 40 international collaborations, 7,847 views, and 1,203 citations, Amrita's SDG 10 research underscores its global leadership in reducing inequalities and fostering a more just and inclusive society.

10.2 Compassion at the Core: Amrita's Leadership in Advancing Global Gender Equality at the C20 Symposium - Chicago

At the Civil 20 (C20) Symposium on Compassion held at the MA Center Chicago, Amrita Vishwa Vidyapeetham played a pivotal role in advancing the global dialogue on Gender Equality and Social Inclusion, aligning with the broader goals of the G20 and the United Nations Sustainable Development Goals (SDG 5). The symposium brought together international experts, policymakers, scholars, and civil society leaders to deliberate on compassion-driven policy and action for sustainable and equitable development.

Amrita's delegation led the discussions under the Gender Equality Working Group, which has been compiling and framing policy recommendations for the G20 through the C20 platform. The session focused on the critical role of compassion as a guiding principle in achieving gender parity, social justice, and community resilience. The dialogue emphasized that

compassion, when translated into action, becomes a transformative force capable of shaping equitable institutions, policies, and societies.

The discussions at the symposium revolved around three key themes:

1. **Compassion as the Foundation for Equality**
   The working group highlighted the intrinsic link between compassion and gender equality, underscoring how empathy and inclusion must guide both policymaking and implementation. Compassion was identified not only as a moral value but as a strategic approach for enabling fairer representation, safer communities, and stronger societal bonds.

2. **Frameworks for Inclusive Development**
   Drawing from extensive field research and community engagement in India, Amrita's Center for Women's Empowerment and Gender Equality presented its holistic AWESOME Framework—a multidimensional model addressing Awareness, Water and Sanitation, Education, Safety, Occupational Skills, and Mental and Physical Health. This framework served as a key structural reference for identifying intersectional vulnerabilities and ensuring that policy recommendations remain grounded in lived realities, particularly those of women in rural and marginalized communities.

   Through this model, Amrita contributed to developing actionable, evidence-based strategies that promote inclusivity and resilience while empowering communities to overcome systemic barriers.

3. **Mobilizing Civil Society for Sustainable Impact**
   The symposium also celebrated the achievements of the C20 Gender Equality Working Group under India's G20 Presidency. Amrita has been instrumental in organizing policy dialogues, community consultations, and global awareness campaigns such as the Jan Bhagidari and One Million Lights initiatives, which have collectively reached over a million participants worldwide. These efforts have mobilized students, grassroots organizations, and thought leaders to engage in actionable conversations on gender justice and social transformation.

The discussions reinforced the importance of engaging all stakeholders—men, women, youth, policymakers, and community leaders—in the journey toward gender parity. Collaborative, compassion-driven approaches were recognized as essential to achieving sustainable and systemic change.

Through its leadership in the C20 process, Amrita Vishwa Vidyapeetham continues to strengthen the global narrative around compassion-centered development. By combining academic research, community

practice, and global advocacy, the institution remains deeply committed to creating a more inclusive, equitable, and empathetic world.

10.3 Fostering Compassionate and Inclusive Education: Advancing Equity and Accessibility through Holistic Leadership

1. **Bridging Gaps through Compassion and Accessibility**
   Amrita's participation in the C20 Education and Digital Transformation (EDT) Working Group has underscored that inclusion in education extends beyond infrastructure and access—it is rooted in compassion and shared responsibility. Guided by the vision of the institution's Chancellor and C20 Chair, Amrita has consistently advanced accessibility in learning environments through technological innovation, teacher capacity-building, and community engagement.

   At the discussion, educators explored how disability inclusion and gender equity can be embedded across teaching practices and institutional structures. The session emphasized that Universal Design for Learning (UDL) serves as a cornerstone for inclusive education—ensuring that classrooms are designed to meet the diverse learning needs of all students, including those with disabilities.

2. **Transforming Educational Systems through Awareness and Empathy**
   Participants highlighted that fostering inclusion requires transforming attitudes alongside policy reform. Awareness and empathy were identified as key elements in bridging the gap between mainstream and special education. The session further noted the National Education Policy (NEP) 2020 as a landmark step toward building supportive systems for inclusive education, particularly in encouraging the transition from special schools to mainstream environments that embrace diversity.

   Educators also reflected on the importance of teacher preparedness in supporting students with varied learning needs. Specialized training was recognized as critical to building confidence among teachers and equipping them to design adaptive learning experiences that ensure every child feels valued and capable.

3. **Leveraging Technology for Equal Learning Opportunities**
   As part of Amrita's broader mission to democratize education through technology, the session highlighted the transformative potential of digital tools in making learning environments accessible for neurodivergent students and those with autism spectrum conditions. Technology was seen not as a replacement for empathy, but as an enabler of compassion—bridging barriers in communication, interaction, and engagement.

Educators shared insights on how assistive technologies, adaptive learning systems, and inclusive digital content can provide personalized learning pathways that respond to individual needs. This aligns directly with Amrita CREATE's ongoing work to promote technology-driven educational inclusion across India's rural and underserved communities.

4. **Towards an Inclusive and Equitable Future**
   The discussion concluded with a shared understanding that achieving inclusive education requires systemic change—not only in curriculum and policy but also in social mindset. A culture that values diversity, encourages acceptance, and builds confidence among differently-abled and neurodivergent students is essential for reducing inequalities at all levels.

   Amrita's ongoing initiatives—ranging from teacher training and digital inclusion programs to community-based education models—reflect its unwavering commitment to ensuring that no learner is left behind. By embedding compassion and accessibility at the heart of pedagogy, Amrita continues to serve as a model for SDG-driven educational leadership, demonstrating that true equity in education begins with empathy, awareness, and shared humanity.

6.4 Empowering Equity through Climate Action: Amrita's UNESCO Chairs at COP28, Dubai

At the **28th United Nations Climate Change Conference (COP28)** held in Dubai, **Amrita Vishwa Vidyapeetham** strengthened its global leadership in sustainable development and social inclusion through active participation by both of its **UNESCO Chairs**. The conference marked a defining moment in global climate diplomacy, concluding with an agreement symbolizing the "beginning of the end" of the fossil fuel era.

Amrita's engagement at COP28 showcased how academia can bridge the gap between **scientific innovation, community empowerment, and global policy**, directly addressing inequality in access to climate education, technology, and adaptive capacity — all central themes of **SDG 10: Reduced Inequalities.**

1. **Indigenous Knowledge and Climate Education for Inclusive Sustainability**
   Representing Amrita's UNESCO Chair on Experiential Learning for Sustainable Innovation and Development, the university contributed to two key panels on indigenous-led climate education and democratization of space data. These discussions emphasized the vital role of local wisdom, community engagement, and open-source technology in achieving equitable climate resilience.

   Amrita's interventions at these sessions drew from its extensive field experience across 101+ adopted villages in India, where the university has implemented experiential learning models linking education, sustainable technologies, and community-driven innovation. The emphasis was on "indigenizing education for climate action", underscoring how grassroots knowledge systems and participatory

education can empower vulnerable communities to adapt effectively to climate change.

These dialogues reflected Amrita's commitment to integrating indigenous and scientific knowledge, ensuring that marginalized and rural populations have equal access to educational and technological opportunities — a key driver in reducing inequality across regions and social groups.

2. **Gender Equality and the Climate Crisis: Bridging the Social Divide**
   The university's UNESCO Chair on Gender Equality and Women's Empowerment also addressed multiple high-level sessions that highlighted the intersection of gender, climate change, and social equity. A key panel on "Climate Crisis and Health of Women and the Girl Child: A Gender Perspective" emphasized the disproportionate effects of climate change on women and girls, particularly in developing regions, and advocated for gender-responsive climate strategies.

   Amrita's initiatives showcased at the event — including the **Saukhyam Reusable Pads initiative**, and the empowerment of over **13,000 women's self-help groups (SHGs)** through livelihood training and sustainable enterprise programs — serve as global models of inclusive, community-centered climate solutions. These projects advance **climate justice and women's empowerment** by providing eco-friendly alternatives and sustainable income generation pathways, demonstrating how **reducing gender inequality contributes to climate resilience.**

   By sharing case studies from India, Amrita underscored how women-led local enterprises, circular economy models, and value-based training can **transform vulnerable populations into climate action leaders.** Such efforts align with **SDG 5 (Gender Equality) and SDG 13 (Climate Action)**, while also promoting **equitable access to resources, health, and education**, central to **SDG 10.**

3. **Innovation, Technology, and Responsible Leadership in the Climate Era**

   At the Green Blockchain and Corporate Social Responsibility Summit, Amrita also contributed perspectives on ethical technology deployment for sustainability. The discussions explored how blockchain systems can promote transparency, accountability, and inclusivity in global climate governance — especially for underrepresented communities.

   Amrita's contributions emphasized that technology, when guided by compassionate values and social responsibility, can bridge inequalities between developed and developing regions, ensuring that global

sustainability transitions are just, inclusive, and accessible to all.

4. **Global Partnerships for Reducing Inequalities**

Amrita's participation at COP28 exemplified the university's role as a global convener for equitable development, fostering collaborations with international organizations such as UNESCO, Rotary International, and the Global CSR Foundation. These engagements strengthen the link between grassroots development and global policy advocacy, advancing Amrita's mission to integrate compassion, innovation, and inclusivity into climate and educational leadership.

By engaging in cross-sectoral dialogues and showcasing community-based best practices, Amrita reaffirmed its position as a model institution for inclusive sustainability — one that transforms scientific knowledge into actionable solutions for reducing inequalities and empowering marginalized populations in the face of global challenges.

Transgenders

Under the Government of India's SANKALP project, Amrita University delivered vocational and life-skills training to transgender individuals in Delhi. A major milestone was the establishment of the Amrit Shakti Empowerment Center for Transgenders in Uttam Nagar, Delhi, where 40 trainees graduated in tailoring and beauty therapy and formed two business groups. Transgender coordinators and trainees also visited Amrita University for

advanced training in entrepreneurship, SHG leadership, design and upcycling, communication, and digital tools such as VR.

SDG 11

11.1 Research on SDG 11:Sustainable cities and communities

Parameter	Data
Scholarly Output	311
Field-Weighted Citation Impact	2.43
Citation Count	2,341

Between 2022 and 2024, Amrita Vishwa Vidyapeetham made transformative contributions toward achieving United Nations Sustainable Development Goal 11 — Sustainable Cities and Communities, through pioneering research that integrates technology, urban innovation, and environmental responsibility. With 311 scholarly outputs and a Field-Weighted Citation Impact of 2.43, Amrita's research performance significantly exceeds global benchmarks, underscoring its leadership in advancing sustainable urban systems. The university's research spans critical domains such as Smart Cities, Waste Management, Traffic Management Systems, and Disaster Prevention, emphasizing technology-driven solutions for safer, cleaner, and more resilient urban environments. Through the integration of Artificial Intelligence, Internet of Things (IoT), and Deep Learning models such as YOLO and Convolutional Neural Networks, Amrita is driving innovation in vehicle detection, emergency response, and advanced urban mobility systems. Supported by 65 international collaborations, 12,293 views, and 2,341 citations, Amrita's SDG 11 research reflects its global impact and enduring commitment to building sustainable, intelligent, and inclusive communities.

11.2 Promoting Inclusive Knowledge Access: Amrita's Library Services for the Public

Recognizing that equitable access to information is fundamental to sustainable urban and rural development, Amrita Vishwa Vidyapeetham has opened its library facilities to local residents, students, educators, and community institutions without charging any enrollment or membership fees. This initiative bridges the gap between academia and society, allowing citizens from surrounding communities to freely access books, research materials, digital databases, and learning spaces.

The program has particularly benefited students from local schools and marginalized groups who lack access to advanced educational resources. By enabling free use of information infrastructure, the university creates an inclusive learning ecosystem that extends beyond campus boundaries — a cornerstone of SDG Target 11.4,

which emphasizes strengthening social and cultural participation in sustainable communities.

1. **Accessibility and Integration into Community Development**
   All individuals wishing to utilize the library complete a simple registration process through a prescribed form, recommended by the respective institutional heads and approved by the Dean of Engineering. This open, structured approach ensures that the facility serves as a shared civic space for education, collaboration, and community learning.

   Admission is governed by a transparent set of library rules and user responsibilities, publicly displayed on notice boards to promote accountability and mutual respect among users. These measures ensure that the space remains accessible, orderly, and beneficial for both the university and the local community.

   By providing such shared access, Amrita's library acts as a community hub for knowledge exchange, supporting urban and peri-urban residents in developing literacy, digital fluency, and intellectual curiosity — qualities essential for sustainable and resilient societies.

2. **Amrita's Vision of Sustainable Urban Learning Spaces**
   This initiative reflects Amrita's broader sustainability vision — to integrate education, community service, and infrastructure in ways that promote social inclusion and urban well-being. Libraries are not merely repositories of information but are vital components of sustainable cities, offering equitable opportunities for all citizens to engage in continuous learning and dialogue.

   Through free and open access, Amrita contributes to:

   - Reducing educational inequality within urban and semi-urban populations;
   - Enhancing community resilience through access to credible knowledge;
   - Encouraging civic participation and informed citizenship;
   - Preserving and sharing cultural and academic resources within the local context.

By transforming its libraries into inclusive, sustainable spaces for knowledge and collaboration, Amrita Vishwa Vidyapeetham advances the UN's 2030 Agenda for Sustainable Development, demonstrating how higher education institutions can catalyze social cohesion, inclusivity, and informed community development in alignment with SDG 11.

11.3 Amrita Vishwa Vidyapeetham Achieves Prestigious IGBC Platinum Certification: A Benchmark for Sustainable Campus Development in India

In a landmark achievement that underscores its deep commitment

to sustainability and environmental stewardship, Amrita Vishwa Vidyapeetham has been awarded the "Platinum" Certification under the Indian Green Building Council (IGBC) Green Campus Rating System. This prestigious recognition—the highest level of certification conferred by IGBC—highlights the university's transformative approach to sustainable campus planning, green infrastructure, and eco-conscious operations across its institutions.

This milestone reflects Amrita's alignment with the United Nations Sustainable Development Goal 11 (SDG 11) – Sustainable Cities and Communities, which calls for making cities and human settlements inclusive, safe, resilient, and sustainable. Through this achievement, the university reaffirms its vision of creating educational ecosystems that balance technological advancement with environmental harmony.

The certification process involved a rigorous evaluation of multiple sustainability dimensions including energy efficiency, water conservation and reuse, waste minimization, green building design, and enhanced biodiversity. Amrita's campuses have integrated renewable energy systems, eco-friendly mobility solutions, and state-of-the-art wastewater treatment plants, while maintaining extensive green spaces that enhance air quality and ecological resilience.

Over the years, Amrita has consistently demonstrated excellence in sustainable campus management, earning national recognition for its leadership in cleanliness and green innovation. The institution has previously been ranked Number One among Technical Institutions in the Swachhta Rankings (2017 and 2018) by the Ministry of Human Resource Development, Government of India, and was named the 'One District One Green Champion' (2020–2021) by the Mahatma Gandhi National Council of Rural Education (MGNCRE) under the Ministry of Education. These accolades complement the Platinum recognition, collectively showcasing Amrita's holistic sustainability strategy that integrates people, planet, and progress.

The IGBC Platinum Certification reinforces Amrita Vishwa Vidyapeetham's pioneering role in India's journey toward sustainable higher education infrastructure. Each campus operates as a living laboratory for sustainable innovation—where students, faculty, and staff collaborate to implement and refine eco-conscious practices that can be replicated beyond campus boundaries.

By embedding sustainability into its physical, academic, and community engagement frameworks, Amrita exemplifies how universities can serve as catalysts for achieving SDG 11. The institution's efforts not only reduce its environmental footprint but also inspire a new generation of environmentally responsible citizens and professionals who will carry forward the vision of resilient and sustainable communities.

11.4 Promoting Cultural Sustainability and Heritage Preservation through University Initiatives

Aligned with the United Nations Sustainable Development Goal (SDG) 11 — "Make cities and human settlements inclusive, safe, resilient, and sustainable" — Amrita Vishwa Vidyapeetham continues to champion cultural sustainability through vibrant engagement in arts, heritage preservation, and community participation. The university's initiatives demonstrate a holistic approach to sustaining cultural identity and fostering inclusive spaces that nurture creativity and social cohesion.

1. **Advancing Cultural Expression and Community Engagement**
   Amrita Vishwa Vidyapeetham organizes a wide range of cultural festivals and artistic events across its campuses each year, providing platforms for students and the public to engage with traditional and contemporary forms of creative expression. Events such as Amritotsavam, Sargamritam, and other arts festivals feature performances in theatre, music, dance, fine arts, and literary activities that are open to the wider community. These large-scale events attract thousands of participants, promoting intergenerational learning, social inclusion, and the preservation of regional art forms.

Such initiatives extend beyond entertainment—they serve as cultural bridges between academia and local communities. By offering open-access performances and public participation opportunities, the university fosters a culture of inclusivity and collective celebration, thereby strengthening social and cultural resilience within and beyond campus boundaries.

2. **Safeguarding Intangible Cultural Heritage**
   Complementing its cultural outreach, Amrita Vishwa Vidyapeetham has implemented policies and projects aimed at preserving and documenting intangible cultural heritage, including traditional crafts, folklore, and performing arts. These efforts focus on digitization, intergenerational transmission of artisanal knowledge, and sustainable practice integration. The university's documentation and conservation efforts help safeguard cultural heritage at local, regional, and national levels while ensuring that indigenous knowledge systems remain accessible to future generations.

Sustainability principles such as upcycling, circular economy approaches, and eco-friendly materials are embedded within these initiatives, linking heritage preservation to environmental responsibility. Through academic research, digital archives, and community collaborations, Amrita promotes awareness of traditional art forms and supports the livelihoods of

local artisans and cultural practitioners.

3. **Integrating Culture into Sustainable Development**

   Amrita's commitment to the arts and heritage preservation reinforces the understanding that sustainable development extends beyond environmental and economic dimensions to include cultural continuity and community well-being. By nurturing spaces for cultural expression and preserving traditional knowledge systems, the university contributes directly to SDG Target 11.4 — "Strengthen efforts to protect and safeguard the world's cultural and natural heritage."

   Through its continued focus on integrating education, innovation, and culture, Amrita Vishwa Vidyapeetham remains dedicated to building sustainable and inclusive communities where creativity and heritage are valued as essential components of progress.

SDG 12

12.1 Research on SDG 12: Responsible Consumption and Production

Parameter	Data
Scholarly Output	310
Field-Weighted Citation Impact	1.66
Citation Count	2,643

From 2022 to 2024, Amrita Vishwa Vidyapeetham made remarkable advancements in supporting United Nations Sustainable Development Goal 12 — Responsible Consumption and Production, through high-impact research that promotes circular economy, waste reduction, and sustainable resource management. With 310 scholarly outputs and a Field-Weighted Citation Impact of 1.66, Amrita's research reflects global relevance and excellence in driving responsible and efficient production systems. The university's studies span critical areas such as Waste Management, Plastic Recycling, Electronic Waste, and Carbon Footprint Reduction, demonstrating a holistic approach to minimizing environmental impact and fostering sustainability. By integrating Artificial Intelligence, Deep Learning, and Supply Chain Optimization, Amrita develops innovative models that enhance sustainability across agricultural and industrial sectors. Supported by 82 international collaborations, 16,850 views, and 2,643 citations, Amrita's SDG 12 research underscores its global leadership in advancing responsible production, sustainable consumption, and climate-resilient development practices.

International Workshop on Waste-to-Wealth

Amrita's International Workshop on Waste-to-Wealth convened researchers, innovators, and social entrepreneurs to examine how waste can be reimagined as a resource. Participants explored practical models for converting organic, industrial, and agricultural residues into compost, biogas, and marketable by-products. The sessions featured case studies on community composting, decentralized waste segregation, and the use of recycled inputs in production systems. Group discussions focused on policy incentives, financing models, and strategies for inclusive participation of informal waste workers. The workshop concluded with plans for collaborative pilot projects to measure waste diversion, establish local recycling enterprises, and promote circular value chains. By linking research and entrepreneurship, the program highlighted how circular economy models can generate both income and environmental resilience.

Campus Food Waste Tracking and Reduction Program

Amrita's Campus Food Waste Tracking and Reduction Program measures and manages food waste across dining halls, hostels, and canteens to reduce avoidable losses. The system includes regular audits, waste segregation, and composting units that convert organic waste into fertilizer for campus gardens. Data gathered from these audits inform kitchen practices such as portion control, improved storage, and menu optimization. Surplus food that remains safe for consumption is redirected to local community kitchens, linking the program to hunger relief efforts. Workshops and campaigns engage students in understanding the social and environmental impact of food waste. Through continuous tracking and awareness, Amrita has achieved measurable reductions in plate waste and established a replicable model for sustainable food management in higher education.

Chemical Waste Disposal Procedure and Hazardous Waste Management

Amrita's Chemical Waste Disposal Procedure defines the protocols for safe handling and disposal of hazardous laboratory waste across its campuses. The document outlines responsibilities for researchers, laboratory assistants, and waste management staff, ensuring accountability at every stage. It specifies methods for labelling, storage, and transportation, and lists authorised disposal contractors who manage final treatment and reporting. Training sessions are regularly conducted for staff and students to reinforce safety standards and emergency preparedness. Periodic audits verify compliance and maintain detailed logs of chemical waste generation and disposal. This procedure ensures environmental protection, promotes occupational safety, and demonstrates Amrita's adherence to responsible laboratory management practices.

Sustainable Food Purchases and Responsible Procurement

Amrita's food procurement system incorporates sustainability principles into its purchasing decisions. The university prioritises local and seasonal produce to shorten supply chains and support small-scale farmers. Suppliers are encouraged to follow eco-friendly practices, reduce packaging, and provide transparency in sourcing. Vendor evaluation criteria include environmental performance, ethical labour standards, and compliance with food safety guidelines. Procurement teams monitor supplier practices through periodic reviews and awareness sessions. This policy enables Amrita to use its purchasing power to drive sustainability in the food industry and reinforces its commitment to responsible consumption within campus operations.

Institutional Environmental Sustainability Initiatives

The School for Sustainable Futures coordinates Amrita's environmental programs that integrate education, research, and campus operations. Students, faculty, and community members collaborate on projects involving energy efficiency, water conservation, solid waste management, and biodiversity restoration. Academic courses embed sustainability themes across disciplines, encouraging students to design practical interventions.

Outreach initiatives, including repair cafés, plastic-free campaigns, and recycling drives, promote behavioural change both on and beyond campus. Partnerships with local government and non-profit organisations extend these initiatives to nearby communities. The program demonstrates Amrita's institutional commitment to embedding sustainable consumption and production principles across every aspect of campus life.

SPARC Project 1707: Ethical Circular Economies in Textiles (South India)

The SPARC Project on Ethical Circular Economies in Textiles brings together researchers, textile producers, artisans, and social enterprises to develop sustainable practices within South India's textile clusters. The project investigates material flows, labour conditions, and waste patterns to design interventions that reduce textile waste and promote fair working conditions. Key outcomes include a digital product passport to trace materials through the production process, a sustainability dashboard for monitoring factory performance, and a greenhouse gas inventory prepared with Fairtrade India. The project also conducted capacity-building workshops for factory workers and management teams to support the adoption of ethical and circular practices. Collaborative pilots with local manufacturers are now testing closed-loop recycling systems and take-back models. Through these efforts, Amrita is shaping a new textile ecosystem that values resource efficiency, transparency, and social equity.

SDG 13

13.1 Research on climate action

Parameter	Data
Scholarly Output	255
Field-Weighted Citation Impact	2.32
Citation Count	2,377

Between 2022 and 2024, Amrita Vishwa Vidyapeetham made significant contributions toward advancing United Nations Sustainable Development Goal 13 — Climate Action, through impactful research addressing climate change mitigation, adaptation, and sustainability transitions. With 255 scholarly outputs and a Field-Weighted Citation Impact of 2.32, Amrita's research performance surpasses global standards, reflecting its excellence in climate-focused innovation and policy-relevant scholarship. The university's research spans key areas such as Carbon Footprint Reduction, Greenhouse Gas Emissions, Alternative Agriculture, and Precision Agriculture, emphasizing data-driven and sustainable solutions to environmental challenges. By leveraging Machine Learning, Vehicle-to-Grid systems, and renewable energy integration, Amrita advances technological strategies to curb fossil fuel dependency and support low-carbon development. Supported by 80 international collaborations, 13,548 views, and 2,377 citations, Amrita's SDG 13 research exemplifies its global leadership and enduring commitment to combating climate change and fostering a sustainable, resilient planet.

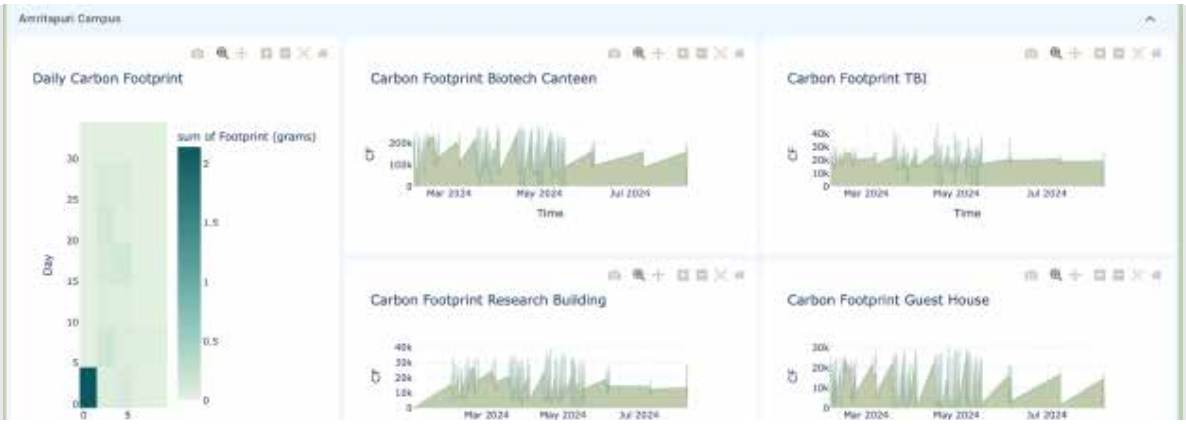
13.2 Low-carbon energy use

Smarter Buildings, Lower Bills: Amrita's Energy Efficiency Leap

Amrita has rolled out a comprehensive Energy Efficiency Plan across campus infrastructure—adding building insulation, replacing legacy fixtures with high-efficiency LEDs, and deploying motion sensors for automated lighting control. Together, these upgrades have cut wasted power, improved comfort, and streamlined maintenance, delivering substantial savings, with some zones recording up to an 85% reduction in energy use.

Carbon Monitoring System

The real-time CO2 from energy monitoring system provides a comprehensive overview of the campus's carbon footprint associated with energy consumption. The dashboard displays real-time data on CO2 emissions generated from various energy sources, including electricity, heating, and cooling. By analyzing historical data and comparing it to real-time emissions, users can identify trends, assess the impact of energy-saving measures, and make informed decisions to reduce the campus's carbon footprint. The dashboard also provides insights into the carbon intensity of different energy sources, helping to optimize energy procurement strategies and prioritize low-carbon options. Additionally, the system can generate detailed reports on carbon emissions, enabling compliance with environmental regulations and sustainability reporting.



Solar Auto Rickshaw

The Solar Auto Rickshaw is a groundbreaking innovation in sustainable urban mobility. This lightweight, efficient, and 100% solar-powered vehicle offers a clean and affordable transportation solution for cities worldwide. Equipped with advanced solar panels, the auto rickshaw harnesses the power of the sun to charge its batteries, eliminating the need for fossil fuels.

By reducing reliance on traditional energy sources and minimizing carbon emissions, this eco-friendly vehicle contributes to a more sustainable future. Additionally, its low operating costs and minimal maintenance requirements make it an attractive option for both drivers and passengers. As technology continues to advance, the Solar Auto Rickshaw is poised to revolutionize urban transportation and set new standards for sustainable mobility.

IGBC Platinum Campus: Amrita's Clean-Energy Milestone

Amrita Vishwa Vidyapeetham earned the Indian Green Building Council (IGBC) Green Campus Platinum certification on

November 7, 2023, setting a benchmark for university sustainability. The recognition reflects campus-wide energy optimization,

integration of renewable power, and eco-friendly infrastructure—measures that cut carbon footprints while improving operational efficiency and resilience.

Environmental education measures

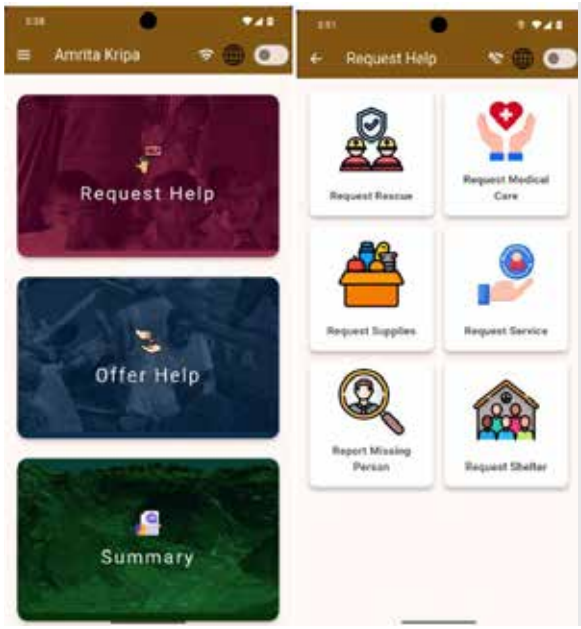
Disaster Management and Risk Resilience Initiatives

Saving Lives with AI-IoT Landslide Alerts

Amrita has designed and deployed an AI-enabled IoT early-warning system in landslide-prone regions like Wayanad, integrating remote sensing, wireless in-ground probes, and advanced models for regional multi-hazard risk assessment. The system has already helped save lives during events across the Western Ghats and the north-eastern Himalayas, demonstrating how community-centric technology can strengthen disaster preparedness and rapid response. G.O-RT-208-2025-Permission-granted-to-Amrita-Visha.pdf

One Platform, Many Hazards: Amrita's Real-Time Readiness Suite

Amrita has built an integrated Disaster Tech stack that brings detection, decision support, and community action into one flow. The Dynamic Regional Multi-Hazard Risk Management Platform aggregates sensor, remote-sensing, and crowdsourced feeds into live maps and decision dashboards; an advanced social-media mining engine flags emerging floods, landslides, storms, and quakes in near real time; and mobile apps—Landslide Tracker and Amrita Kripa—push location-aware alerts, enable quick incident reporting, and



guide first responders and residents with simple, actionable checklists. Together, these tools shorten the time from signal to response and strengthen community preparedness across hazard-prone regions.

SREE: Data to Decisions for Resilient Communities

Amrita University's **SREE (Sustainability & Resilience for Community Engagement & Empowerment)** is a geo-enabled platform that turns local data into action. It supports community-scale sustainability assessments, real-time monitoring and risk analysis via mapped dashboards,

and participatory, bottom-up decision-making for climate resilience and resource management. Deployed across multiple countries, SREE integrates surveys, sensors, and satellite layers to guide targeted interventions, track outcomes, and empower communities to act quickly and effectively.

UNESCO–IOC Honors Amrita Vishwa Vidyapeetham for Landmark Tsunami Relief at 20th-Anniversary Aceh Symposium

Amrita Vishwa Vidyapeetham received international recognition for its exemplary tsunami relief and rehabilitation efforts at the second International Tsunami Symposium, organized by the United Nations Educational, Scientific and Cultural Organization's Intergovernmental Oceanographic Commission (UNESCO–IOC). Held in Banda Aceh under the theme "Aceh Thanks the World," the symposium marked 20 years since the 2004 Indian Ocean tsunami and convened global experts, researchers, and humanitarian organizations.

Representing both the university and Mata Amritanandamayi Math, Dr. Maneesha Ramesh, Provost of Amrita Vishwa Vidyapeetham, spotlighted the institution's extensive disaster response initiatives undertaken during the 2004 catastrophe. "The initiatives led by our Chancellor, Mata Amritanandamayi Devi, have been recognized as global models of effective disaster response, drawing attention and commendation from various countries and research bodies. These efforts continue to be studied and discussed even after two decades, showcasing the lasting impact and significance of our work," she noted.

The symposium featured dedicated exhibits with photographs and video presentations documenting the university's and the Math's rescue operations, community rehabilitation, and long-term recovery programs. The recognition underscores Amrita Vishwa Vidyapeetham's sustained commitment to humanitarian action, community resilience, and knowledge sharing in disaster risk reduction.

International Conference on Tsunami Risk Reduction & Resilience

Hosted by Amrita Vishwa Vidyapeetham with national and international partners, the International Conference on Tsunami Risk Reduction & Resilience convened scientists, disaster-management agencies, humanitarian organizations, and coastal community leaders to translate evidence into action. Over focused keynotes, technical tracks, and hands-on workshops, the conference aligned hazard science

with end-to-end early warning, resilient infrastructure planning, and community-based preparedness.

The meeting produced a clear 12-month roadmap for pilot implementation in selected coastal districts, agreement on shared data and alerting standards, and practical, drill-ready toolkits for local authorities and schools. It also advanced policy uptake through a draft brief on risk-sensitive coastal zoning and resilient building codes, and formalized new partnerships (MoUs/LoIs) for data sharing, training, and technology pilots—strengthening coordination between government, academia, and communities.

Amrita Delegates Spotlight SDG Leadership at THE Global Sustainable Development Congress 2024

Amrita Vishwa Vidyapeetham showcased its SDG-driven education, research, and community impact at Times Higher Education's Global Sustainable Development Congress in Bangkok (June 13–15, 2024). In a panel focused on excellence in achieving the Sustainable Development Goals in India, the university presented an integrated SDG framework that embeds sustainability across curriculum design, research translation, and field implementation. Examples included course modules aligned to SDG targets and indicators; transdisciplinary labs that co-develop solutions with communities; and mechanisms for scaling pilots through partnerships with government agencies, NGOs, and industry. The presentation emphasized

measurable outcomes—learning gains, technology adoption, community livelihood improvements, and policy uptake—supported by dashboards that track outputs (training hours, prototypes, field deployments) and outcomes (health, education, environment, and income proxies) mapped to SDG indicators.

SDG 14

14.1 Research on Life Below Water

Parameter	Data
Scholarly Output	66
Field-Weighted Citation Impact	1.51
Citation Count	513

From 2022 to 2024, Amrita Vishwa Vidyapeetham made meaningful strides in advancing United Nations Sustainable Development Goal 14 — Life Below Water, through research dedicated to protecting marine ecosystems and promoting sustainable use of ocean and freshwater resources. With 66 scholarly outputs and a Field-Weighted Citation Impact of 1.51, Amrita's research demonstrates global relevance in addressing challenges related to marine pollution, blue economy, and freshwater conservation. The university's work encompasses critical areas such as oil spill management, waste collection, and marine environmental monitoring, reflecting a commitment to safeguarding aquatic biodiversity and ecosystem health. By integrating advanced technologies like Computer Vision, Aerogel materials, and Fog Computing, Amrita pioneers innovative approaches to detect, prevent, and mitigate marine pollution and climatic impacts on water bodies. Supported by 19 international collaborations, 2,547 views, and 513 citations, Amrita's SDG 14 research underscores its growing global influence and dedication to ensuring the long-term sustainability of marine and aquatic environments.

Building Blue Economies: 64 Women Skilled in Sustainable Seaweed Farming

As part of a marine conservation and livelihood enhancement initiative, AMMACHI Labs trained 64 women in sustainable seaweed farming. The program covered eco-friendly cultivation, safe harvesting, basic value addition, and market linkage, emphasizing habitat protection and

climate resilience. Participants formed producer groups, adopted low-impact farming methods (rope-line culture, water-quality monitoring), and completed entrepreneurship and digital-skills modules. This initiative advances SDG 14 (Life Below Water) by promoting regenerative coastal livelihoods, while strengthening SDG 5 (Gender Equality) and

SDG 8 (Decent Work & Economic Growth) through women-led microenterprises.

Community-Led Blue Carbon: Amrita Restores Seagrass

AMMACHI Labs led community-based seagrass restoration to stabilize coastal sediments, rejuvenate fish nursery habitats, and enhance nearshore biodiversity. At Thondi village, teams transplanted critical seagrass species to anchor sediments and improve water clarity. In Olaikuda, a large-scale effort restored ~0.9 hectares of seabed using sustainable planting methods, co-executed with students, local leaders and fishers, Indian Navy personnel, and marine experts to ensure safe logistics and long-term stewardship. Methods included donor-site clump/shoot transplants, low-disturbance planting frames, and planned spacing for rapid meadow closure, paired with community monitoring of turbidity, seagrass cover, and seedling survival. Early results indicate improved sediment stability and visible habitat recovery supporting juvenile fish and invertebrates; local stewardship groups have been formed for quarterly monitoring and shoreline clean-ups. SDG contributions: 14.2/14.5 (coastal

ecosystem restoration & protection), 13.1 (nature-based adaptation), and 11.3/17.17 (inclusive, multi-stakeholder coastal stewardship).

Integrated Multi-Trophic Aquaculture: A Community Skills Initiative

AMMACHI Labs is advancing ocean-based livelihoods through hands-on skills training and aquaculture education. In our Integrated Multi-Trophic Aquaculture (IMTA) sessions, students learn how co-cultivating seaweed, mussels, and finfish forms a self-sustaining, eco-friendly system where each species supports the others. Field discussions bridge technical know-how with physical readiness, emphasizing swimming and water safety as foundational for safe participation and long-term success in marine work. These

engagements underscore AMMACHI Labs' commitment to practical skill development, sustainable livelihoods, and women's leadership in coastal communities.

New Marine Ecosystems Lab: Stressor Responses in Marine Animals & Sustainable Ocean Livelihoods

Amrita's Sustainable Ecosystem and Environmental Resilience (SEER) Lab has launched a dedicated Marine Ecosystems Lab to study how ocean stressors , warming, hypoxia, ocean acidification, and microplastics, affect the physiology, behavior, and reproduction of key marine species. Combining field observations, mesocosm experiments, and sensor-based monitoring, the lab maps tolerance thresholds and recovery pathways. Findings are translated into nature-positive, community-ready solutions, including safer fishing practices. Early priorities include controlled stressor-response trials on commercially important invertebrates and fishes, linking habitat restoration (e.g., seagrass/seaweed) to local stress buffering, and developing decision-support tools for coastal managers and producer groups.

Harmonising Livelihoods for Dugong Conservation in the Gulf of Mannar and Palk Bay

Amrita University's Center for Women's Empowerment and Gender Equality and the Surabhi Foundation, in collaboration with UNESCO India, have been promoting dugong conservation in the Gulf of Mannar and Palk Bay through the exploration of sustainable livelihood pathways for coastal communities. A participatory study of 800+ households across 10 villages revealed strong interest, especially among women, in alternatives such as seaweed cultivation, food processing, crafts, tailoring, and eco-tourism amid declining fishing opportunities.

SDG 15

15.1 Research on Life on Land

Parameter	Data
Scholarly Output	106
Field-Weighted Citation Impact	1.31
Citation Count	728

Between 2022 and 2024, Amrita Vishwa Vidyapeetham made impactful contributions toward achieving United Nations Sustainable Development Goal 15 — Life on Land, through research focused on ecological preservation, biodiversity conservation, and sustainable land management. With 66 scholarly outputs and a Field-Weighted Citation Impact of 1.51, Amrita's research reflects strong global engagement in addressing environmental degradation and promoting ecosystem resilience. The university's studies encompass critical areas such as climate change, freshwater conservation, waste management, and environmental monitoring, underscoring its holistic approach to land and habitat protection. Leveraging emerging technologies like Computer Vision, Aerogel materials, and Fog Computing, Amrita advances innovative solutions for pollution control, land restoration, and sustainable resource utilization. Supported by 19 international collaborations, 2,547 views, and 513 citations, Amrita's SDG 15 research reinforces its commitment to safeguarding terrestrial ecosystems and fostering a sustainable balance between human development and nature conservation.

15.3 Supporting land ecosystems through action

Amrita Promotes Afforestation through Tree Planting and Seed Ball Distribution

An awareness event on tree planting and seed ball distribution was organized on 27 September 2023 to promote afforestation and ecological restoration. Farmers and students collaboratively prepared and distributed seed balls while learning about the importance of trees in improving soil fertility, conserving water, and restoring biodiversity. The initiative aimed to inspire community-led environmental stewardship and strengthen local participation in sustainable land management practices.

AI-Powered 'Amrita Elephant Watch' to Mitigate Human-Wildlife Conflicts

Amrita University's research center, AMMACHI Labs, developed an innovative AI-powered monitoring system called Amrita ElephantWatch to address rising

human–elephant conflict. The system uses real-time multisensory detection and AI-generated alerts to support safer coexistence between people and wildlife. Through strategically placed sensors and camera units, AI models analyze live data to accurately detect and track elephant movements and send instant warnings to communities. The goal is to enhance rural safety, reduce crop and property losses, and protect wildlife through a reliable, early-warning solution.

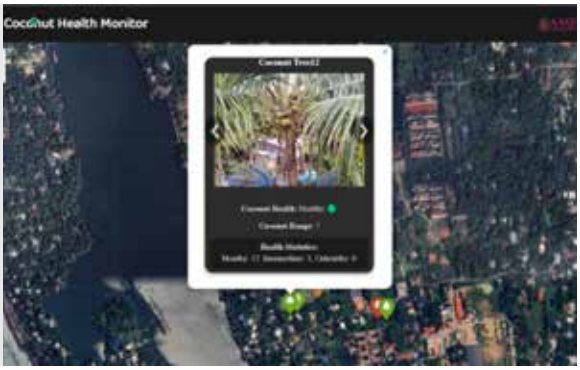
AI-Enabled Sapling Health Monitoring System

The AI-Enabled Sapling Health Monitoring System is a digital platform designed to geo-tag and monitor thousands of mango and cashew saplings across project villages. The system integrates

an interactive map interface where each sapling is visualized along with its AI-predicted health status. Using machine-learning models, saplings are classified as healthy, intermediate, or unhealthy, enabling timely identification of those requiring intervention. The platform also provides village-wise crop counts, detailed sapling information, and multilingual support to ensure accessibility and effective use by local communities.

AI-Enabled Coconut monitoring system

The AI-Enabled Coconut Health Monitoring System is a digital platform designed to map and assess coconut plantations using drone-captured imagery. High-resolution drone data is processed to geo-tag each coconut tree, which is then displayed on an interactive map along with its key attributes. Using advanced AI models, the system evaluates visual



indicators to generate a health status for every tree, enabling timely identification of palms that may require closer attention or care. The platform also provides village-wise coconut counts, detailed tree-level information, and multilingual support, ensuring accessibility and effective use for field teams and local communities.

SDG 16

16.1 Research on Peace, Justice and Strong Institutions

Parameter	Data
Scholarly Output	106
Field-Weighted Citation Impact	2.47
Citation Count	882

From 2022 to 2024, Amrita Vishwa Vidyapeetham made significant advancements in promoting United Nations Sustainable Development Goal 16 — Peace, Justice and Strong Institutions, through interdisciplinary research fostering transparency, ethical governance, and social harmony. With 106 scholarly outputs and a Field-Weighted Citation Impact of 2.47, Amrita's research excellence far exceeds global standards, highlighting its leadership in strengthening institutional integrity and societal resilience. The university's work spans crucial areas such as corruption prevention, cyberbullying mitigation, stakeholder engagement, and rural development, reinforcing its commitment to justice and inclusive governance. By integrating advanced technologies like Distributed Ledger Systems, Bidirectional Long Short-Term Memory Networks, and Global Positioning Systems, Amrita enhances accountability, data-driven policymaking, and community-centric development frameworks. Supported by 30 international collaborations, 4,792 views, and 882 citations, Amrita's SDG 16 research exemplifies its global impact and unwavering dedication to building peaceful, just, and resilient societies.

16.2 Strengthening Grassroots Governance: Bridging Access to Welfare in Rural India

Amrita Vishwa Vidyapeetham's initiatives under the Centre for Women's Empowerment and Gender Equality (CWEGE) and AMMACHI Labs have been instrumental in strengthening institutional inclusivity and social justice through effective grassroots engagement. In alignment with UN Sustainable Development Goal 16 – Peace, Justice, and Strong Institutions, these efforts aim to ensure that every citizen, regardless of location or literacy, can access their rightful government entitlements and participate meaningfully in public governance.

Across several Indian states—including Bihar, Uttar Pradesh, Uttarakhand, Punjab, Haryana, Himachal Pradesh, and West Bengal—Community Organizers (COs) trained by CWEGE act as vital links between rural communities and government institutions. These women-led teams bridge systemic gaps by creating awareness, assisting with documentation,

coordinating with local officials, and facilitating continuous follow-ups to ensure the delivery of social welfare benefits.

Through these interventions, the university has established a participatory and transparent model of local governance—one that prioritizes inclusion, accountability, and empowerment. In 2024 alone, Amrita's COs implemented over 820 interventions, reaching 1,933 rural beneficiaries across seven states. These efforts have significantly enhanced access to critical services in areas such as healthcare, social security, financial inclusion, and livelihood development.

A defining feature of this initiative is its women-led approach to governance. Every CO is a local woman trained to act as a liaison between her community and the state. This not only promotes equitable access to welfare but also strengthens women's leadership and civic participation at the village level. By facilitating government service delivery through empathy and accountability, these community organizers are transforming governance from the ground up—creating systems that are transparent, people-centered, and resilient.

Ultimately, Amrita's model demonstrates how strong local institutions and empowered women leaders can together drive inclusive development and ensure that the promise of justice and equity truly reaches the last mile.

16.3 Fostering Child Rights and Protection through Education: A Step Toward Peaceful and Inclusive Societies

Amrita Vishwa Vidyapeetham continues to advance its commitment to social responsibility and inclusive development by nurturing a culture of empathy, justice, and awareness among youth. Reflecting the essence of **UN Sustainable Development Goal 16 - Peace, Justice, and Strong Institutions**, the university's social outreach initiatives emphasize child protection, empowerment, and the building of equitable communities.

In November 2024, the **Department of Social Work** organized a week-long celebration titled *Snehakootam* in observance of Children's Day. The event brought together undergraduate and postgraduate social work students in a meaningful campaign focused on child rights, protection, and creative engagement. Through interactive workshops, educational outreach, and village-based community programs, the celebration reaffirmed Amrita's mission to promote social inclusion and institutional accountability for the well-being of children.

The program began with a series of educational sessions and workshops aimed at raising awareness of **child rights and safety**. Discussions explored the role of Corporate Social Responsibility (CSR) in advancing children's welfare, alongside creative activities such as origami, art

from waste, and vegetable painting—each designed to inspire imagination and social sensitivity among participants. These sessions reinforced the belief that education, when combined with creativity and compassion, becomes a powerful tool for social transformation.

Extending beyond the campus, the celebration continued in **Mavuthampathy and Puthupathy village schools**, where Amrita students facilitated interactive sessions that encouraged children to express themselves freely through play and dialogue. These community engagements created joyful, inclusive spaces where children felt valued and protected—bridging the gap between educational institutions and rural communities.

By integrating child-centered education with field engagement, *Snehakootam* demonstrated how universities can play a transformative role in **strengthening social institutions, fostering trust, and protecting vulnerable groups**. The initiative also aligned with Amrita's long-standing commitment to peacebuilding through compassion-based education, ensuring that every child's right to safety, expression, and dignity is upheld.

Through such efforts, Amrita Vishwa Vidyapeetham continues to champion **peace, justice, and strong institutions**—laying the foundation for a society where every child can grow, learn, and thrive within a framework of equality, protection, and care.

SDG 17

Partnerships for the Goals

17 PARTNERSHIPS FOR THE GOALS

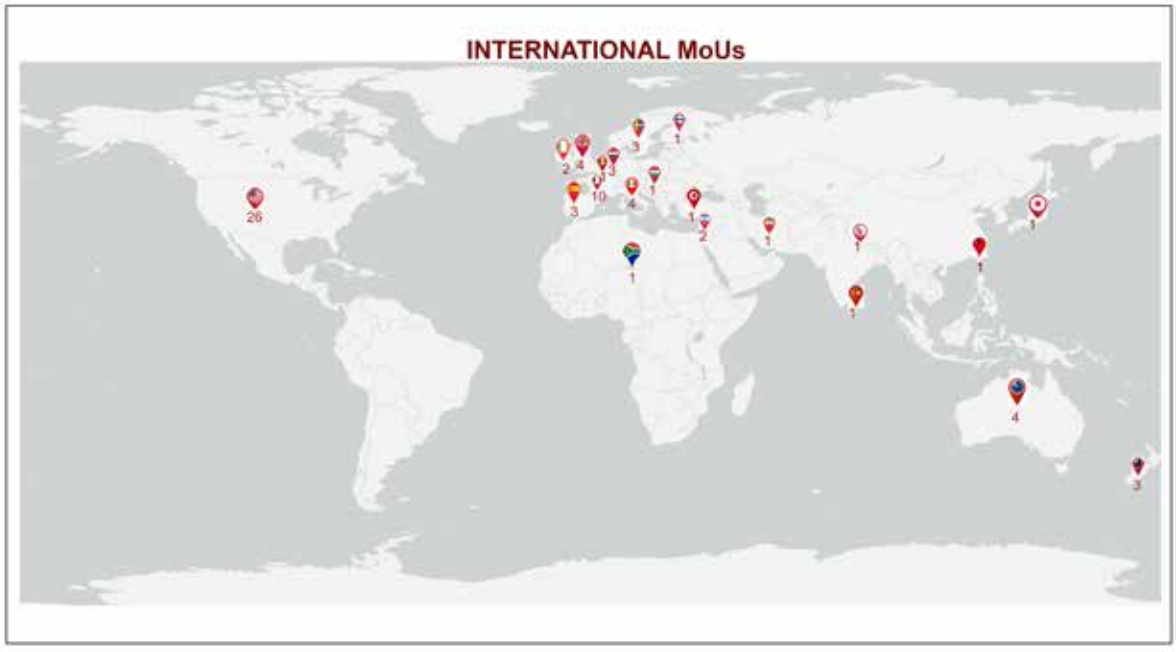
Amrita Vishwa Vidyapeetham continues to strengthen its global academic footprint through a wide network of international collaborations that advance multidisciplinary research, knowledge exchange, and capacity building. As reflected in the map, the university has active collaborations with institutions across North America (104 partnerships in the USA alone), Europe (15 collaborations across several countries), Africa (5), Australia (38), New Zealand (5), Thailand (5), and Taiwan (5). These partnerships enable joint research, faculty and student mobility, dual-degree pathways, and cross-cultural learning environments that reinforce Amrita's commitment to global sustainability and inclusive development. Many of these collaborations directly support research and innovation aligned with the UN Sustainable Development Goals (SDGs), including climate resilience, disaster risk reduction, sustainable fisheries, gender equality, healthcare innovation, robotics, and social development. Through these international networks, Amrita continues to serve as a hub for global knowledge-sharing while translating scientific advances into community impact across India.

Global MoU Frameworks Supporting Academic Excellence

Amrita Vishwa Vidyapeetham maintains an extensive portfolio of formal Memoranda of Understanding (MoUs) with leading universities, research institutes, and global organisations. As illustrated in the MoU map, the university has signed 74 international MoUs spanning North America, Europe, Australia, Asia, and

Africa. These include 26 MoUs with institutions in the United States, as well as partnerships in the United Kingdom, Sweden, Italy, France, the Netherlands, Spain, Ireland, Finland, Hungary, Belgium, Japan, Taiwan, Turkey, Iran, Nepal, Israel, Sri Lanka, and Australia. Each MoU serves as a framework for strategic collaboration—facilitating joint degree programs, faculty exchange, student internships, collaborative research laboratories, and global immersion programs such as Live-in-Labs®. Many of these partnerships support cutting-edge research themes including climate action, sustainable technologies, water and

Esri, TomTom, FAO, NOAA, USGS



Esri, TomTom, FAO, NOAA, USGS

sanitation, renewable energy, public health, machine learning, marine ecosystems, and humanitarian engineering. The breadth of Amrita's global MoU network reflects the university's mission of serving society through compassion-driven research and its standing as one of India's most internationally connected institutions.

17.1 Strengthening Healthcare Partnerships for a Sustainable Future: Amrita Vishwa Vidyapeetham's Collaborative Endeavour with AIIMS Bhopal

In April 2024, Amrita Vishwa Vidyapeetham reaffirmed its enduring commitment to the United Nations Sustainable Development Goal 17 — "Strengthen the means of implementation and revitalize the global partnership for sustainable development" — through a landmark academic and research collaboration between the Amrita School of Medicine and the All India Institute of Medical Sciences (AIIMS), Bhopal.

This strategic partnership reflects Amrita's vision of fostering cross-institutional cooperation to advance healthcare innovation, medical education, and translational research for societal benefit.

By engaging in this knowledge-sharing initiative, the university continues to strengthen its role as a catalyst for collaborative growth in the national and global health ecosystem.

The interactive session that marked this collaboration provided a dynamic platform for mutual learning and exchange of expertise. It focused on enhancing interdisciplinary medical research, promoting evidence-based clinical practices, and identifying new avenues for capacity building in healthcare education. The discussions emphasized the importance of collaboration between leading academic institutions to collectively address emerging healthcare challenges and bridge research-to-practice gaps.

A key highlight of the event was the mutual appreciation of institutional strengths and shared research achievements, symbolizing a unified approach to advancing medical science and education. The recently signed Memorandum of Understanding (MoU) between Amrita School of Medicine and AIIMS Bhopal lays the groundwork for future collaborations in areas such as biomedical innovation, digital health, and public health research.

This initiative exemplifies Amrita's holistic approach to education and research — combining academic excellence, compassion-driven healthcare, and technological innovation to achieve sustainable societal outcomes. Through such partnerships, the university continues to build strong networks of cooperation that transcend institutional boundaries, embodying the true spirit of SDG 17.

By leveraging collective knowledge

and fostering meaningful partnerships, Amrita Vishwa Vidyapeetham continues to advance the shared global agenda of equitable and sustainable healthcare for all.

17.2 Strengthening Global Partnerships in Research, Sustainability, and Innovation: European Union Delegation Visits Amrita Vishwa Vidyapeetham

In December 2024, Amrita Vishwa Vidyapeetham hosted a high-level delegation from the European Union at its Kochi and Amritapuri campuses to explore opportunities for collaboration in research, education, and innovation. The visit, led by Mr. Pierrick Fillon-Ashida, First Counsellor

and Head of Research & Innovation at the European Union Delegation to India, reflected a shared commitment between Amrita and the European Union toward advancing sustainable development, technological progress, and academic excellence through global partnerships.

The discussions centered on strengthening collaborative frameworks in key thematic areas such as artificial intelligence, renewable energy, healthcare, sustainability, and social innovation.

The EU delegation introduced several collaborative platforms and funding mechanisms, including a €60 million fund dedicated to joint research projects between EU and Indian institutions. Initiatives such as the Think Swiss Scholarships, Swiss Government Excellence Scholarships, and the EURAXESS India Platform were presented as valuable channels for academic and research exchanges.

Amrita Vishwa Vidyapeetham faculty showcased the university's pioneering work in AI-driven healthcare, renewable energy solutions, sustainable water management, and circular economy models, aligning with European priorities in innovation and green transformation. These discussions opened pathways for co-developing interdisciplinary projects, faculty exchange programs, and joint capacity-building initiatives aimed at addressing shared global challenges.

The Enterprise Europe Network (EEN) was highlighted as a promising avenue for multi-sectoral collaboration across 56 countries in domains such as women's empowerment, sustainable textiles, food systems, digital innovation, and environmental resilience. The delegation also presented European advancements in EV battery recycling, antimicrobial resistance (AMR) management, and One Health initiatives, demonstrating synergy with Amrita's existing research ecosystem and community-based sustainability programs.

This visit reaffirmed Amrita Vishwa Vidyapeetham's strategic vision of fostering impactful global partnerships under SDG 17 – "Partnerships for the Goals." By integrating academic expertise

with international innovation networks, Amrita aims to create co-learning environments that promote sustainable technologies, inclusive education, and equitable development.

To strengthen these ties further, Amrita will organize dedicated online sessions to connect its researchers with European counterparts, facilitating joint proposal development and collaborative projects under EU-India cooperation programs. Through this initiative, Amrita continues to exemplify its commitment to global knowledge exchange, advancing India's role in international sustainability collaborations, and shaping resilient solutions for a better future.

17.3 ARISE 2024: Fostering Innovation and Collaborative Entrepreneurship for Sustainable Development

In August 2024, Amrita Vishwa Vidyapeetham organized ARISE 2024 – the Annual Startup Festival, a flagship initiative aimed at strengthening innovation ecosystems through collaboration, entrepreneurship, and sustainability. The event served as a dynamic platform that united local innovators, early-stage entrepreneurs, social enterprises, industry mentors, investors, and community stakeholders under a shared vision of inclusive and sustainable growth.

ARISE 2024 was structured around three key objectives: promoting entrepreneurial partnerships, advancing sustainable business models, and enabling social impact innovation. Through a series of pitch competitions, design-thinking workshops, networking sessions, and expert panel discussions, participants explored ways to address global and local challenges through technology-enabled, socially responsible solutions.

The festival emphasized co-creation and cross-sectoral collaboration, aligning strongly with the spirit of SDG 17 – Partnerships for the Goals. Participants engaged with mentors from academia, industry, and government incubators who provided strategic guidance on business model development, scaling strategies, and sustainable financing mechanisms. The event also featured thought-provoking sessions on ethical entrepreneurship, social innovation financing, women-led startups, and digital transformation for rural inclusion, reflecting Amrita's mission of integrating innovation with compassion and social responsibility.

A highlight of ARISE 2024 was the startup pitch competition, where young entrepreneurs showcased transformative ideas addressing sectors such as clean energy, health tech, circular economy, and rural livelihoods. The top three winners received seed funding of ₹100,000, ₹75,000, and ₹50,000 respectively, alongside incubation support and mentorship opportunities within Amrita's innovation and entrepreneurship ecosystem. These support mechanisms aim to nurture early-stage ideas into scalable ventures that contribute

meaningfully to sustainable development goals.

Beyond the competition, the design-thinking and co-innovation workshops encouraged participants to apply human-centered design approaches to real-world sustainability problems. The workshops facilitated interdisciplinary collaboration among students, faculty, and industry experts, reinforcing Amrita's commitment to knowledge-sharing and innovation-driven social change.

Through ARISE 2024, Amrita Vishwa Vidyapeetham continues to demonstrate how academic institutions can act as convening hubs for multi-stakeholder partnerships, bridging the gap between academia, industry, and society. The festival not only empowered young innovators but also strengthened networks that drive inclusive entrepreneurship and sustainable economic growth.

In alignment with SDG 17, ARISE 2024 exemplifies Amrita's dedication to advancing global partnerships that leverage knowledge, technology, and resources to create long-term, equitable solutions for communities across India and beyond.

In March 2024, a representative from Amrita University's UNESCO Chair on Gender Equality participated in the International Women's Day conference in Paris, organized by the former Ministry for Women's Rights, exploring how women are being empowered through spiritual leadership, shared insights from diverse voices, and highlighted pathways for transformational change. The conference and the initiatives discussed focus on enabling women to take on leadership roles, improving access to education, livelihoods, safety, and health.

In May 2024, Dr. Bhavani Rao, UNESCO Chair in Gender Equality and Women's Empowerment at Amrita Vishwa Vidyapeetham, was an invited speaker at the "Shaping Research Agenda of the Social and Human Sciences in Asia-Pacific" conference held in Bangkok, Thailand. Organized by UNESCO and AASSREC, the conference brought together academics and policymakers to discuss future research directions. Dr. Rao's presentation emphasized culturally grounded gender equality strategies and the inclusion of men and boys in gender initiatives, showcasing Amrita's collaborative field projects and academic contributions.

On International Women's Day 2024, Sri Mata Amritanandamayi Devi, Chancellor

of Amrita, delivered the keynote at Femina Vox, a global online forum for women's rights, hosted by UNESCO Artist for Peace, Dr. Guila Clara Kessous. Held under the High Patronage of UNESCO and the Global Peace Education Network, the event

brought together international leaders and peace advocates to promote gender equality and social justice.

The Global Spirituality Mahotsav, organized by India's Ministry of Culture in March 2024 in Hyderabad, brought together over 300 spiritual leaders from 100+ countries to promote peace through inner transformation. Amma (Sri Mata Amritanandamayi Devi) delivered a keynote message, represented on-site by Prof. Bhavani Rao, emphasizing compassion, spiritual awakening, and the integration of spirituality into everyday life.

The path to a truly sustainable world lies not only in advancing technology but in nurturing our shared compassion and respect for all life. When science, spirituality, and love for the Earth unite, humanity can flourish in harmony with nature. True progress is not measured by what we can consume or create but by the wisdom with which we care for each other and our planet.

~ Satguru Mata Amritanandamayi Devi
Chancellor, Amrita Vishwa Vidyapeetham

AMRITA
VISHWA VIDYAPEETHAM