United Nations Educational, Scientific and Cultural Organization

UNESCO Chair on Experiential Learning for Sustainable Innovation and Development
Amrita Vishwa Vidyapeetham
Kerala, India

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AMRITA
VISHWA VIDYAPEETHAM
DEEMED TO BE UNIVERSITY

School for Sustainable Development

VOICES OF SUSTAINABILITY

UNESCO Chair on Experiential Learning for Sustainable Innovation & Development

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Amrita Vishwa Vidyapeetham

CHAIR HOLDER

Dr. Maneesha V Ramesh

Provost, Internationalization,
Research & Innovation;
Dean, School for Sustainable Development;
Amrita Vishwa Vidyapeetham, India

MESSAGE

As we collectively begin to recover from the impact of unprecedented magnitude that the pandemic has resulted in, we hope for a steadfast recovery that helps to reimagine a better future for a sustainable world. When we look back to the time when the world came to a standstill with all of us confined to our homes, on the bright side mother nature did heal by reversing some of the damages that we humans had inflicted upon it. However, the grappling effect the pandemic has had on the economic and social aspects of our lives continues to sway us, thereby calling for the urgent need for an equitable and sustainable path to recovery.

Equitable access to resources, sustainable pathways to development, and multi-faceted interventions aimed at steadfast recovery protecting people from all strata of society including vulnerable communities, and getting development back on track is key to ending the pandemic. But, as a global community, a collective effort to establish and ensure peace as the foundation of this recovery becomes one of paramount importance. With disparity and suffering on the rise now more than ever, let us also not forget that individual efforts are as important as collective ones.

By tapping on the experiential learning framework that is at the core of the UNESCO Chair here at Amrita Vishwa Vidyapeetham, our efforts for recovery are directed towards investing in innovation to direct significant emphasis to drive sustainable development efforts touching upon the various UN SDGs. As we reflect upon the year that has passed by, we have crossed numerous hurdles to ensure that the needs of our communities are taken care of to ensure a seamless and equitable transition to equip the members to face the pandemic.

This wouldn't have been possible without the unwavering guidance and support extended by the Chancellor of Amrita Vishwa Vidyapeetham, Sri Mata Amritanandamayi Devi, Amma. Amma's guidance has been an instrumental driving force to ensure the success of relentless efforts towards ensuring sustainability. We would also like to extend our heartfelt gratitude to all our partners, advisors, and community members who stood by us during these difficult times.

THE OBJECTIVES

OF THE CHAIR

The United Nations awarded Amrita Vishwa Vidyapeetham, the UNESCO Chair on Experiential Learning for Sustainable Innovation & Development on June 12, 2020.

Through this Chair, the university is in the process of developing a comprehensive framework for academic engagement in building sustainable communities by designing and integrating a curriculum based on experiential learning that will enable participants to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future that will focus on UN SDG Goals 4, 9, 11 and 17.

Education That Transforms Life
Our curriculum based on experiential learning will enable the participants to acquire the knowledge, skills, attitudes, and values necessary to shape a sustainable future

Science & Innovation for A Sustainable Future
Faculty and students in the areas of engineering, medicine, etc will immerse themselves in the remote communities to empower them and ensure sustainability through affordable scientific solutions and technological innovation.

Build Knowledge Societies
Bring academicians and members of a community together to create inclusive knowledge societies and empower remote communities by increasing access to information and knowledge

The curriculum is a network of methodologies that use various disciplines to determine the socio-demographics of the village and the short term and long-range requirements for sustainability. The unique E4LIFE framework proposed as part of the program will organically evolve along with the curriculum to dynamically integrate the social, economic and cultural aspects thus enabling the youth to embrace, empower and engage with communities through experiential learning to fulfill the stated UN SDGs. The framework will allow HEIs to scale up based on several factors such as location, people density, sociocultural norms, and resources availability to develop sustainable solutions. The framework will foster better understanding of challenges at community level and contribute directly to solutions which in turn can help policymakers and academia to achieve sustainable results that meet the needs of the recipients.

Other SDGs we work on

EXPERIENTIAL LEARNING FRAMEWORK

Conceptualization of an experiential learning framework in conjunction with the worldwide academic community (students and faculty) to enable understanding of the challenges members of the remote community face through living in the community and eliciting input, thus leading to co-engaging and co-designing sustainable solutions in the poorest areas of India. We are focusing on the process of designing and developing a unique curriculum that is suitable for integrating the UN SDGs

into the pedagogical process of HEIs. The framework shall have multidisciplinary perspectives, ethnography factors, infused design thinking, social dimensions, the capability of co-designing or participatory design and development, as well as strategies for sustenance and resilience to the dynamic context variations.

GLOBAL CURRICULUM

Design, development, and implementation of a unique, innovative, and interdisciplinary global curriculum to build the capacity of faculty, students, and institutions to contribute to the growth of a new generation of students capable of utilizing technology for sustainable development.

CONSORTIUM of HEIs

Currently, there is a major gap between innovative thinking and practical implementation of customized, cost-effective solutions to major problems faced by communities. However, this cannot be effectively achieved by working in isolation. The key is to create a consortium of Higher Education Institutions (HEIs) that jointly conducts research to understand problems and co-develops innovative solutions by networking and leveraging domain expertise via collamasborations. HEIs have to utilize customized pedagogy to train faculty and students to equip them to first understand challenges and subsequently develop solutions. We will take action by translating the study into effective interventions (sustainable development of the community) for each village.

EXPERIENTIAL LEARNING JOURNEY DURING COVID-19

OUR JOURNEY

As the Covid-19 pandemic continues to sway the world population, the socio-economic development of the country is also adversely impacted in ways beyond measure. At the heart of our experiential learning journey is extensive community engagement right from requirement identification, design, development, and deployment of sustainable solutions for challenges faced by the rural population in India. With the onset of the pandemic and the further toll it took on physical/ geographical connectivity due to lockdown, the initial period was challenging from a community engagement standpoint.

To navigate the geographical limitations imposed by the pandemic, Village Resource Centres were formed for enhancing the resilience of the community. The centers enable remote engagements, training, and interactions among the village communities, Amrita students (UG, PG, and Ph.D.) and faculties who are involved in Live-in-Labs® and E4LIFE projects which are a part of the experiential learning framework.

Key Achievements
- Remote monitoring of project and deployments
- Online classes for school children
- Virtual participatory workshops
- Virtual skill training sessions
- Community awareness programs and activities
- Regular virtual meetings with the village coordinators, health coordinators, tuition teachers, and other Amrita staff working in the villages

Village Resource Centres (VRC's) helps to bridge the gap in bringing community engagement at all stages of the experiential learning process by enabling virtual interaction

Community Resilience Resource Centres for enhancing the resilience of the community for current and future disasters

Skill training with the help of an IT-equipped platform to impart virtual training sessions to the village communities. The training sessions are being conducted frequently to train the community members with various skills such as plumbing, carpentry, motorcycle repair, etc.

OUR PRESENCE

Andhra Pradesh: Gudipadichariv

Bihar: Ratanpur, Hadiyabad, Tenduni, Morasia, Ichari

Chhattisgarh: Deurbal, Taraibeda, Karanji, Malgaon

Goa: Vada Malcopon

Gujarat: Nani Borvai, Moti Borvail, Dongril, Nani Vav, Moti Vav

Haryana: Kanti

Himachal Pradesh: Indpur

Jammu and Kashmir: Pandori, Padiyal

Jharkhand: Karkatta

Karnataka: Raichur, Byse

Kerala: Komalikudi, Valaramkunnu, Amritapuri, Azheekal

Madhya Pradesh: Juna Kattiwada, Golamba, Muljipura, Haveli Kheda

Maharashtra: Ransai, Sargachiwadi, Margachiwadi, Banglachiwadi

Odisha: Bindhyagiri, Mundasai, Guptapada, Haridamada

Punjab: Bhanwal, Maira

Rajasthan: Harirampura, Shyamoli

Sikkim: Chandmari

Tamil Nadu: Ettimadai, Sadivayil, Pudupathi, Chinnampathi, Aiyapathi, Muruganpathy, Siruvani, Madurai

Telangana: Kodur

Uttar Pradesh: Sarai Nooruddin, Nagla purabiya, Hemraj, Dr.Khera

Uttarakhand: Dunda, Udalakha, Khattukha

West Bengal: Majebdaari, Krishnarampuram, Ramnagar, Kalinagar

The following map depicts the geographical reach of our projects in 22 states across India. From Jammu and Leh in the North to Kerala and Tamil Nadu in the South, to Rajasthan and Gujarat in the West to West Bengal and Sikkim in the East, the Live-in-Labs® program has implemented projects in various thematic areas.
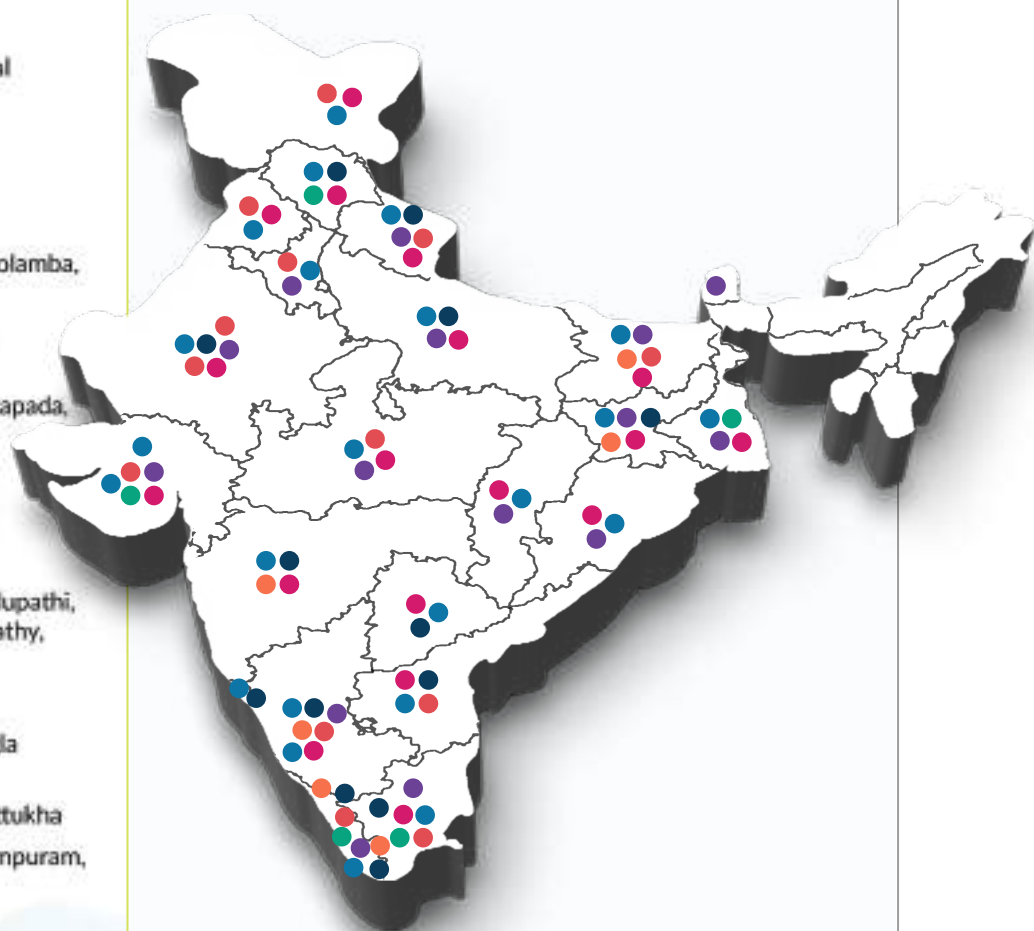
- Energy & Environment
- Water & Sanitation
- Health & Hygiene
- Livelihood Skill & Development
- Education & Gender-Equality
- Waste Management & Infrastructure
- Agriculture & Risk Management

THE LIVE-IN-LABS®

EXPERIENTIAL LEARNING IN RURAL INDIA

■ PROGRAMS

Live-in-Labs® is a multidisciplinary, theory-into-practice program, that facilitates the research, development, and deployment of sustainable solutions for current challenges faced by rural communities in India.

Under the UNESCO Chair on Experiential Learning for Sustainable Innovation and Development, a comprehensive framework for academic engagement, namely E4Life has been developed to build sustainable communities via a curriculum that focuses on experiential learning. The Live-in-Labs® at Amrita is based on this framework and dynamically integrates social, economic, environmental, and cultural aspects of communities while assessing their needs, enabling global youth to experience, embrace, empower, and engage through a blend of both experiential and academic learning.

The program facilitates the research, development, and deployment of sustainable solutions for current challenges faced by rural communities (villages) in India. Through experiential learning opportunities, participants from multiple disciplines can study, observe, and interact with villagers, while living in rural communities, to gain a better understanding of challenges. Working towards the United Nations Sustainable Development Goals (SDGs), from Jammu and Sikkim in the North to Kerala and Tamil Nadu in the South, to Rajasthan and Gujarat in the West to Jharkhand and Bihar in the East, the Live-in-Labs® program has implemented projects throughout India.

OUR JOURNEY SO FAR

600,000⁺
Beneficiaries

22
States

165
Projects

200,200⁺
Field Hours

87
Communities

RESEARCH THEMES

- Health & Hygiene
- Education & Gender Equality
- Waste Management & Infrastructure
- Energy and Environment
- Agriculture & Risk Management
- Livelihood & Skill Development
- Water & Sanitation

These seven areas can further be classified as a combination of challenges, with each challenge subsequently linked to a combination of problem statements which gets translated as projects.

Empower App

The Empower community mobile application was designed and developed to enable interactions with the village communities in order to impart online training, monitor and update village activities, enable daily reporting and track the overall progress of the community. Along with this, the app helps to coordinate various development and implementation activities.

Launched at the onset of the pandemic, the app has been instrumental in ensuring smooth functioning of the village activities which would have otherwise been hampered by travel prohibitions and other restrictions. As a part of the initial launch, the village coordinators across India were virtually trained to use the app. Post the training, the villagers conducted direct classroom training for the community members. The community members are using the app extensively for daily activity monitoring and reporting.

The app is available on Google play store and can be accessed at *www.amrita.edu/empower.*

COLLABORATORS

UC San Diego · RUTGERS · university of groningen · UNIVERSITAT DE BARCELONA · TUDelft · UNIVERSITAT POLITÈCNICA DE VALÈNCIA · ASU Arizona State University · Tampere University · Ryerson University · DUT DURBAN UNIVERSITY OF TECHNOLOGY · Universität Zürich

"This educational program had a significant influence on my life. Living in the village gave us a better understanding of the people's daily struggles. We were inspired to work hard to create a solution for them after witnessing these scenarios."

- Athira Vinod,
Center for Wireless Networks & Applications,
Amrita Vishwa Vidyapeetham

SCHOOL FOR SUSTAINABLE DEVELOPMENT

PROGRAMS

Amrita School for Sustainable Development (AST) is centered around making sustainable development a reality for everyone including the most vulnerable communities. Through unique experiential learning initiatives, AST focuses on providing a blend of learning that is powered by community driven programs that revolves around creating self-reliant ecosystems.

Guided by Amrita's Chancellor, Sri Mata Amritanandamayi Devi, and inspired by the UN Sustainable Development Goals 2030, the Amrita School for Sustainable Development (AST) conducts research and provides training that engages in participatory initiatives to foster social and environmental inclusivity and economic equity for rural communities in India.

Through interdisciplinary experiential learning program in rural India for bachelors and master's students, and a minor in Sustainable Development, research is conducted in several key development areas. The areas include Health & Wellbeing, Climate Change & Risk Management, Water & Sanitation, Gender Equality, Peace & Social Justice, and Energy. By Utilizing a unique framework – Education for Life (E4Life), the School's academic programs dynamically integrates social, economic, environmental, and cultural aspects of communities while assessing their needs, enabling global youth to experience, embrace, empower, and engage through a blend of both experiential and academic learning.

Human Centered Design: Understanding challenges

Participatory Rural Appraisal

Reflective thinking: Upskilling Sustainable champions

Community visits & Interactions

Observe, Measure, Record

Co-Design Workshops at Community

Support , Mentoring from Global Community

Field Deployments

Creating Champions : Multi-stakeholder Sessions

E4LIFE Ph.D.

PROGRAMS

A fully funded PhD program in sustainable development, E4Life program gives the students an experiential learning experience which helps to make Indias village self reliant

52
Research Scholars
from

16
Countries
working on

9
Thematic Areas
with

70+
International
Mentors

E4Life PhD program is a fully funded doctoral program in sustainable development that aims to transform the lives of rural Indian population. The program is offered by the School for Sustainable Development, Amrita Vishwa Vidyapeetham. The unique aspect of the program is that it is integrated with a comprehensive and flexible curriculum called the Experiential Learning Curriculum. The students are given an opportunity to avail a double/joint Ph.D. in affiliation with international universities and work in projects funded by the UN, Govt of India, the European Commission, the World Bank, etc. To transform the lives of the rural population by touching various developmental challenges, the program is based on different thematic areas in alignment with the UN SDGs.

₹157 MILLION
Scholarships

> "I have learned an extraordinary amount and managed remote learning better than expected. Taking this program has transformed my thinking and life. I feel very privileged to be in the program."
>
> - Selina Shah, UK
> Research Focus: Education and Autism

Global Community of Students

RESEARCH THEMES

Agriculture

Climate Change & Risk Management

Education

Energy

Environment

Gender Equality

Health & Well Being

Livelihood

Water and sanitation

> "In addition to an interdisciplinary academic focus, the Ph.D. in sustainable development at Amrita Vishwa Vidyapeetham combines extensive fieldwork to design sustainable interventions for specific communities in a broad array of sustainability domains. Our international cohort of scholars from several different countries suggests that these interventions can be easily taken to different regions."
>
> - Rondine Twist, USA & Belize
> Research Focus: Spirituality and Sustainability, Sustainable Water Management

INNOVATION & DEVELOPMENT
THROUGH EXPERIENTIAL LEARNING

DEPLOYMENTS

Areca nut Leaf Plate Manufacturing Machine
Aligned to UNSDGs : 1,5,8,17

In the village that is located in Shimoga district in Karnataka, Arecanut is one of the most abundantly grown vegetation in the village. The community utilises the property of arecanut leaves that can be used to make plates and other cutleries. So, machines that are capable of doing this need to be developed, so that the community can utilise it efficiently while ensuring that the quality of the arecanut leaf based products are very high and it can be used effectively as an income generation opportunity. So, the students working in this community proposed an areca leaf plate manufacturing machine with multiple dyes that can make plates of different shapes and sizes at optimum conditions so that the energy requirements is minimum whereas the output is maximum, making it a very environmentally friendly solution. The proposed solution can be sustained over the period of time in order to ensure stable income generation

opportunity throughout the year for the basic community.

Participatory Design Approach to Address Water Crisis
Aligned to UNSDGs : 1,5,6,8,13,17

Several Indian rural communities are marginalised due to the multi-dimensional sustainability challenges prevalent in their communities. The interrelationships between these challenges are also very complex. Previous remedial measures were unable to address the intricacies of the interconnected challenges. This study reveals how water scarcity during the summer months, experienced by a community residing in an Indian village named Karkatta, obligates the community to abandon agricultural practices during summer, culminating in significant risk of poverty. Students and faculty of the Live-in-Labs® program undertook diverse approaches to experience and engage in solving the challenges of this community. This work proposed a Human-Centred Design approach to analyse the water scarcity problem and elucidate potential solutions. The participatory methods, including co-design, were utilised to understand the multidimensional challenges from the stakeholder perspective and to develop design requirements for the proposed solution. Meteorological, hydrological, geological, agricultural and mechanical

engineering were integrated to develop a solution to ensure multi-dimensional sustainability of water, agriculture, and livelihood. The proposed design uses the knowledge from these multiple domains to combine rainwater harvesting, effective irrigation strategies, and less water-intensive crop-based agricultural choices while converting a water-scarce region to one of a water surplus.

Human Centred Design for Modernised Irrigation Systems
Aligned to UNSDGs : 1,6,8,13,17

The agro-sector contributes significantly to the Indian economy, however there has been a decline in the agricultural practices over the years. One of the major reasons for that is the inefficient irrigation practices followed. This predicament was endured by the farming community of Dewgain, Jharkhand whose challenges have been studied in this paper. The study revealed that water scarcity was prevalent in Dewgain during the summers. Poor water management has led to decline of agricultural activities during summer resulting in seasonal unemployment. In order to address

this challenge, the students and researchers from Amrita conducted a study focused on understanding the current irrigation practices followed and its impact on agricultural sustenance. The study was conducted using Human Centred Design. The outcome of the study was analysed through qualitative and quantitative methods. As a result, an IoT enabled solution for efficient irrigation has been developed.

Irrigation Model for Water Scarce Village
Aligned to UNSDGs : 1,6,8,13,17

In India, more than 70% of people in rural areas depend on agriculture and thus depend on large quantities of water for irrigation purposes. Sustainable irrigation methods are required to reduce the wastage of water and effectively use it. Drip irrigation method is an effective way to reduce water usage significantly without losing crop yield. This study conducted in Gudipadu Cheruvu Village was focused on the challenges faced by the people due to water scarcity. Challenges faced by the people were analysed using participatory rural appraisal approach and human-centred design methods.

Also, these approaches helped to design and derive an effective method to overcome the water scarcity issues prevalent in the village.

Air To Water Generator for Villages
Aligned to UNSDGs : 3,6,13,17

Wayanad, a district in India's southwestern state of Kerala known for its forest cover, has been impacted by changing precipitation patterns, decreased annual rainfall, and water shortfall. The water crisis's impact on society and the economy are extensively discussed. The various alternatives to provide access to water were evaluated to determine their cost-effectiveness. The human-centred design approach was used to identify the actual problems with active participation from the community. Subsequently, solutions were co-designed with the indigenous population, keeping in mind their cultural and socio-economic conditions. A laboratory-scale prototype air-to-water generation system was fabricated and tested based on the design parameters. The prototype works on the dehumidification principle, extracting moisture from the air.

Water-wise Communities
Aligned to UNSDGs : 3,6,13,17

Amrita has been actively working to enhance the capacity of the community to safeguard sustainable access to adequate quantities of quality drinking water for sustaining human well-being and for ensuring resilience against drinking water quality challenges and water-borne diseases. As part of making the communities water-wise, we adopt a participatory approach to engage with the communities in various activities ranging from awareness about existing situations, co-defining the problem through interviews, group discussions, workshops etc., to co-design and deploy solutions to address the existing challenges. Community members are trained to map and monitor their water sources, water usage, etc. Last year we engaged with 16 communities to co-design and deploy water purification systems to provide safe drinking water.; Additionally, 20 communities were trained to map and monitor their water sources, quantify the amount of water in the sources, and monitor their usage during various seasons, which involved approximately 300 man-days of Amrita faculty and students and 3000 man-days of community members.

Biogas Unit for Cold Climate
Aligned to UNSDGs : 3,6,7

A village named Naala situated in Uttarakhand, India, the community faces challenges with regards to unhygienic waste management, water contamination, and unsustainable indoor cooking methods. Though these challenges seem to be unrelated, field studies and analysis reveals the interdependencies of these challenges which is detailed in the paper. Methodologies used in the study are Human Centred Design and co-design which enabled the researchers to capture the intricate challenges faced by the community, collaboratively ideate with the community and understand the design requirements, and design the intervention. From the outcome of the participatory study, it was determined that a low-temperature biogas plant would be an effective and feasible solution that would rightly address the multi-faceted challenge faced by the community of Naala. The paper also details the various steps involved in the design process along with its outcome.

Sustainable Technologies for Improved Income Generation
Aligned to UNSDGs : 1,5,8,13,17

In India, about 65% of the population resides in rural areas and have minimal access to employment opportunities. This poses uphill barriers for effective rural development. With 33 million Indians unemployed, coupled with about 14% of rural women unemployed (as of 2019), livelihood options for rural women are a matter of grave concern. Similar is the situation faced by women residing in Indpur, a rural village in the northern Indian state of Himachal Pradesh. As part of the Live-in-Labs® program, a study was conducted following the principles of Human Centred Design (HCD), for the appraisal of challenges to livelihood opportunities, supervising the Indpur community. The HCD concept is further exploited to propose a sustainable technological proposition in the form of Aqueous Enzymatic Extraction of oil from Moringa seeds.

Landslide Early Warning Dissemination Model

Aligned to UNSDGs : 13,15,17

Amrita Vishwa Vidyapeetham has successfully deployed the world's first wireless sensor network system which was later upgraded to the AI integrated

Internet of Things (IoT) system for detection and early warning of landslides in Munnar, Kerala. The system is capable of issuing both regional and site specific warnings. Since deployment, the system has issued multiple advanced landslide warnings, in the years 2009, 2011, 2013, 2018, 2019, 2020, and 2021. These warnings have essentially become a lifeline for the region, during the torrential rains that lash throughout the state. Impressed by the success story, in 2015 in collaboration with the Government of India, Amrita developed a similar system for the Sikkim Himalayan region which is very active geologically and is vulnerable to rainfall-induced landslides. The IoT system in Sikkim is deployed in collaboration with the Sikkim State Disaster Management Authority and is being co-funded by the Ministry of Earth Sciences, Govt. of India. This applied research, with significant global value for all landslide-prone areas, was directly initiated by the University Chancellor, Mata Amritanandamayi Devi to develop low-cost technologies for wide-area monitoring of landslides,

to save human life. With the ever-increasing frequency of landslides, the university aims to build on end-to-end systems for real-time monitoring, detection, and early warning of landslides in India to prevent fatalities, and build community scale landslide resilience. Amrita is also working on developing a comprehensive framework for community level landslide risk reduction and resilience, which includes landslide hazard mapping, remote sensing, low-cost sensing, big-data analytics, and decision models. For this exemplary contribution, the university has been awarded "World Centre of Excellence on Landslide Risk Reduction (WCoEs)" by the International Programme on Landslides (IPL).

Tea Collection Bags Using Processed Toxic Weeds

Aligned to UNSDGs : 3,5,17

In many villages where tea plantations are the primary source of income, women carry very large baskets on their back to store the daily tea leaf harvests. Since they have to carry this for a very long period of time, it impacts their health severely leading to bent backs, etc. In order to ensure that they are able to go about with this process in a very efficient manner, solutions were developed such as developing steel-based support

structures for their back so that the entire weight doesn't fall on the shoulder or on their back. Though these solutions are impactful, improved solutions have potentially greater benefits. In order to make it even more sustainable and even more comfortable for the women, lantana was proposed to be used instead of steel by the student researchers in order to ensure that the weight of the basket is further reduced, as lantana is much lesser than weight. It is more sturdy, very durable and can be used for a long period of time. In this manner, such interventions can reduce the strain that the women have to face on the shoulders as well as on the back.

Purification Methods of Pond Water

Aligned to UNSDGs : 1,6,8,17

The health of Indian villagers has been on the decline for the past several years. Hence, upliftment of healthcare standards is of prime concern of the highest priority. The team analysed the existing healthcare methods adopted by the villagers. Interviews with the doctors' in the nearby villages, a keen inspection of the health care facilities and observational studies of the surroundings contributed significantly to our study. Lack of a nearby clinic, negligence towards personal hygiene, unavailability of professional doctors were the main causes behind the falling health of the villagers. This study focuses on understanding the prevalence of skin diseases among children of a village in the West Bengal state of India.The paper presents the qualitative and quantitative data gathered from the village and how it can be utilised to exploit technological innovations, for the design of a sustainable solution.

INTERNATIONAL
SYMPOSIUMS

■ EVENTS

ISTRR'20 **International Symposium on Tsunami Risk Reduction & Community Resilience**
Aligned to UNSDGs : 13 & 11

To commemorate the 16th anniversary of the 2004 Indian Ocean Tsunami, an International Symposium on Tsunami Risk Reduction & Community Resilience was held on 26 December 2020. The symposium deliberated on the challenges faced, lessons learned, and analysed the current preparedness in community resilience, governance, and technological solutions to mitigate any future impacts of Tsunamis.

50+
Expert Speakers

600+
Participants

20
Countries

Discussion Highlights

- Responses & Lessons Learnt from 2004 Indian Ocean Tsunami
- Future Readiness to face similar disasters
- Have we addressed gaps from the past and learnt the lessons?

IWSS'21
International Symposium on Water Sustainability: Challenges, Technologies & Opportunities
Aligned to UNSDGs : 6,11,12,13,17

To mark the occasion of World Water Day 2022 and explore various areas of water sustainability, Amrita University conducted a 3-day International Symposium on Water Sustainability from 22-24 March. It focused on six different themes and allowed participants to explore

challenges and opportunities as well as scientific and practical outcomes in designing, developing, and deploying interventions, tools, and techniques for community-empowered water sustainability initiatives.

25+
Speakers

9
Countries

1200+
Participants

15
Universities

Symposium Themes

Water Challenges in Urbanising World: Clean Water Availability, Access, Challenges & Solutions

Scalable Smart Water Solutions: AI, IoT, Remote Sensing, Citizen Science & Wireless Sensors.

Affordable Water Treatment Technologies: Circular Economy & Decentralised Systems

Water Sustainability: Climate Change Adaptation & Mitigation

Water Sustainability: Water policy and Governance, Capacity building, Community Adaptations & Case Studies

Groundwater: Challenges and Opportunities for Sustainable Management

ISIM'21 International Symposium on IoT & ML for Ecosystem Restoration & Multi-hazard Resilience

Aligned to UNSDGs : 3,11,12,13,15,17

To mark the occasion of World Environment Day, an International Symposium on IoT and ML for Ecosystem Restoration and Multi-Hazard Resilience was organized in June 2021. The key objective was to explore scientific and practical outcomes, challenges and opportunities in designing, developing, and deploying interventions, tools, and techniques for community-empowered initiatives.

70+
Speakers

2000+
Participants

22
Countries

15
Universities

Symposium Themes

Emerging Technologies for Ecosystem Restoration

Impact of Climate Change on Ecosystem & Multi Hazards

IoT and ML for Managing Ecosystem & Multi Hazards

Climate Change Adaptation Techniques & Community Resilience

Case Studies for Ecosystems Restoration & Multi-Hazard Resilience

EPTS'22 Educational Pedagogies & Technologies for Sustainable Development

Aligned to UNSDGs : 4,5,13,17

An international symposium, Educational Pedagogies & Technologies for Sustainable Development - Translating Sustainable Innovation for Communities was held from 24 January to 26 January on the occasion of UN International Day of Education. The symposium showcased renowned speakers presenting keynote addresses by sharing experiences in the areas of pedagogical approaches, educational technologies, and a vision on reimagining education.

49
Speakers

1200+
Participants

30
Countries

10
UNESCO Chairs

Discussion Highlights

- Insights from implementing experiential learning program
- Approaches to a Global Sustainability Curriculum
- Integrating Sustainability in Education - Teaching Sustainability
- Building an Educational Platform for Teaching Sustainable Development

SYMPOSIUM SPEAKERS INCLUDE:

Shri Gajendra Singh Shekhawat

Union Cabinet Minister, Ministry of Jalshakthi

Dr. Anil Kumar Nassa

Member Secretary, NBA, NIRF

Mr. A. Gopinathan

Inspector and Chairman, Joint Inspection Unit of the United Nations System, Geneva

Shri. K. Rajan

Minister, Land Revenue, Survey and Land Records, Land Reforms, Housing, State of Kerala, India

Ms. Mami Mizutori
Head of United Nations Office for Disaster Risk Reduction (UNDRR), Geneva, Switzerland

Dr. Madhavan Nair Rajeevan
Secretary, Ministry of Earth Sciences (MoES), Government of India

Dr. V. Thiruppugazh IAS

Additional Secretary (Policy and Plan), National Disaster Management Authority (NDMA), Government of India

T K Jose IAS

Additional Chief Secretary, Home & Vigilance, Water Resources Department, Coastal Shipping, Govt. of Kerala

Mr. Eric Falt

Director and UNESCO Representative to Bhutan, India, Maldives and Sri Lanka

Dr. Vinod Chandra Menon
Founder Member, National Disaster Management Authority (NDMA), Government of India

Shri. Atul Bagai

Head, India Country Office, UN Environment Programme

Dr. P. Venkat Rangan

Vice Chancellor, Amrita Vishwa Vidyapeetham, India

Mr. Agendra Kumar

Managing Director, ESRI, India

Dr. Sidney Strauss

Professor Emeritus, Tel Aviv University, Israel

Dr. Nicola Casagli

President, International Consortium of Landslides; Professor, Univeristy of Florence, Italy

Dr. Sharon Megdal
Director, WRRC, The University of Arizona

Dr. W G Prasanna Kumar

UNESCO Chair on Experiential Learning, Work Education and Community Engagement (2021), Chairman, Mahatma Gandhi National Council of Rural Education, Govt. of India

Prof. Alison Blay-Palmer

UNESCO Chair on Food, Biodiversity and Sustainability Studies (2019), Wilfrid Laurier University, Ontario, Canada

Dr. Liette Vasseur

UNESCO Chair on Community Sustainability, Brock University, Canada

Prof. Vassilios Makrakis

UNESCO Chair on ICT in Education in Sustainable Development, University of Crete, Greece

Prof. Guido Zolezzi

UNESCO Chair in Engineering for Human and Sustainable Development, University of Trento, Italy

Dr. Amareswar Galla

UNESCO Chair on Inclusive Museums & Sustainable Heritage Development, Anant National University, India, Emeritus Faculty, ANU, Canberra

Dr. Maneesha V Ramesh

UNESCO Chair on Experiential Learning for Sustainable Innovation & Development, Provost, Strategic Initiatives, Research & Innovation, Amrita Vishwa Vidyapeetham, India

Dr. Bhavani Rao

UNESCO Chair in Womens Empowerment & Gender Equality, Amrita Vishwa Vidyapeetham, India

Dr. Rory McGreal

UNESCO/ICDE Chair in Open Educational Resources, Athabasca University, Canada

Prof. Bruce Malamud

Professor, Natural and Environmental Hazards, Department of Geography, King's College, UK

Prof. Ashvani Gosain

Professor Emeritus, Indian Institute of Technology Delhi

Prof. Ir. Jules van Lier

Professor, Delft University of Technology (TU Delft)

And Many More...

SUSTAINABILITY & BEYOND
COLLOQUIUM SERIES

■ EVENTS

To reimagine the conversations in a post- pandemic era, a series of colloquiums are being conducted by Amrita Vishwa Vidyapeetham's UNESCO Chair on Experiential Learning for Sustainable Innovation and Development and Amrita School for Sustainable Development.

The colloquium series that started on October 13th on the Occasion of the UN International Day for Disaster Risk Reduction aims to bring in thinkers, experts and practitioners in various fields to garner ideas, explore technologies, challenges, and opportunities to devise sustainable pathways with respect to various UN Sustainable Development Goals.

By bringing in speakers and participants from multi-disciplinary domains, the colloquium has provided an opportunity to bring out a multitude of perspectives, technologies and approaches in various areas. The outcome of the colloquium has been immensely valuable for all the participants that includes students, researchers, PhD scholars and others from non-academic backgrounds

Some of the key deliberations have been in the areas like Sustainable pathways for disaster risk reduction and multi-hazard resilience, empowering communities through sustainable development and resilience building, I3 (Individual, Institution, & Innovations) for sustainability, Social Inequalities in Contemporary India, The Impact of Women's Self-Help Groups in Rural India on Gender Equality. The conversations around sustainability in various areas have emphasised on the importance of bringing together community members to impart the right knowledge backed with an ecosystem which would enable sustainable development touching upon all key aspects of life.

45
Individual Sessions

60+
Expert Speakers

2000+
International Participants

Participating Institutions Include:

British Geological Survey

Curtin University

UNIVERSITY OF TWENTE.

UNIVERSITY OF MARYLAND

UNIVERSITÀ DEGLI STUDI FIRENZE

LARSEN & TOUBRO

UAF UNIVERSITY OF ALASKA FAIRBANKS

RWTH AACHEN UNIVERSITY

RECENT SPEAKERS INCLUDE:

Christian Arnhardt, Engineering Geologist, British Geological Survey, Topic: Landslide Early Warning Systems - Some theoretical considerations and practical examples

Mr. Saibal Ghosh, Director (geology), Geological survey of India, Topic: Spurt in recent landslide occurrences in India, and its impact to the infrastructure and the community

Prof. Anand Patwardhan, Professor, University of Maryland, College Park, Topic: Reshaping research for adaptation and resilience

Dr. Mauro Rossi, Senior researcher, CNR IRPI (Research Institute), Landslide early warning: lessons learnt after a 15-years' experience in Italy

Prof. David Gibson, UNESCO Chair on Data Science in Higher Education Learning and Teaching, Curtin University, Topics: Challenge Based Collaborative Problem Solving for Sustainable Development Goals

Dr. Nicola Casagli, President, International Consortium on Landslides, University of Florence, Topic: Prevention and sustainable mitigation of geo-hydrological hazards

Dr. Falk Huettmann, Professor, UAF EWHALE lab, University of Fairbanks, Alaska, Topic: Risk Forecasting with Machine Learning: Examples beyond Probabilities

Dr. Madhu Vishwanathan, Professor, University of Illinois, Urbana-Champaign, Topic: Subsistence and Sustainability: A Bottom-Up Approach to SDGs

Ms. Naila Chowdhury, CEO & Co-Founder, Pillars 4 Dignity and Lotus Credit LLC., Women and SDG: Sustainability, Peace, Economic Empowerment & Dignity

Dr. Pradeep Panigrahi, Head - Corporate Sustainability, Larsen & Toubro Ltd., Title: Sustainable Pathways for disaster risk reduction and multi-hazard resilience

Dr. Nava Subramaniam, Professor of Accounting, RMIT University, Australia, Topic: Sustainable Development, SDG Localisation and Community Resilience: Leveraging Collective Leadership and Social Capital

Dr. Sekhar Kuriakose, Visiting Scientist, University of Twente, The Netherlands, Topic: Empowering communities through sustainable development and resilience building

ALIGNING TO
THE OBJECTIVES

OF THE CHAIR

At the core of the UNESCO Chairs objective is developing a framework for academic engagement to translate sustainable innovation and development to the most vulnerable communities.

With a plethora of academic programs and initiatives, the UNESCO Chair is working towards the design, development and implementation of a global academic curriculum. To expand the reach and impact of these initiatives, an experiential learning platform is planned to be developed which would help scale sustainable development to regional, national and global levels.

ISTRR'20 International Symposium on Tsunami Risk Reduction & Community Resilience

Aligned to UNSDGs : 13 & 11

- Strengthen multi-hazard risk governance by creating and building multi-stakeholder partnerships

- Generate information systems for coordination, communication and capacity building with disaster-prone communities to local, national, regional and international levels.

- Design of sustainable solutions to developmental problems, inter-linkages with environmental issues and downstream awareness and preparedness education.

IWSS'21 International Symposium on Water Sustainability: Challenges, Technologies & Opportunities

Aligned to UNSDGs : 6,11,12,13,17

- Need for a comprehensive educational platform was identified as critical

- A multidisciplinary platform on water sustainability was proposed

- Involvement of community members and champions to be the change-makers was considered to be critical

ISIM'21 International Symposium on IoT & ML for Ecosystem Restoration & Multi-hazard Resilience

Aligned to UNSDGs : 3,11,12,13,15,17

- Need to develop a comprehensive data repository with a multi-disciplinary approach for robust research

- Climate change and ecosystem restoration studies need to be included in the school and college curricula for wider awareness and participation.

- Need for multiple data integration, policy framework requiring bottoms-up approach

EPTS'22 Educational Pedagogies & Technologies for Sustainable Development

Aligned to UNSDGs : 4,5,13,17

- The need to have a modular curriculum with micro credentials have been acknowledged as important

- Integrated approach for curriculum development using systems thinking and multi-stakeholder involvement

- Interconnected solutions and approaches to solving connected problems rooted on disciplinarity was identified as a critical to develop the experiential learning platform

SBCS
Sustainability & Beyond Colloquium Series

- Importance of adopting multi-disciplinary pathways for curriculum development was stressed to ensure sustainable development

ACHIEVEMENTS &
RECOGNITIONS

MILESTONES

MoU with India Meteorological Department

Amrita Vishwa Vidyapeetham inks MoU with India Meteorological Department (IMD) for Climate Change Risk Assessment

Amrita Vishwa Vidyapeetham, has signed a Memorandum of Understanding (MoU) with the India Meteorological Department (IMD), Ministry of Earth Sciences on Climate Change Risk Assessment Modeling and Multi-hazard Management. The MoU, on behalf of UNESCO Chair on Experiential Learning for Sustainable Innovation and Development was jointly signed by Dr. Maneesha Vinodini Ramesh, UNESCO Chair holder, Amrita Vishwa Vidyapeetham and Dr. Mrutyunjay Mohapatra, DGM, IMD, PR of India with World Meteorological Organization (WMO) & Member of Executive Council (EC) WMO. This MoU addresses this very need of developing theories and solutions for dynamic multi hazard based risk modeling, assessment, and early warning. This collaborative MoU is intended to unveil the interrelationships of multi hazards with extreme weather scenarios and long term climate change impacts with a specific focus on bringing together experts and students alike to leverage technology along with academic frameworks to solve the pressing challenges in these areas.

The key scope of the collaboration includes training and capacity building and introduction of degree-awarding programs for qualified Ph.D. scholars of Amrita School of Sustainable Development, young scientists at IMD office, and faculty of IMD for a short-term course on climate change risk assessment and management. Other focus areas include jointly organizing national/international conferences or workshops, imparting training to graduating engineers and MTech scholars or IMD professionals for completing dissertation and research work leading to a thesis for the award of the Ph.D. degree, and admission of qualified IMD personnel to various PG/Ph.D. programs at Amrita Vishwa Vidyapeetham.

Institution of Eminence

Amrita University gets Institution of Eminence tag from University Grants Commission

Amrita Vishwa Vidyapeetham is being bestowed with a status of Institution of Eminence by Government of India. "We wholeheartedly thank all our students, faculty and staff members, parents, alumni, collaborators & well-wishers for standing by our side for this achievement" said Dr. Venkat Rangan, Vice-Chancellor of Amrita Vishwa Vidyapeetham.

The university grants commission has recommended for granting IoE status to Amrita making it among 10 private universities in India selected by the Empowered Expert Committee constituted by the Government of India.

The Institute of Eminence scheme aimed at developing 20 world-class institutions which would put India on the global education map. Those selected will be given greater autonomy and freedom to decide fees, course durations and governance structures.

Joint Research Center for Geospatial Excellence

Amrita signs MoU with ESRI India to set up Center of Geospatial Excellence

Amrita and Esri India, the market leader in Geospatial Information Systems, inked a strategic Memorandum of Understanding (MoU) during the International Symposium on Disaster Risk Reduction & Community Resilience held virtually on December 26, 2020. Under the MoU, Amrita and Esri India will collaborate to establish a Center of Geospatial Excellence on Spatial Analysis and Modeling with dedicated facilities for research, development, and testing. The Center's mission would be to promote the development of specific skills and technical know-how among academicians, students, and industry around geospatial technologies and the latest toolkits like Artificial Intelligence (AI), Machine Learning (ML) and Geospatial Big Data Analytics. This includes multiple initiatives such as conducting training programs, workshops, seminars, policy round tables, symposia events, certificate and diploma courses, and hackathons with a focus on geospatial technology application areas to strengthen multi-hazard risk reduction and community resilience.
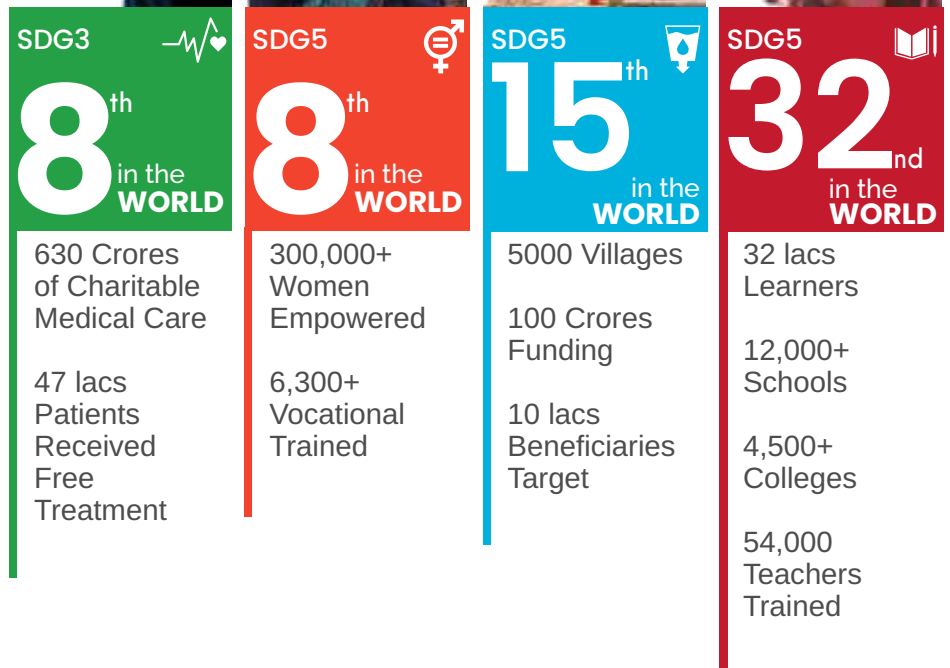
THE Impact Ranking 2022

Amrita Vishwa Vidyapeetham amongst top 100 varsities in world: THE Impact Ranking 2022

THE Impact Rankings - the only global indicators to assess universities' progress towards the UN's 17 Sustainable Development Goals (SDG), has ranked Amrita, 1st in India and 41st in the world. It's an acknowledgement of the University's commitment to remain an exemplary institution that creates Global Impact on society through Compassion-Driven Research and Education for Life. It's an education that harmonises both, scientific knowledge and spiritual learning, to create a sustainable tomorrow for all. We thank our students, faculty, staff, alumni and partners who are influencing change, both nationally and globally, as we build for the future.

SDG3 — 8th in the WORLD
630 Crores of Charitable Medical Care

47 lacs Patients Received Free Treatment

SDG5 — 8th in the WORLD
300,000+ Women Empowered

6,300+ Vocational Trained

SDG5 — 15th in the WORLD
5000 Villages

100 Crores Funding

10 lacs Beneficiaries Target

SDG5 — 32nd in the WORLD
32 lacs Learners

12,000+ Schools

4,500+ Colleges

54,000 Teachers Trained

Launch of Tsunami Ready Program

The Tsunami Ready Program was launched in collaboration with INCOIS and Alappad Grama Panchayat, one of the worst hit places during the 2004 Indian Ocean Tsunami. It is a community performance-based program initiated by the Intergovernmental Oceanographic Commission (IOC) of UNESCO to promote tsunami preparedness through the active collaboration of the public, community leaders, and national and local emergency management agencies.

Dr. Srinivas Kumar, Director, INCOIS spoke on how the program will help to measure community preparedness with the help of indicators and help in evacuation thereby making community tsunami ready. Dr. TVS Udaya Bhaskar and Mr. B Ajay Kumar, INCOIS also graced the event with their presence. Sri Ullas Unni, President, Alappad Grama Panchayat, Dr. Sreeja Unnikrishnan, Hazard Analyst, Kollam DDMA, and Sri Ranga Nathan, Chief Coordinator, Amritasree Self Help Groups also addressed the event. Dr. Sreeja Unnikrishnan spoke about the importance of community preparedness in the wake of disasters, and the importance of effective evacuation mechanisms and extended her whole-hearted support in making the community Tsunami prepared. Sri Ranga Nathan spoke about the Amritasree SHG initiative that was launched as a response to the 2004 Tsunami by imparting vocational training in 21 areas to women from the coastal communities and lauded the efforts of Chancellor Amma in relief, rehabilitation, and building community resilience in the coastal region in the wake of disasters.

The program seeks to build resilient communities through awareness and preparedness strategies that will protect life, livelihoods, and property from tsunamis. The first meeting was held with 11 ward members and the Panchayat president along with community members from Alapad panchayat, Kollam Kerala, Amrita faculty, and students.

MoU with Indian National Centre for Ocean Information Services (INCOIS)

Amrita has signed a Memorandum of Understanding (MoU) with the Indian National Centre for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Govt. of India for a period of 5 years. The MoU spanning 10 thematic areas addresses various collaborations in areas like community resilience, hazard and disaster preparedness, joint research & development, and collaborative courses. The MoU was jointly signed by Dr. Srinivasa Tummala, Director, INCOIS, and Dr. Maneesha Vinodini Ramesh, Provost, Amrita Vishwa Vidyapeetham in presence of Sri Mata Amritanandamayi Devi, Chancellor, Amrita Vishwa Vidyapeetham. Dr. TVS Udaya Bhaskar, Scientist F & Head, Ocean Data Management Division and Mr. B Ajay Kumar, Scientist D, Operational Ocean Services Division also graced the occasion.

With this partnership, we aim to bring sustainable solutions toward building community resilience to the coastal population. By blending multidisciplinary domains and technology-based interventions, Amrita and INCOIS will work towards developing an impact-based early-warning assessment of natural hazards such as tsunamis, storms, and high waves sea-level changes that would help enhance the climate readiness of the maritime community.

The collaborative thematic research include broad area such as joint research and development activities, which are of mutual interest for both the organisations, R&D in operational oceanography for the development and validation of products required for the maritime community, joint programs to enhance the awareness and preparedness of coastal communities for the natural hazards, collaboration in preparing Tsunami ready and climate-ready community, provide opportunities for master's students of Amrita University to carry out academic projects in INCOIS on the topics related to R&D activities of INCOIS etc. The key scope of the collaboration also includes training and capacity-building programs for scholars at Amrita and INCOIS. As a part of the collaboration, a project monitoring committee shall be in place to implement and assess various programs, activities, and deliverables.

Amrita launches Mera Gaav Hamara Jal Initiative

To make water sustainability a reality for the communities across rural India, a program "Mera Gaav, Hamara Jal" that translates to "My Village, Our Water" was launched in collaboration with ESRI India. This program aims to transform the attitudes of community members to view water as a community resource rather than as a personal resource. The initiative seeks to empower communities to map & monitor the resources, map the water quality, practices prevalent in the community, livelihood activities, drainage mapping, weather variability, and climate impacts. This extensive crowd-sourced data will provide the opportunity to derive the water sustainability challenges in each of the communities. Along with this, it will equip the local administration, community organisations, and individuals to develop strategies for water conservation, optimise water usage, develop restoration of water resources, and build awareness of short and long-term impacts.

The program which is in its infancy is currently rolled out in villages in Kerala. The program is planned to be rolled in a phased approach. As a part of the initial phase, community members will be trained to map and monitor water resources, assess water usage and quality so that they become more water conscious. To equip our future generations to become champions, the next phase of the project would involve training school children and teachers to make them water-wise. The future phases will see holistic empowerment of all the community members including children to achieve water sustainability. By including researchers and the general public, more data patterns will be incorporated for in-depth research.
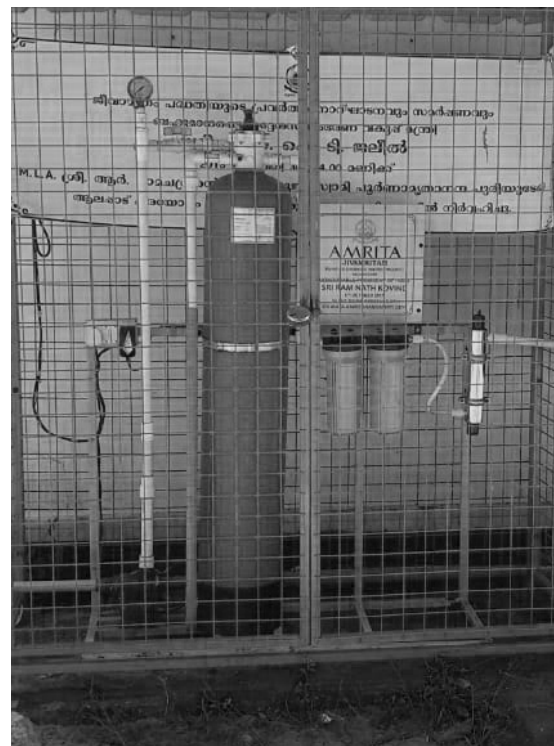
NAAC A++ Grade

Amrita Vishwa Vidyapeetham Accredited (Cycle-3) with NAAC A++ Grade

Amrita Vishwa Vidyapeetham has been accredited (Cycle-3) with an A++ the highest grade by the National Assessment and Accreditation Council (NAAC), an autonomous body established in 1994 by the University Grants Commission (UGC) of India to assess and accredit institutions of higher education in the country and headquartered in Bengaluru. To be eligible to apply for the NAAC accreditation, an educational institution should have completed five years. Amrita Vishwa Vidyapeetham had just completed six years in January 2009 when it applied for accreditation.

This puts Amrita Vishwa Vidyapeetham under Category 1 Autonomy Higher Education Institution in India and will fulfill our mission to provide value-based education and align to the educational outlook of Amrita's Chancellor Sri Mata Amritanandamayi Devi, Amma, namely 'Education for Life and not just Education for a Living'.

International Journal Publication

Live-in-Labs® students publishes paper in International Journal Publication 'Technological Forecasting and Social Change

In yet another major feat, a paper by the Amrita Live-in-Labs® team under the UNESCO Chair on Experiential Learning for Sustainable Innovation and Development has been accepted and published in a recent International Journal, Technological Forecasting and Social Change 172 (2021): 121002 with an impact factor of 10.884 (2022). The journal is a major forum for those wishing to deal directly with the methodology and practice of technological forecasting and future studies as planning tools as they interrelate social, environmental, and technological factors. This is a solid example of the Live-in-Labs® program's capacity to transform students, faculty, and community to build sustainable solutions.

The publication titled, "Participatory Design Approach to Address Water Crisis in the Village of Karkatta, Jharkhand, India", explores the study conducted by the Live-in-Labs® team in collaboration with Universitat Politècnica de Catalunya (UPC), Spain. This study reveals how water scarcity experienced during the summer months by the rural community residing in Karkatta, Jharkhand, compels the community to abandon agricultural practices during summer, leading to a significant risk of poverty.

The authors include *bachelor's students, an international Master's student, a Ph.D. student, and faculty mentors from multiple departments across multiple campuses*.
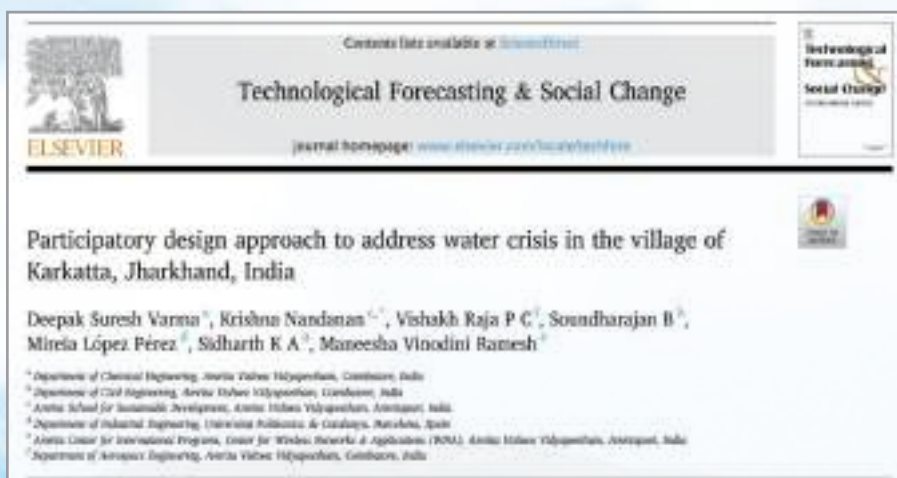
Prof. Ian Davis Joins Amrita

Prof. Ian Davis UN Sasakawa Award winner joins amrita as an adjunct faculty and advisor to the UNESCO Chair

Prof. Ian Davis, one of the prominent names in disaster risk reduction, joins amrita as an adjunct faculty and advisor to the UNESCO Chair on Experiential Learning for Sustainable Innovation & Development. Currently a full time professor at the Institute for Risk and Disaster Reduction, UCL, UK and Shelter Advisor for Australian Red Cross Prof. Davis worked in Disaster Risk and Recovery Management

since 1972. His work has been as an author, academic teacher and researcher, NGO director and international consultant. His experience covers pre-disaster planning and risk reduction, post-disaster recovery from the immediate response phase to long-term reconstruction and adaptation to climate change. In 1996, Prof. Davis was awarded the UN Sasakawa Award for his active efforts in reducing disaster risk in communities and advocates for disaster risk reduction to Disaster Prevention by the United Nations.

Recognizing Stalwarts in the area of Sustainability

Awarding Amrita's First Honorary Doctorates

Dr. Jeffrey Sachs
World-Renowned Economist,
Global Leader in Sustainable Development

Mr. Kailash Satyarthi
Nobel Laureate,
Children's Rights Activist

Amrita Vishwa Vidyapeetham conferred its first Honorary Doctorates on Dr. Jeffrey Sachs, Global Economist for Sustainable Development, and Mr. Kailash Satyarthi, Nobel Peace Laureate, during a virtual ceremony that was graced by the presence of the well-known humanitarian and spiritual leader, Sri Mata Amritanandamayi (Amma), the Chancellor of Amrita Vishwa Vidyapeetham. A prominent voice in the dialogue on climate change and a pioneer in Sustainable Development, Dr. Jeffrey Sachs has made unprecedented contributions towards the preservation of the planet for future generations. He has been at the forefront of this important field for decades, and his impactful advocacy of sustainability at the United Nations and other international organisations, as well as with heads of state, has garnered the goodwill of leaders, experts and citizens across the world. Dr. Sachs currently serves

as the Director of the Center for Sustainable Development at Columbia University. He has held the position of Director of the Earth Institute at Columbia University from 2002 to 2016. He is also the President of the UN Sustainable Development Solutions Network.

A human and child–rights activist, Nobel Peace Laureate Kailash Satyarthi is world-renowned for his tireless campaign of more than 40 years to end child slavery and exploitation, and to ensure the right of all children to education. The grassroots movement he founded has liberated more than 100,000 children and developed a successful model for their education and rehabilitation. His advocacy has resulted in international legislation for safeguarding children's rights, with the United Nations making children's concerns at the forefront of sustainable and inclusive policy–making.

CHANCELLOR IN
GLOBAL FORUMS

Amma at UN Academic Impact Conference

Spiritual leader and humanitarian Sri Mata Amritanandamayi, serving in her role as Chancellor of Amrita Vishwa Vidyapeetham, addressed researchers representing 93 leading international universities today at a conference co-hosted by Amrita and the United Nations Academic Impact (UNAI), attended by more than 700 delegates.

"Amma," as she is commonly known, urged the scientific community to approach their research with a balance of awareness and compassion, stressing the importance of keeping the upliftment of the poor and suffering in mind when they undertake technological research.

The conference featured presentations of cutting-edge research by experts from the world's top academic institutions–Stanford, Oxford, Cambridge, EPFL, Monash, Twente, the

National University of Singapore and Amrita–on specific areas of leading technology and innovation, including nanoscience and molecular medicine, biotechnology, wireless networking and haptics.

Amma's keynote focused on the importance of reducing the divide between science and spirituality, saying that it has been detrimental to society's sustainable growth. "These two main branches of knowledge that should have

gone hand in hand were divided, and practitioners were either labeled as modern scientists or representatives of religious faiths. … Today, universities and their researchers are ranked mainly based on the amount of funding they receive, the number of papers they publish and their intellectual caliber, but along with this, we should take into consideration how much we have been able to use their research to serve the lowest and most vulnerable strata of society."

Conversations on Compassion at Stanford

Stanford University hosted a rare event in which, world-renowned humanitarian leader and Amrita University's Chancellor, Sri Mata Amritanandamayi Devi (Amma), in a dialogue with leading neurosurgeon Dr. James Doty in the packed Memorial Auditorium, shares deep insight into the immense power of compassion, whether it is in science, technology, business, or in fact, in any sphere of human activity.

"For me, compassion is the most important factor in our lives," said Amma. It is the first step. If we take this first step courageously, without fear, then all of our decisions and subsequent actions and their results will have a special beauty, spontaneity and power." Amma said human calculations might be wrong, but actions born of true compassion would always be right. "This is because compassion is the law of nature, the power of God and the heart of creation," she noted. At the conclusion of this 1-hour dialogue, Dr. Doty exclaims that Amma has lucidly answered all the research questions that he set out to investigate in the first place.

Abu Dhabi Interfaith Summit to Protect Child Dignity in the Digital World

Sri. Mata Amritanandamayi Devi (Amma), Chancellor of Amrita Vishwa Vidyapeetham, participated in the Interfaith Alliance for Safer Communities' first forum, 'Child Dignity in the Digital World'. The forum took place in Abu Dhabi under the patronage of Sheikh Mohammad Bin Zayed Al Nahyan, the Crown Prince of Abu Dhabi and other dignitaries. More than 450 faith leaders from all religions participated in the event.

Amma's address was based on her personal experience of having spoken directly with tens of thousands of victims of sexual exploitation and abuse all over the world during the past 30 years. "If our laws and their enforcement were effective, then why is sexual exploitation continuing to increase at an alarming rate? Even though the UN, governments and social welfare organizations are all working against this, why don't we see an improvement? Knowingly or unknowingly, a key factor is being overlooked-spiritual values. Spiritual values are needed to develop a culture of the heart. A home should provide an environment that instills this culture right from childhood." Amma also spoke about the pros and cons of the internet, social media and smartphones, explaining that, as with any new technology, tremendous care must be taken with their use -something that Amma said currently is not being done.

FORUMS REPRESENTED BY
UNESCO CHAIR

Dr. Maneesha V Ramesh has represented the UNESCO Chair on Experiential Learning for Sustainable Innovation and Development in various national and international forums. She has been invited for several speaking engagements in universities both in India and abroad. She has delivered keynote addresses on various areas related to the UN Sustainable Development Goals.Through these engagements, Dr. Maneesha has spoken about the various initiatives that the UNESCO Chair has undertaken in the area of experiential learning and sustainable development through Live-in-Labs®, Amrita's flagship program. She has spoken extensively the pathways that Amrita has adopted to accelerate our journey towards achieving the United Nations 2030 Agenda

The key forums include:

1. Higher Education Sustainability Initiative HESI+10 Global Forum, United Nations, 6 July
2. United Nations Academic Impact (UNAI) SDGs Workshop "Impactful Research towards the 2030 Agenda"
3. UNESCO World Higher Education Conference, Barcelona, Spain
4. Environmental Friendly Technologies of Urbanized Territories, UNESCO Chair on the Theory & Technology of Environmental Safety in Water Resources Control, Novosibirsk, Russia
5. Plenary Session in the Revision of the 1974 Recommendation concerning education for international understanding cooperation & Peace, UNESCO Bangkok
6. National Social Organizations and Institutions Meet (NSOIM 2021)
7. Symposium organized by Tech Mahindra, India
8. Colloquium Series Organized by Universitat Politècnica De Catalunya, BarcelonaTech

9. THE University Impact Forum, Asia
10. W36 Global Summit for Gender Related UNESCO Chairs and Networks
11. Educational Pedagogies & Technologies for Sustainable Development (EPTS 2022)
12. SPASHT, Organized by Amrita Hospitals
13. Sustainability & Beyond Colloquium Series
14. IoT & ML for Ecosystem Restoration & Multi-hazard Resilience (ISIM 2021)
15. International Symposium on Water Sustainability: Technologies, Challenges & Opportunities
16. International Symposium on Tsunami Risk Reduction & Multi-Hazard Resilience

SUSTAINABLE DEVELOPMENT
INITATIVES
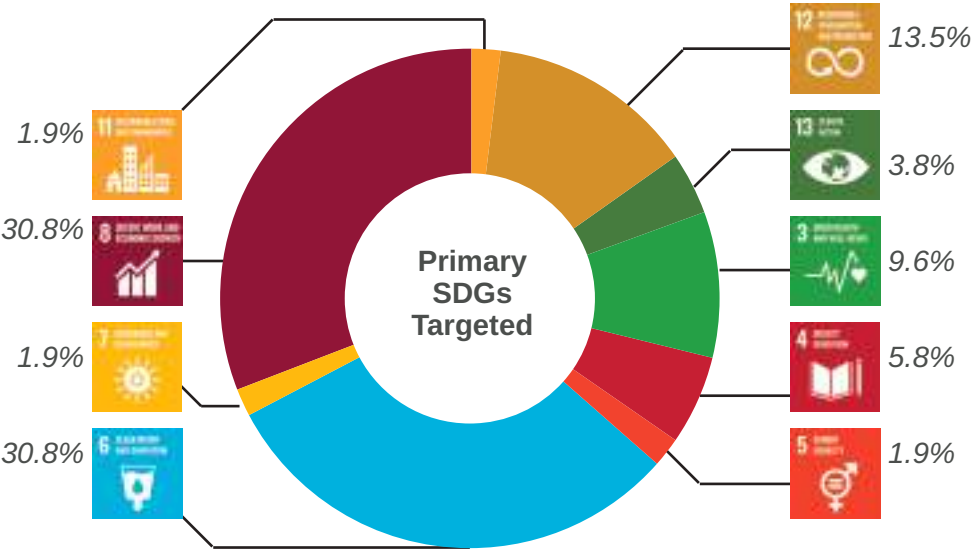
PUBLICATIONS

53
International
Publications

MILESTONES

13.5%

1.9%

30.8%

1.9%

30.8%

3.8%

9.6%

5.8%

1.9%

Primary
SDGs
Targeted

Augmenting Technology to Address the Rural Sanitation,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Role of technology in utilising water as a resource for sustainable development,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

System Design for Integrating Technologies for Building Water Wise Communities,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Clean Technologies for Optimization of Solid Waste Management in Village of Majerdari, West Bengal,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Technology enabled pathways for a waste free village,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

The Impact of Water Distribution Inconsistency in the Rural Settlements of Punjab and to Extrapolate a Nature Based Sustainable Technology to Enhance Livelihood,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Waste Management for sustainable rural futures in the village of Muljipura, Madhya

Pradesh,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Technology Aided Waste Management Practices in the Village of Maira, Punjab,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Improving Income Generation Opportunities and Livelihood of Women in Pandori by Enhancing their Skills,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs

in Applied Sciences and Technology,2020

Technologies for Efficient Water Utilisation in the village of Maira, Punjab,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Employing Sustainable Advances in Technology to Address the Rising Unemployment levels in Muljipura, Madhya Pradesh,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Technology Driven Rural Healthcare Practices for the Villagers of Sarai Nooruddinpur, Uttar Pradesh,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs

in Applied Sciences and Technology,2020

Can Software based Integrated Platform be a Solution for Holistic Medical Care in Developing Communities?,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Technology Assisted Rural Futures in the Village of Moti Borvai,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Computing for mitigation of health vulnerabilities for the village Morasiya in Bihar, India,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

Thinking beyond agriculture through technological interventions in the village of Motiborvai,"ICDSMLA 2019 [International Conference on Data Sciences, Machine Learning and Applications]",SpringerBriefs in Applied Sciences and Technology,2020

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