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.