

20
23

MICHIGAN STATE UNIVERSITY SUSTAINABILITY REPORT

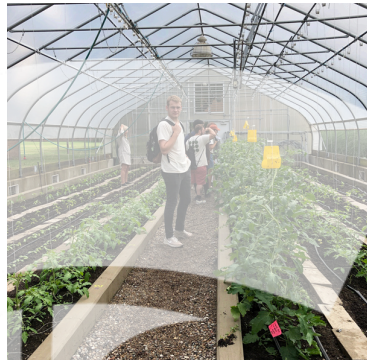
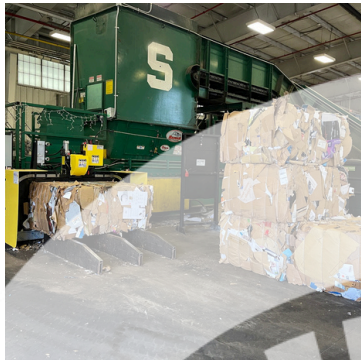


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Be Spartan Green

At Michigan State University, Spartans are leading the way toward a sustainable future—locally, regionally, and globally.

MSU has made long-standing commitments and progress in sustainability as a global leader by investing in sustainable research innovation and education, embracing sustainable operations, and engaging communities in sustainable action. Through powerful partnerships that bridge academia and operations, we are working together to find real-world solutions to the world's most pressing challenges. Our campus serves as both a testing ground and a living laboratory for innovation, where ideas take root and grow.

Spartans are working every day to support students in becoming global citizens poised to take on the challenges of tomorrow while minimizing the university's carbon footprint. Every Spartan plays a vital role in advancing sustainability here at home and across the globe, whether delivering power and water to campus, utilizing waste as a resource, or fostering sustainable communities. This report showcases the dedication of Spartans, highlighting sustainability accomplishments in 2023, along with MSU's efforts to support progress in delivering on the 17 U.N. Sustainable Development Goals.



Reaching first across Michigan and then extending globally, MSU has made long-standing commitments and progress in sustainability as a global leader through cutting-edge research, experiential learning, community engagement, and improving sustainable operations. The university remains steadfast in its commitment to achieve a just and sustainable future, with stewardship and sustainability a key focus of the MSU 2030 strategic plan.

Spartan Pride



**Gold-Rated Institution
AASHE STARS**



**2023 THE
Impact Rankings**



**MSU
Libraries**



**Gold-Level Bicycle
Friendly University**



An Arbor Day Foundation Program

**Tree Campus Higher
Education**



**Bee Campus USA
Affiliate**

Progress measures

MSU has established a goal of cutting greenhouse gas emissions to 292,934 metric tons of CO₂, a 50% reduction from the 2010 baseline of 585,867. The university is making steady progress, with a 36% reduction achieved to date from the 2010 baseline.

2023 Year in Review



We have much to celebrate this year. In 2023, MSU centered the arts in our work, launched a new research alliance to address global water issues, celebrated 150 years of the Beal Botanical Garden, and was recognized nationally for our work in sustainability and economic prosperity.



MSU Water Alliance

The MSU Water Alliance brings together over 200 researchers to tackle global water challenges. With the launch of this initiative, MSU aims to leverage its expertise in water-related research to create innovative solutions that benefit both local and global communities.



Celebrating the Arts

Arts MSU was launched with the belief that the arts are fundamental to fostering a vibrant, resilient, inclusive, and globally-conscious university community. Arts MSU is committed to advancing the impact of the arts and increase their visibility across campus.



Connecting People, Plants & Place

MSU celebrated 150 years of Beal Botanical Garden, one of the oldest university botanical gardens in the U.S. The milestone honors its legacy in research, education, and conservation, fostering environmental stewardship and plant science for generations.



Honoring Historic Roots

Baker Woodlot became one of roughly 230 forests inducted into the Old Growth Forest Network in fall 2023. The network highlights old-growth, native forests in the U.S. It is the first forest on a college campus to receive this distinction.



Excellence in Reducing Waste

The MSU Surplus Store and Recycling Center received the 2023 Excellence in Sustainability Award from NACUBO for using waste as a resource through an integrated system of reuse, recycling, collaboration, and education. The facility has diverted 150 million pounds of waste from the landfill since 2010.



Innovation and Economic Prosperity Recognition

MSU became one of 80 U.S. universities to earn the Innovation and Economic Prosperity University designation from the Association of Public and Land-Grant Universities. This national recognition highlights MSU's collaboration with public and private partners to drive economic development in Michigan.

Engagement Highlights

Several campus programs engage the Spartan community in being Spartan green -- promoting environmental stewardship and social responsibility.

By the numbers



3,000+

Spartans reached through campus sustainability programs and events



500+

Spartans that took the MSU sustainability pledge



10

Eco Reps helping Spartans living on campus embrace sustainable practices



50+

Volunteers on Spartan Day of Service to enhance pollinator gardens on campus



SDG Highlights

The following section showcases the ways in which the work of the Spartan community aligns with the U.N. Sustainable Development Goals through partnerships, research, outreach, and student engagement on campus, in Michigan and around the world. Related information from MSU's most recent STARS (Sustainability Tracking, Assessment & Rating System) report from the Association for the Advancement of Sustainability in Higher Education (AASHE) is also included.



1 NO POVERTY



Campus Resources

- [Employee Assistance Program](#)
- [First Generation College Student Initiative](#)
- [MSU Extension: Food & Health](#)
- [MSU Student Food Bank](#)
- [Office of Financial Aid](#)
- [TRIO Student Support Services](#)

STARS Report Highlights

[PA-8: Affordability and Access](#)

As reported in MSU's latest STARS report:

- the graduation/success rate for low-income students is 72%
- and over half of students graduate from MSU without student loan debt



SDG 1: No Poverty



Program Spotlight: Youth Equity Project

MSU introduced the [Youth Equity Project](#) in 2023, an initiative dedicated to addressing health, justice, and wellbeing disparities among marginalized youth and families through community-engaged, interdisciplinary research. With a focus on providing comprehensive support and transformative opportunities, the Youth Equity Project endeavors to become a catalyst for positive change, bridging gaps and cultivating a more equitable future for youth in Lansing, Detroit and Flint, MI.



Research Spotlight: Empowering Flint Families for Lasting Change

The [Rx Kids program](#) at MSU aims to address health disparities in Flint by reducing maternal and infant poverty. Funded by the Charles Stewart Mott Foundation, Rx Kids will become the first citywide program in the U.S. to offer cash “prescriptions” for Flint families, including a one-time \$1,500 payment to expectant mothers in mid-pregnancy, followed by \$500 monthly for the first year of a child’s life. Rx Kids seeks to create lasting change for families in Flint.



Student Spotlight: Grand Rapids Street Medicine

[Grand Rapids Street Medicine](#), comprised of over 300 student volunteers affiliated with the MSU College of Human Medicine, provides free healthcare services including check-ups and health screenings to those experiencing homelessness in Grand Rapids through collaboration with community partners. The organization seeks to “provide empathetic, trauma-informed and essential care with the ultimate goal of empowering patients to re-engage with the healthcare system.”

BY THE NUMBERS

6,611	students from low-income families received financial aid during AY23
1,873	first generation students coming to MSU in AY23
89,711	adults and youth who participated in an MSU Extension program focused on health and nutrition in 2023

2 ZERO HUNGER



Campus Resources

- [AgBioResearch](#)
- [Center for Regenerative Agriculture](#)
- [Center for Regional Food Systems](#)
- [Institute for Food Laws and Regulations](#)
- [Kellogg Biological Station](#)
- [MSU Culinary Services](#)
- [MSU Extension](#)
- [MSU Student Food Bank](#)
- [MSU Student Organic Farm](#)
- [Vermicomposting Program](#)

STARS Report Highlights

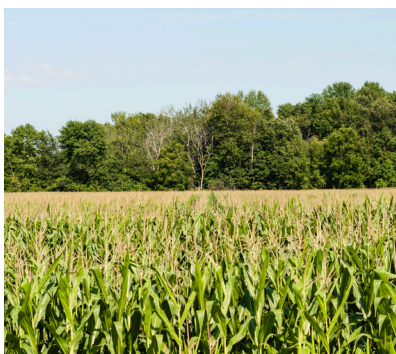
OP-7: Food and Beverage Purchasing

OP-8: Sustainable Dining

- MSU Culinary Services highlights its commitment to responsible choices in food service sourcing in its [Sustainable Food Procurement Guide](#)
- Over 19% of total annual food and beverage expenditures are spent on plant-based foods
- Culinary Services collaborates with the Surplus Store and Recycling Center to run pre- and post consumer food waste programs in dining halls
- The MSU Student Organic Farm is a 15-acre, certified organic year-round teaching and production farm. The farm has offered a year-round CSA since 2002.



SDG 2: Zero Hunger



Program Spotlight: Creating Resilient and Equitable Food Systems

The USDA has selected MSU's Center for Regional Food Systems to establish the Great Lakes Midwest Regional Food Business Center in collaboration with multiple partners including the Menominee Indian Tribe Department of Agriculture and Food Systems. The center will build a regional network focused on providing technical assistance, including business coaching and market access, to farm and food businesses in underserved communities, fostering resilient and equitable food systems in the Great Lakes region.



Research Spotlight: A Spartan Champion for Sustainable Agriculture

The North Central Sustainable Agriculture Research and Education (SARE) program recognized MSU Extension Educator, Dean Baas, as a NCR-SARE Hero in 2023. The NCR-SARE Alumni Organization administers this recognition program, which honors individuals for their leadership, vision, contributions, and significant influence in the realm of sustainable agriculture in the region. His research and outreach focused on cover crops, soil health, and organic farming in Michigan and the Midwest.



Student Spotlight: Revitalizing Indigenous Wild Rice at MSU

Kailee Pearson, an undergraduate student and member of the Sault Ste. Marie Tribe of Chippewa Indians, is pursuing a degree in fisheries and wildlife. She developed a research project focused on Michigan's wild rice, Manoomin, which is vital to Michigan's wetlands and holds cultural significance for Indigenous tribes. Her study focused on finding ways to grow wild rice in various environmental conditions and was able to expand her project at the MSU's Corey Marsh Ecological Research Center.

BY THE NUMBERS

11,413	lbs of food collected and donated during spring 2023 move out
7	Spartans named as <u>Michigan GROWN</u> , <u>Michigan GREAT Ambassadors</u> by the Michigan Ag Council
1,623	farmers and agronomists improved their knowledge by participating in MSU Extension programs in 2023.

3 GOOD HEALTH AND WELL-BEING



Campus Resources

- [AgBioResearch](#)
- [Department of Public Health](#)
- [Henry Ford Health Partnership](#)
- [College of Human Medicine](#)
- [College of Nursing](#)
- [College of Osteopathic Medicine](#)
- [Institute for Health Policy](#)
- [MSU Extension](#)
- [MSU-Hurley Children's Hospital Pediatric Public Health Initiative](#)
- [One Health MSU](#)
- [Institute for Health Policy](#)
- [University Health and Well-Being](#)

STARS Report Highlights

PA-14: Wellness Program

- [MSU Extension's Health and Nutrition Institute](#) provides extensive outreach programming related to health and well-being that reaches thousands of families and community members throughout Michigan each year. Program areas include chronic disease, diabetes, food budgeting, food policy, food preservation, healthy relationships, nutrition, physical activity, safe food and water, weight management, mental health, stress management, and more.
- MSU has been a [smoke-free campus](#) since 2016.
- MSU offers free mental services for students through the [Counseling and Psychiatric Services](#) office and for employees through the [Employee Assistance Program](#).

SDG 3: Good Health and Well-Being



Partnership Spotlight: Henry Ford Health

A transformative [\\$2.5 billion community development](#) in Detroit's New Center neighborhood is underway, driven by a collaboration between Henry Ford Health, Tom Gores and the Detroit Pistons, and Michigan State University. Over the next decade, the project will create a vibrant, walkable community with residential, commercial, and healthcare spaces, including a reimagined Henry Ford Health academic campus and a new medical research facility shared by Henry Ford and MSU Health Sciences.



Staff Spotlight: Supporting Health & Wellbeing at MSU

Dr. Alexis Travis is the assistant provost and executive director of [University Health and Wellbeing](#) (UHW), a division that brings together 11 departments focused on supporting faculty, staff and student in all aspects of physical, mental, and social health and wellbeing. UHW is launching new programs including Mindful STATE, which will help Spartans develop mindfulness practices to support their wellbeing, and Togetherall, a free, anonymous peer-to-peer mental health support community.



Student Spotlight: Pursuing careers in public health

A group of MSU students from the College of Human Medicine and the College of Osteopathic Medicine share their experiences in [training for healthcare careers](#). Spartans are committed to becoming change agents in healthcare, addressing health disparities and improving access to care. Their commitment exemplifies MSU's focus on preparing future healthcare professionals to make a positive impact across the state.

BY THE NUMBERS

20,889	people participated in MSU Extension's health and chronic disease management programming
2,074	adults trained through Mental Health First Aid, MSU Extension's program that teaches how to support people who may be undergoing a mental health crisis
211	proposals submitted to NIH, totaling ~\$466M, as a result of the Henry Ford Health + MSU Health Sciences Partnership

4 QUALITY EDUCATION



Campus Resources

- [Center for the Study of Curriculum Policy](#)
- [College of Education](#)
- [College of Education - Teacher Preparation Program](#)
- [MSU Extension](#)
- [MSU Science Festival](#)
- [MSU Teacher Preparation Program](#)

STARS Report Highlights

AC-1: [Academic Courses](#)
AC-2: [Learning Outcomes](#)
AC-3: [Undergraduate Program](#)
AC-4: [Graduate Program](#)
AC-5: [Immersive Experience](#)
AC-8: [Campus as a Living Laboratory](#)

- For over 50 years, MSU's [Upward Bound](#) program has supported low-income high school students in Lansing to complete high school and enter a post-secondary educational institution, offering academic instruction, tutoring, mentoring, and resources for college readiness.
- The [MSU Spartan Advantage Program](#) reduces the educational loan debt of our neediest Michigan students. Institutional funds supplement other non-loan forms of financial assistance a student receives so that the costs of tuition, fees, room, board, and books are covered



SDG 4: Quality Education



Program Spotlight: Improved Teacher Preparation

MSU's [Teacher Preparation Program](#) was revamped to become more affordable for students beginning fall 2023. The program switched from a five-year to four-year model, and is estimated to save students over \$16,000 in tuition costs and other expenses. The new model also plans to address the teacher shortage within the state of Michigan, where teachers are exiting the profession at higher rates than new teachers entering the profession. The change will enable Spartan graduates who are certified to teach enter classrooms sooner.



Research Spotlight: USAID Transforming Higher Education Systems project

MSU received \$17M from the U.S. Agency for International Development to enhance [STEM education in Malawi](#). MSU will collaborate with Malawi's universities to expand access to and completion of STEM programs, enhancing educational opportunities for youth. The project will build capacity within Malawi's higher education system to foster economic prosperity and self-reliance for Malawians.



Student Spotlight: Empowering Lansing Students for Success

Two MSU students, John Henige and Jonas Padilla, founded a student organization dedicated to helping Lansing area K-12 students graduate from high school and pursue higher education. They have since [expanded their club to a non-profit called Equiduct](#). MSU students that volunteer with Equiduct provide tutoring and mentoring services for Lansing students, closing opportunity gaps. Equiduct collaborates with the Eastside Community Action Center to coordinate their outreach efforts.

BY THE NUMBERS

- 23,909** students engaged in community-engaged learning as reported in the [AY23 Community-Engaged Learning Index](#)
- 1** MSU's ranking by U.S. News and World Report for elementary and secondary teacher education
- 2,000** visitors that attended the 2023 [MSU Science Festival Expo Day](#)

5 GENDER EQUALITY



Campus Resources

- [Center for Gender in Global Context](#)
- [Gender and Sexuality Campus Center](#)
- [Institutional Diversity and Inclusion](#)
- [Women's Leadership Institute](#)
- [Women*s Student Services](#)

STARS Report Highlights

[PA-5: Diversity and Equity Coordination](#)

[PA-6: Assessing Diversity and Equity](#)

[PA-7: Support for Underrepresented Groups](#)

- 75% of the [MSU Board of Trustees](#), MSU's highest governing body, are women.
- MSU's Infrastructure Planning & Facilities partnered with Women in Skilled Trades (WIST) to offer a [free certified apprenticeship readiness program](#), *Women Build Days*, to support women entering skilled trades.
- The Women's Networking Association is open to all faculty and staff at MSU and provides support for women in higher education, including hosting an [annual forum](#) for women across the university.
- MSU's [Women of Color Community \(WOCC\)](#) provides social and professional support for women of color in academia, including hosting an annual conference.

SDG 5: Gender Equality



Program Spotlight: African Futures Research Leadership Program

The [African Futures Research Leadership program](#) is a competitive postdoctoral program for early career researchers from Alliance for African Partnership Consortium member institutions. A main goal of the program seeks to address the gender gap where only 30% of researchers in Africa are women. The program pairs selected participants with an MSU faculty mentor for one year and promotes research collaboration. Selected applicants are scholars committed to promoting gender equity in higher education.



Research Spotlight: STEM Intersectional Equity in Departments Project

The MSU Center for Gender in Global Context is leading a five-year \$1.2M research project in collaboration with Wayne State University and The Ohio State University that aims to [create equitable and inclusive work environments for women in STEM](#). Funded by NSF's ADVANCE Program, the project will develop a toolkit that provides guidance on implementing more inclusive faculty assessments, creating equitable faculty workloads and supporting faculty across different work and life stages.



Student Spotlight: Increasing access to menstruation products across campus

The [Mission Menstruation](#) student group worked with university partners including Student Life & Engagement and Infrastructure Planning & Facilities to increase access to free menstruation products throughout campus. For buildings that primarily serve students, complimentary menstruation product dispensers were added to first-floor women's and all-gender restrooms (or nearest restrooms to the first floor).

BY THE NUMBERS

- 4,997** women starting a degree in AY23 at MSU
- 63.8%** of MSU's diversity spend went to women-owned businesses if FY23
- 50** years of the [MSU Chapter of the Society of Women Engineers](#) that helps recruit, support and retain women in the engineering field

6 CLEAN WATER AND SANITATION



Campus Resources

- [AgBioResearch](#)
- [Center for PFAS Research](#)
- [Institute of Public Utilities](#)
- [Institute of Water Research](#)
- [Kellogg Biological Station](#)
- [MSU Extension](#)
- [MSU Water](#)
- [MSU Water Alliance](#)
- [Water Bottle Filling Stations Map](#)

STARS Report Highlights

OP-21: Water Use

- MSU reduced its potable water use per weighted campus user by roughly 14% compared to a 2010 baseline.
- MSU reduced its potable water use per unit of floor area by just over 20% compared to a 2010 baseline.
- MSU has expanded the number of [water bottle filling stations](#) on campus, which can be viewed on an interactive map



SDG 6: Clean Water & Sanitation



Program Spotlight: Driving Collaborative Solutions to Global Water Challenges

The MSU Water Alliance, which brings together researchers, policymakers, and community stakeholders, was launched to tackle global water challenges. By fostering collaboration, the alliance seeks to address issues such as water scarcity, water quality, and ensuring equitable access to clean water. MSU aims to leverage its expertise in water-related research to create innovative solutions that benefit both local and global communities.



Research Spotlight: Tackling PFAS

Cheryl Murphy, a professor in the Department of Fisheries and Wildlife and MSU AgBioResearch, serves as the director of MSU's Center for PFAS Research. Murphy is one of over 30 researchers that support the center's mission of assessing the extent of PFAS exposure to humans, wildlife and plants, develop remediation methods, and examine safer alternatives to PFAS. She leads two major PFAS related projects, including a \$1.2 million grant funded by the Federal Aviation Administration and the Gerald R. Ford International Airport to investigate PFAS contamination at the airport.



Student Spotlight: Supporting Clean Water and Building Community During Ramadan

The Islamic Medical Student Association (IMSA) of the MSU College of Osteopathic Medicine organized a fundraiser to provide a drinking water well to a large village within Pakistan while also raising awareness of the holy month of Ramadan. Syed Rizvi, part of IMSA, came up with the project idea. Their efforts were so successful that they were able to supply an additional smaller well to another village. Working with the Panni Project, the two wells were installed, providing roughly 300 people with access to clean drinking water.

BY THE NUMBERS

- 200+** researchers across 13 departments and 7 colleges study water issues at MSU
- 74** miles of pipes distribute drinking water across the MSU campus
- 200+** water bottle filling stations across campus

7 AFFORDABLE AND CLEAN ENERGY



Campus Resources

- [Center of Research Excellence in Complex Materials](#)
- [Great Lakes Bioenergy Research Center](#)
- [Infrastructure Planning & Facilities](#)
- [MSU Extension](#)
- [MSU Industrial Assessment Center](#)

STARS Report Highlights

[OP-5: Building Energy Efficiency](#)

[OP-6: Clean and Renewable Energy](#)

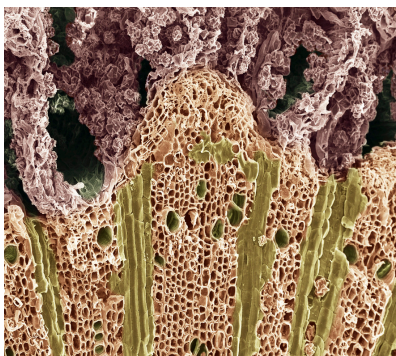
- MSU is home to one of the largest [solar carport arrays](#) in North America, which are designed to deliver a peak power of 10.5 Megawatts.
- MSU is a U.S. Department of Energy [Better Buildings Challenge goal achiever](#), reducing 20% of energy use across 20M square feet of buildings.

SDG 7: Affordable & Clean Energy



Program Spotlight: Leadership in Energy Efficiency

MSU received over \$1.5M in rebates from Consumers Energy for implementing energy-efficient upgrades. At the central T.B. Simon Power Plant, a new natural gas-fired steam boiler was built that is significantly more efficient than the older boilers at the plant. Across campus, MSU has also added improved lighting and upgraded HVAC systems. These efforts are part of MSU's ongoing commitment to reducing its carbon footprint while promoting responsible resource management as outlined in the university's strategic plan.



Research Spotlight: Pioneering Sustainable Solutions from Plant Matter

MSU researchers, Ned Jackson and Yuting Zhou, created a method for breaking down plant materials for earth-friendly energy. These chemical tools can access renewable energy from plant matter that would lessen dependence on fossil fuels. Their research, supported in part by the Great Lakes Bioenergy Research Center, was published in Nature Communications.



Student Spotlight: Creating Just Energy Transformations

Rafael Lembi is a PhD student in the MSU Department of Community Sustainability whose research focuses on social-ecological transformations, energy justice and community engagement. Using the Brazilian Amazon as a case study, Rafael's research explores how off-grid renewable energy electrification projects can be designed and built using a participatory approach that supports energy justice.

BY THE NUMBERS

- 4,400** megawatt hours of electricity reduced each year from MSU's T.B. Simon Power Plant through plant upgrades
- 5,000** parking spaces on campus are covered by solar carport arrays
- 70+** manufacturers engaged with MSU's Industrial Assessment Center to reduce energy use while developing the energy sector workforce

8 DECENT WORK AND ECONOMIC GROWTH



Campus Resources

- [Burgess Institute for Entrepreneurship and Innovation](#)
- [Center of Economic Analysis](#)
- [Human Resources](#)
- [Institute for Business Research](#)
- [International Business Center](#)
- [Office of Research and Innovation](#)

STARS Report Highlights

[PA-3: Inclusive and Participatory Governance](#)
[PA-12: Employee Compensation](#)

- In MSU's most recent STARS report, the total compensation provided to the lowest paid regular, part-time or full-time employee met or exceeded 100% percent of the living wage
- There are 10 unions at MSU, eight of which represent employees in support staff positions. The Coalition of Labor Organizations (CLO) comprises 9 of MSU's unions.



SDG 8: Decent Work & Economic Growth



Program Spotlight: MSU Honored for Innovation and Economic Impact

Michigan State University has earned the Innovation and Economic Prosperity University designation from the Association of Public and Land-Grant Universities. This national recognition highlights MSU's collaboration with public and private partners to drive economic growth statewide. MSU is one of 80 universities nationwide in receiving this honor for its exceptional contributions to economic development.



Research Spotlight: Ronald Fisher Joins Effort to Drive Growth in Michigan

Governor Gretchen Whitmer appointed Ronald Fisher, professor of economics, to the Growing Michigan Together Council. The council has been charged with developing a strategy that will boost population growth and economic prosperity in the state of Michigan, with emphasis on pre-K-12 education, higher education, infrastructure and jobs and talent. Fisher will bring his expertise in local and state policy to support the work of the council.



Student Spotlight: Student-Made at MSU

The Burgess Institute for Entrepreneurship and Innovation launched a partnership with Student-Made, providing a platform for student entrepreneurs to showcase and sell their products. This initiative helps students launch their businesses in a supportive, low risk environment while fostering creativity and business skills. By promoting student-led ventures, the marketplace not only enhances entrepreneurial spirit but also supports the university's commitment to innovation and economic development.

BY THE NUMBERS

- 13** MSU Burgess Institute for Entrepreneurship and Innovation's ranking by the Princeton Review for undergraduate entrepreneurship programs
- 5,000+** students that participated in entrepreneurship courses
- 50** courses at MSU focused on entrepreneurship

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



Campus Resources

- [AgBioResearch](#)
- [Facility for Rare Isotope Beams](#)
- [Industrial Assessment Center](#)
- [Infrastructure Planning & Facilities](#)
- [MSU Extension](#)
- [National Superconducting Cyclotron Laboratory](#)
- [Spartan Innovations](#)

STARS Report Highlights

AC-9: Research and Scholarship

- Roughly 80% of MSU's academic departments are engaged in research that addresses sustainability and global challenges
- Over one-quarter of MSU's tenure track faculty are engaged in sustainability research, with over 500 researchers studying sustainability and global challenges

SDG 9: Industry, Innovation & Infrastructure



Program Spotlight: Cooking Up Success for Aspiring Food Entrepreneurs

Launched by the MSU Burgess Institute for Entrepreneurship and Innovation, the [Venture Kitchen program](#) is helping aspiring food entrepreneurs develop their businesses. The program is a food startup incubator housed in the MSU Union, giving students access to commercial kitchen space where they can refine their recipes and produce their products.



Staff Spotlight: Driving Mobility Forward

MSU appointed [Judd Herzer](#) as the new Director of Mobility, a role designed to advance MSU's efforts in shaping the future of transportation. Herzer will oversee university-wide efforts in the mobility space, focusing on advancing knowledge and innovation in next-generation transportation technologies. He will coordinate mobility projects across the university and work to build strategic partnerships with industry, government, and academic institutions, further positioning MSU as a leader hub for mobility research and development.



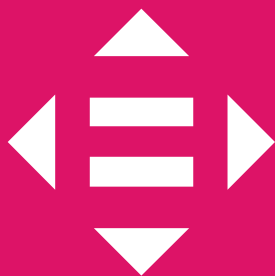
Student Spotlight: Spartans win Design Hack

A team of Michigan State University students, led by faculty member Katherine Stevenson, triumphed at the [2023 Design Hack competition](#) held in Las Vegas. They developed an innovative design solution for an existing design flaw in an electric vehicle produced by Switzerland-based company, Kyburz. The winning Spartan team designed and presented a solution to the challenge in just two days.

BY THE NUMBERS

- 60** new patent applications through the MSU Innovation Center
- 12** Spartans recognized as [Michigander EV Scholars](#) under the nation's largest campaign to promote careers at the intersection of mobility and sustainability
- 141** invention disclosures through the MSU Innovation Center

10 REDUCED INEQUALITIES



Campus Resources

- [Center for Gender in Global Context](#)
- [Diversity Research Network](#)
- [Gender and Sexuality Campus Center](#)
- [Gender Inclusive Housing](#)
- [Inclusive Campus Initiative](#)
- [Institutional Diversity and Inclusion](#)
- [Migrant Student Services](#)
- [Mosaic: The Multicultural Unity Center](#)
- [Multi-Racial Unity Living Experience](#)
- [Office of Cultural and Academic Transitions](#)
- [Office for Institutional Equity and Title IX and Compliance](#)
- [Resource Center for Persons with Disabilities](#)
- [Undocumented Student Resources](#)
- [Women's Student Services](#)
- [Women's Leadership Institute](#)

STARS Report Highlights

[PA-5: Diversity and Equity Coordination](#)

[PA-6: Assessing Diversity and Equity](#)

[PA-7: Support for Underrepresented Groups](#)

[PA-8: Affordability and Access](#)

- Dr. Jabbar Bennett became MSU's first Vice President and Chief Diversity Officer, overseeing the [Office of Institutional Diversity and Inclusion](#) (formerly called the Office for Inclusion and Intercultural Initiatives).
- MSU released a [university-wide DEI Plan](#) in 2021. Recommendations from that plan were ultimately integrated into the MSU 2030 Strategic Plan.
- MSU developed the [DEI Foundations](#) online education program to ensure all Spartans feel welcome, respected and included. This mandatory training is required all of students and employees.



SDG 10: Reduced Inequalities



Program Spotlight: Equitable Hiring Training

In partnership with the Office for Institutional Diversity and Inclusion, MSU Faculty and Academic Staff Affairs developed an online training program for individuals serving on academic search committees that launched in spring 2023. This required training is hosted on the university's learning management system, Ability and offers a comprehensive overview of the hiring process at MSU, including best practices for effectively recruiting and evaluating candidates while promoting inclusive and equitable hiring practices.



Research Spotlight: International Advocacy for Racial Equity

Dr. Leonora Souza Paula, an Assistant Professor in the Department of English and the Global Studies in the Arts and Humanities Program, was invited to the latest session of the UN Permanent Forum on People of African Descent in New York. One of the Forum's key goals is to advise the UN Human Rights Council on matters of global reparatory justice for African diasporic communities. Dr. Paula organized and led a productive meeting with Brazil's Minister of Racial Equality, resulting in the establishment of a successful partnership.



Student Spotlight: Charlotte Bachelor

Charlotte Bachelor, a Professional and Public Writing major at MSU, has started a non-profit to promote accessibility. Through a class assignment and her own personal experiences as a disabled person, she was inspired to establish the Detroit Accessibility Project, which serves as an online resource for accessibility information on over 40 venues located in downtown Detroit.

BY THE NUMBERS

12,726	students of color from the U.S. were enrolled at MSU for Fall 2023
27,012	women were enrolled at MSU for Fall 2023
\$45.2M	in diverse supplier spending in 2023

11 SUSTAINABLE CITIES AND COMMUNITIES



Campus Resources

- [AgBioResearch](#)
- [Center for Community and Economic Development](#)
- [MSU Bikes Service Center](#)
- [MSU Broad Art Museum](#)
- [MSU Extension](#)
- [MSU Museum](#)
- [MSU Extension - Center for Local Government Finance & Policy](#)
- [MSU Facilities and Land Use Plan](#)
- [University Outreach & Engagement](#)
- [Wharton Center](#)

STARS Report Highlights

[OP-3: Building Design and Construction](#)

[OP-9: Landscape Management](#)

[OP-10: Biodiversity](#)

[OP-16: Commute Modal Split](#)

[OP-17: Support for Sustainable Transportation](#)

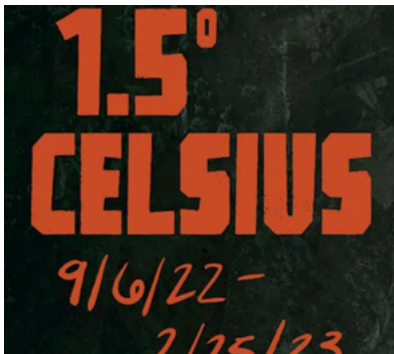
- MSU became one of 15 active Gold-level [Bicycle Friendly Universities](#) by the League of American Bicyclists for the university's effort to promote bicycling and enhance bicycling infrastructure on campus.
- Roughly 77% of students use a sustainable commuting option as their primary mode of transportation.
- MSU's construction standards and planning principles prioritize pedestrian, non-motorized transportation, and public transit over single occupancy vehicles.

SDG 11: Sustainable Cities & Communities



Partnership Spotlight: MSU Forestry & the Natural Resources Institute Finland

MSU's Department of Forestry worked with the Natural Resources Institute of Finland (Luke) to co-host a series of expert-led workshops in Finland on biobased forestry products in Finland for industry leaders, policymakers, and researchers from the U.S. and Europe. The convening is opening doors for cross-sector collaboration that will support knowledge exchange and innovation in how forestry products can facilitate carbon storage and advance climate solutions.



Program Spotlight: 1.5° Celsius Exhibition

The MSU Museum presented a new exhibition called 1.5 degrees Celsius, which focused on the global climate crisis and its effects on the environment and society. The exhibition highlights the interconnectedness of all life, envisioned futures, and sustainable solutions to address the global climate crisis, featuring contributions from artists, scientists, and researchers from around the world. The MSU Museum hosted several programs alongside the exhibition, including a workshop where participants will work together to create a large weaving using plastic and recycled materials on a wooden tapestry loom.



Student Spotlight: Sparking curiosity around wicked problems

The MSU Museum coordinates the CoLaborator Program, where undergraduate and graduate students directly engage with visitors exploring the museum's exhibitions. The students help foster discussions and learning with the campus community and beyond around pressing global issues. As CoLaborators, students develop transdisciplinary perspectives and improve their science communication, critical thinking and project management skills by working on podcast production, curatorial development, event planning and creating informal learning spaces.

BY THE NUMBERS

2,500	free tickets distributed through Wharton Center's <u>Arts Within Reach program</u> to increase equitable access to the performing arts
3,000	cubic meters of mass timber are used in the MSU STEM Teaching and Learning Facility
80+	listening sessions held with campus and community stakeholders to provide input on MSU's Facilities and Land Use Plan

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Campus Resources

- [AgBioResearch](#)
- [Anaerobic Digestion Research and Education Center](#)
- [MSU Extension](#)
- [MSU Recycling Center](#)
- [MSU Surplus Store](#)
- [School of Packaging](#)
- [University Procurement and Logistics](#)

STARS Report Highlights

[OP-18: Waste Minimization and Diversion](#)

[OP-19: Construction and Demolition Waste Diversion](#)

[OP-20: Hazardous Waste Management](#)

- MSU reduced total waste per weighted campus user by just over 18% compared to a 2010 baseline in its most recent STARS report.
- The MSU Surplus Store, which is integrated with MSU's Recycling Center, collects unwanted items and materials from the MSU community and makes them available for resale to both departments and the general public.
- MSU Environmental Health & Safety collaborated with the Dept. of Chemistry on a successful Chem Inventory pilot program, which reduced the purchase of excess quantities of chemicals. The program enhanced safety and improved emergency response.

SDG 12: Responsible Consumption & Production



Program Spotlight: Pack Up. Pitch In.

MSU's Pack Up. Pitch In., running for over 25 years, helps divert thousands of pounds of materials from the landfill during move in and moveout. Students living on campus are able to donate clothing, household items, and furniture that is processed at the MSU Surplus Store and Recycling Center. In addition, sustainability partners in Student Life and Engagement collect nonperishable food and donate it to local charitable organizations. During move out in spring 2023, 155,000 lbs of materials were diverted from the landfill.



Research Spotlight: Bioplastics

A team of MSU researchers led by Dr. Rafael Auras within MSU's School of Packaging, are developing bioplastics that can be easily composted, aiming to reduce plastic waste. Their work focuses on creating a bio-based polymer that break down efficiently in composting systems. This innovation could enhance waste management practices, promote sustainability, and contribute to environmental conservation by minimizing the impact of traditional plastics.



Student Spotlight: Students Lead the Way with Reusable Containers in Dining Halls

A group of MSU students from the Student Sustainability Leadership Council (SSLC) worked with Student Life and Engagement and Culinary Services to design a program that would offer students an option to use reusable containers at grab and go dining halls. The SSLC brings together student leaders from sustainability-focused clubs on campus. The reusable container pilot provided valuable information to Culinary Services identifying additional ways to be spartan green within MSU's dining halls.

BY THE NUMBERS

10.3M	lbs of material were diverted from the landfill during AY23
5.8M	lbs of material were recycled at the MSU Surplus Store & Recycling Center in AY23
1.7M	lbs of material were collected from the community at MSU's Public Drop-Off Recycling Center in 2023

13 CLIMATE ACTION



Campus Resources

- [AgBioResearch](#)
- [Center for Global Change & Earth Observations](#)
- [Center for Regenerative Agriculture](#)
- [Center for Regional Food Systems](#)
- [Climate Research Support Program](#)
- [Forest Carbon Climate Program](#)
- [Kellogg Biological Station](#)
- [MSU Extension](#)
- [Plant Resilience Institute](#)

STARS Report Highlights

[OP-1: Emissions Inventory and Disclosure](#)

[OP-2: Greenhouse Gas Emissions](#)

- MSU released its 2030 strategic plan, which established goals to reduce scope 1 and scope 2 greenhouse gas emissions by 50% from a 2010 baseline and achieve climate neutrality by 2050.
- MSU has made upgrades to its microgrid, including the construction of Reciprocating Internal Combustion Engines and an Auxiliary Boiler which improve overall power and steam generation efficiency of the T.B. Simon Power Plant.



SDG 13: Climate Action



Program Spotlight: MSU Climate Change Research Support Program

Twelve research teams at MSU have received funding for innovative, interdisciplinary projects aimed at addressing climate change through the Office of Research and Innovation's [MSU Climate Change Research Support Program](#). The awarded initiatives cover pressing global challenges including sustainable agriculture, climate resilience, and innovations in photovoltaics.



Research Spotlight: MSU professor joins Elsevier Climate Advisory Board

[Emilio F. Moran](#), John A. Hannah Distinguished Professor at Michigan State University, was appointed to the Elsevier Climate Action Advisory Board. He joins other global experts who will advise Elsevier on reducing its carbon footprint and advancing climate solutions. Moran, the only U.S. member, sees Elsevier's efforts as an opportunity to share best practices with other scholarly journals and universities trying to reach institutional climate goals.



Student Spotlight: Building a Skilled Workforce for a Sustainable Future

The [MSU Industrial Assessment Center \(IAC\)](#), funded by the U.S. Department of Energy, has worked with over 60 students to conduct energy assessments for small and medium-sized industrial facilities in Michigan, helping businesses reduce their carbon footprint. The IAC works with Michigan Technological University and Henry Ford College to develop a skilled workforce in the energy sector by providing college students with comprehensive, hands-on education and training focused on energy efficiency and sustainability in manufacturing.

BY THE NUMBERS

37

percent reduction in scope 1 and 2 greenhouse gas emissions from MSU's campus since 2010

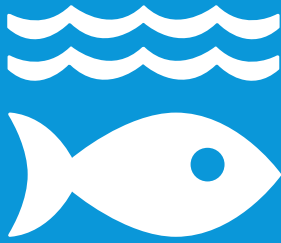
52

graduates to date that have earned the [Forest Carbon Science, Policy & Management graduate certificate](#)

\$750,000

in seed funding from the MSU Office of Research and Innovation for interdisciplinary research focused on climate solutions

14 LIFE BELOW WATER



Campus Resources

- [AgBioResearch](#)
- [Department of Fisheries and Wildlife](#)
- [Institute of Water Research](#)
- [History of the Red Cedar River](#)
- [Kellogg Biological Station](#)
- [MSU Extension](#)
- [MSU Water Alliance](#)
- [Quantitative Fisheries Center](#)

STARS Report Highlights

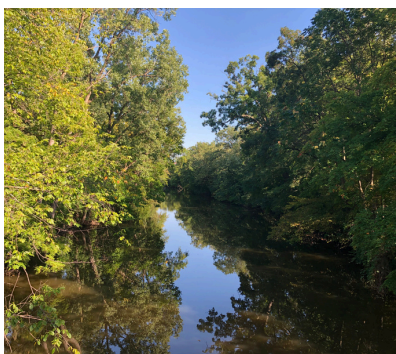
[OP-10: Biodiversity](#)

[OP-22: Rainwater Management](#)

- MSU is regulated under Phase II of the National Pollutant Discharge Elimination System and must implement a Stormwater Management Program to manage discharges into the Red Cedar River.
- A Stormwater Committee comprised of representatives from several MSU units oversees MSU's stormwater management plan and activities.



SDG 14: Life Below Water



Program Spotlight: Enhancing resilience & ecological health of the Au Sable River

MSU is collaborating with multiple partners in the Michigan Department of Natural Resources (MDNR) and Michigan Trout Unlimited to enhance the resilience of the Au Sable River, which has been designated as a Blue Ribbon trout stream by the MDNR. The Au Sable supports a world-class sportfishing industry, and partners are coming together to create a plan that protects the river and its fishery for generations to come.



Research Spotlight: Uniting for Marine Health

MSU assistant professor Robert Quinn and MSU Research Foundation Professor and University Distinguished Professor Christoph Benning in the College of Natural Science are collaborating on a \$1.9M grant from the National Science Foundation to understand the role chemistry and microbiology play in making certain corals resistant to bleaching. Coral bleaching is a stress response triggered by heat, where corals expel the algae living in their tissues, resulting in a white appearance. This process harms coral reefs and is projected to become more frequent as climate change continues. This research could help inform how to rehabilitate coral ecosystems.



Student Spotlight: Meredith Jones

Meredith Jones, a biology secondary education student, has spent time collecting water samples of the Red Cedar River. She is monitoring macroinvertebrate species variation to indicate pollution. From Jones' research, she was able to find that the river is on a healthy trend.

BY THE NUMBERS

- 2,363** lbs of phosphorus prevented from leaving farm fields and posing risk to water quality and fish through MSU Extension outreach programs
- 22** degree programs that address water-related issues
- 3,300** rainbow trout stocked on campus in the Red Cedar River in 2023

15 LIFE ON LAND



Campus Resources

- [AgBioResearch](#)
- [Center for Regenerative Agriculture](#)
- [Corey Marsh Ecological Research Center](#)
- [Forest Carbon Climate Program](#)
- [Infrastructure Planning & Facilities](#)
- [Forest Carbon Climate Program](#)
- [Kellogg Biological Station](#)
- [MSU Extension](#)
- [WJ Beal Botanical Garden](#)

STARS Report Highlights

[OP-9: Landscape Management](#)

[OP-10: Biodiversity](#)

- The following vulnerable species have been found on MSU's campus:
 - **Critically endangered (IUCN Redlist 3.1)**
Fraxinus americana, Fraxinus pensylvanica
 - **Endangered (IUCN Redlist 3.1)**
Juglans cinerea
 - **Endangered (State of Michigan)**
Mertensia virginica
 - **Threatened (State of Michigan)**
Carex typhina, Diarrhena obovata, Hydrastis canadensis, Lycopodium virginicum, Panax quinquefolius
- MSU has a diversity of woodlands and wetlands located in Campus Natural Areas, totaling more than 700 acres across 25 distinct sites.
- The Rachana Rajendra Neotropical Migrant Bird Sanctuary, part of Baker Woodlot, provides shelter, food and water for migratory birds such as the red-winged black bird and the northern cardinal.

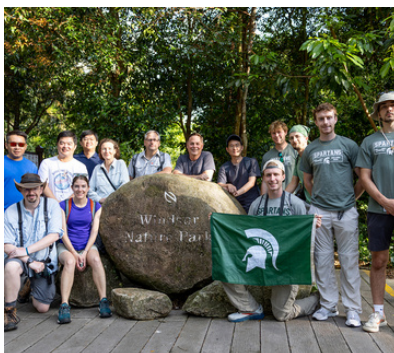


SDG 15: Life on Land



Program Spotlight: Fostering a resilient campus by growing our campus arboretum

Over 400 trees were planted in spring 2023 by campus partners throughout the agricultural district on south campus, including nearly 150 trees planted by students, faculty and staff affiliated with the Campus Natural Areas Classroom, Curriculum and Conservation Committee as well as 275 trees planted by IPF Landscape Services along road right-of-ways throughout the agricultural district on south campus.



Research Spotlight: Spartans partner for biodiversity

The [XPRIZE Rainforest](#) is a global competition that uses autonomous technologies for assessing biodiversity and improve our understanding of rainforest ecosystems and how to protect them. Roughly 70 Spartans, including biologists, engineers, computer scientists, geographers, and anthropologists have joined the ACT NOW – Amazonas Action Alliance team, which is comprised of Amazonian indigenous leaders, scientists and entrepreneurs. MSU competed as a semifinalist in the competition.



Student Spotlight: Leading in Forestry

[Jasmine K. Brown](#) is a graduate student in MSU's Department of Forestry. Her research explores how people access forests and nature and the historical barriers to inclusion and accessibility. By examining the histories of African Americans in relation to forests and the forestry profession, her work focuses on the intersections of race, nature, and culture. She is a board member of the American Forest Foundation, on the steering committee of the Women's Forest Congress, a participant in the 2023 Environmental Leadership Program – Great Lakes Regional Fellowship, and a recipient of the Graduate Student Emerging Leader Scholarship by the MSU Black Faculty, Staff, and Administrators Association.

BY THE NUMBERS

8,500	people participated in pollinator education programs in 2023
225,623	acres of land protected, enhanced, restored or managed sustainably with MSU Extension assistance
10,587	participants in MSU Extension programs used ecosystem-based management strategies in their resource management decision making

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



Campus Resources

- [AgBioResearch](#)
- [Governmental Relations](#)
- [Indigenous Law and Policy Center](#)
- [Institute for Public Policy and Social Research](#)
- [Kelley Institute of Ethics and the Legal Profession](#)
- [McLellan Online Free Speech Library](#)
- [MSU Extension](#)

STARS Report Highlights

PA-3: Inclusive & Participatory Governance
IN-42: Voter Education and Support

- The MSU Board of Trustees consists of eight members who are elected by the voters of the state of Michigan through General Election for eight-year terms per the state's constitution. Michigan is the only state to elect board members for public universities via a statewide vote.
- All board meetings are public, and open comment periods are designated for community members and stakeholders at every board meeting. Anyone from the public is allowed to speak and provide public input during the open comment period.

SDG 16: Peace, Justice & Strong Institutions



Program Spotlight: MSU Expungement Fair

The MSU Law School recently hosted a successful expungement fair aimed at helping individuals clear their criminal records. The event provided free legal assistance and resources for roughly 200 people seeking to gain eligibility to remove certain offenses from their permanent records. The event was organized by two MSU Law student organizations, The Criminal Defense Association (CDA) and International Cannabis Bar Association Michigan State University Student Chapter (INCBA-MSU).



Research Spotlight: Citing Slavery

MSU Law Professor Justin Simard received the Mary L. Dudziak Legal History Prize from the American Society for Legal History for launching the Citing Slavery Project, which created an online, publicly accessible database of published civil case decisions that cite slave cases as precedent in legal proceedings. Several MSU Law students dedicated over 2,000 hours to collect cases for the database. The project asserts that “the legal profession must confront its role in slavery.”



Student Spotlight: Supporting Voter Registration

On National Voter Registration Day, the MSU Alpha Phi Alpha Fraternity Inc. partnered the Zeta Delta chapter and the Kappa Delta Lambda chapter of the fraternity to help students and community members register to vote. In addition to voter registration, they provide outreach and education that promotes the importance of voting, especially for individuals from underrepresented communities.

BY THE NUMBERS

- 10,000+** legal decisions that cite slave cases as precedent compiled by the Citing Slavery project
- 1,069** people aged 18-21 registered to vote in East Lansing on election day for the Mid-Terms in November 2022
- 25** MSU Law student volunteered for “Know Your Rights Day”, educating Cass Tech High School Students about the 4th Amendment

17 PARTNERSHIPS FOR THE GOALS



Campus Resources

- [AgBioResearch](#)
- [Center for Interdisciplinarity](#)
- [Center for Systems Intergration and Sustainability](#)
- [Governmental Relations](#)
- [MSU Extension](#)
- [Toolbox Dialogue Initiative](#)
- [University Outreach and Engagement](#)

STARS Report Highlights

[PA-1: Sustainability Coordination](#)

[PA-2: Sustainability Planning](#)

[AC-1: Academic Courses](#)

[AC-3: Undergraduate Program](#)

[AC-4: Graduate Program](#)

[EN-10: Community Partnerships](#)

[EN-14: Participation in Public Policy](#)

- MSU participates in the Capital Area Sustainability Partnership (CASP), a regional collaboration network of governments and NGOs to enable policy changes that demonstrate environmental stewardship, economic vitality, and social responsibility.
- MSU is a signatory of the University Global Coalition, which partners with the UN Institute for Training and Research and the Sustainable Development Solutions Network to support advancing the UN SDG targets.
- MSU offers degrees in Environmental Studies and Sustainability (BS), Community Sustainability (MS, PhD), along with 20 other undergraduate sustainability-related degree programs, 21 master's degree programs and 16 doctoral programs.

SDG 17: Partnership for the Goals



Program Spotlight: Collaborating across academia, government, NGOs, and industry

U.S. Secretary of Agriculture Tom Vilsack participated in the [Universal Food Forum](#), convened by MSU, in Washington, D.C. This event aimed to address critical issues surrounding food security and sustainable agriculture. The forum engaged a group of stakeholders from agriculture, government, industry, development agencies, academia and media, creating a neutral space to discuss food systems across diverse perspectives.



Research Spotlight: Partnering for Affordable, Nutritious Food in Nigeria & Tanzania

MSU is leading the [Research Supporting African Micro, Small, and Medium Enterprises \(MSMEs\) to Provide Safe and Nutritious Food project](#), funded by the Bill & Melinda Gates Foundation, in partnership with four Nigerian universities and two government and NGO partners. The project will build capacity in Nigeria and Tanzania for government officials and development partners to implement policy interventions and research that will help MSMEs provide affordable, safe, and nutritious food to low-income consumers.



Student Spotlight: Building Community through Sustainability

[Cody Evans](#), ASMSU Sustainability Director, shares how involvement in student government and sustainability efforts on campus helped fostered a sense of community and purpose. Cody helped spearhead the first annual Sustainability Student Organization Resource Fair hosted by ASMSU. His experiences have deepened his passion for environmental advocacy that he will carry into his career beyond MSU.

BY THE NUMBERS

- 23,909** student registrations for community-engaged learning experiences aligned with the U.N. Sustainable Development Goals
- 50+** Registered student organizations rooted in sustainability
- 90** percent of academic departments at MSU offer sustainability courses, according to the most recent [sustainability course inventory](#).

