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MSU-MCEST 8- POINT RESEARCH AND INNOVATION AGENDA

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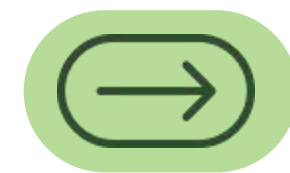
**A FIVE YEAR SUSTAINABLE
RESEARCH PRIORITIES OF
MSU-MCEST**

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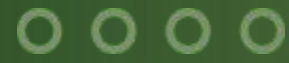
ALIGNMENT WITH AMBISYON NATIN 2040:



Promoting innovation and inclusivity through entrepreneurship and technology development.



Empowering communities with livelihood technologies that enhance local industries and create sustainable economic opportunities.



ALIGNMENT WITH AMBISYON NATION 2040:



Fostering environmental sustainability through tree planting, resource-efficient manufacturing, and circular economy practices.



Improving education and skill development to create a workforce that can meet the demands of future industries, contributing to economic prosperity.



ALIGNMENT WITH THE UN SDGS



- ✔ Supports the development of innovative and sustainable industrial practices that enhance productivity while promoting environmental responsibility and resilience in local industries.
- ✔ Encourages the creation of affordable technologies that support entrepreneurship and job creation, fostering economic growth in local communities while reducing poverty.



ALIGNMENT WITH THE UN SDGS

- ✓ **Promotes technologies that improve food processing, preservation, and safety, enhancing food security and making food more accessible and available to communities, reducing hunger.**
- ✓ **Focuses on providing quality education and practical training that helps individuals acquire the skills needed for the evolving job market and promotes lifelong learning.**



ALIGNMENT WITH THE UN SDGS

- ✔ Supports environmental protection and sustainability by promoting tree planting and responsible resource management, contributing to the fight against climate change and the preservation of biodiversity.
- ✔ Encourages the use of digital technologies to improve industrial productivity and educational access, fostering innovation and digital inclusion across communities.



ALIGNMENT WITH THE UN SDGS

- ✔ **Strengthens the entrepreneurial ecosystem, ensuring that marginalized groups, including women and youth, have access to resources and opportunities to start businesses and generate income.**
- ✔ **Promotes the development of technologies and solutions that improve the resilience of communities to natural disasters, ensuring a more sustainable and disaster-ready society.**

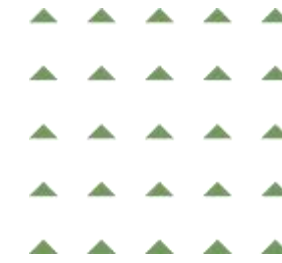


1. Advancing Sustainable Industrial Technology (SDG 9: Industry, Innovation, and Infrastructure)

Research Focus

Develop innovative solutions for energy-efficient manufacturing and automation technologies to enhance productivity for small and medium-sized enterprises (SMSEs) in Lanao del Norte.

Investigate green manufacturing practices, focusing on waste minimization, energy conservation, and the use of sustainable materials in industrial production.



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



Innovation Focus

1. Create affordable, scalable smart manufacturing technologies and automation systems to increase the competitiveness of local industries, such as small-scale food production, furniture-making, and construction materials.

8 DECENT WORK AND ECONOMIC GROWTH



2. Empowering Livelihoods through Technology (SDG 8: Decent Work and Economic Growth)

Research Focus:

- Research low-cost livelihood technologies that can support small-scale entrepreneurs in rural areas, particularly in agriculture and food processing.
- Develop appropriate technologies that enable local businesses to add value to raw materials and improve income-generating opportunities for communities.

Innovation Focus:

- Innovate low-tech solutions such as micro-processing equipment for local industries, especially in food preservation (e.g., drying, canning, or milling), enhancing their ability to access larger markets.



3. Strengthening Food Security through Food Technology (SDG 2: Zero Hunger)

Research Focus:



Innovation Focus:

• Explore innovative food preservation methods such as dehydration, c a n n i n g , a n d fermentation that can reduce food spoilage and waste, improving food security in rural areas.

• Develop research on sustainable food processing technologies that make use of locally available raw materials, such as coconuts, cassava, or fish, to provide value-added food products.

• Develop small-scale food processing systems for local entrepreneurs to help them increase product shelf life, improve food quality, and expand market reach.



4. Education and Training for Industrial and Entrepreneurial Skills (SDG 4: Quality Education)

Research Focus:



Innovation Focus:

Create hands-on, skills-based courses and certifications for students and local entrepreneurs in key sectors such as food processing, computer technology, and small-scale manufacturing

•Research vocational training programs and industry-based learning models in industrial technology, food technology, and entrepreneurship.

•Develop an online or hybrid learning platform for continuous professional development in industrial and livelihood technologies for community members and local businesses.

5. Promoting Tree Planting and Environmental Sustainability (SDG 13: Climate Action)

Research Focus:

- Investigate the use of agroforestry systems and tree planting techniques for reforestation and carbon sequestration to combat environmental degradation in Lanao del Norte.
- Develop research on sustainable forestry practices that support biodiversity while providing economic benefits through tree-based livelihoods, such as timber, fruit, and medicinal plants.

Innovation Focus:

- Develop tree planting and agroforestry technologies, including efficient planting tools, irrigation systems, and sustainable tree care practices, to empower communities to engage in environmental protection and sustainable land use.

13 CLIMATE ACTION



6. Promoting Peace and Conflict Resolution through Technology and Education (SDG 16: Peace, Justice, and Strong Institutions)



Research Focus:

- Research the role of technology-based platforms and digital tools in promoting peace, conflict resolution, and community dialogue in regions affected by conflict, particularly in **Mindanao**.
- Study how educational programs can foster cultural understanding, conflict resolution skills, and social cohesion among different communities, focusing on youth and marginalized groups.

Innovation Focus:

- Develop peace-building technologies such as mobile apps or online platforms for conflict resolution, providing communities with tools to communicate, mediate, and resolve local disputes.
- Design peace education curricula that include modules on conflict resolution, peace-building, and social integration, offering these as part of MSU-MSAT's community outreach and extension programs.

7. Research on Political Governance for Effective Local Leadership (SDG 16: Peace, Justice, and Strong Institutions)

Research Focus:

- Investigate political governance models that promote transparency, accountability, and community participation in local governance structures in Lanao del Norte.
- Study how e-governance solutions can enhance service delivery, reduce corruption, and empower local citizens to participate in governance processes.

Innovation Focus:

Research best practices for strengthening local political institutions and promoting good governance, focusing on capacity building for local government units (LGUs) and other stakeholders in the region

8. Building an Inclusive Entrepreneurship Ecosystem (SDG 8: Decent Work and Economic Growth)

Research Focus:

- Investigate barriers to entrepreneurship for local youth, women, and marginalized groups, and develop programs that can support their entry into business ventures.
- Explore the potential for social enterprises that combine business goals with social impact, particularly in areas like food security, waste management, and rural development.

Innovative Focus:

- Create entrepreneurship hubs within MSU-MSAT that provide incubation services, mentoring, and resources for aspiring local entrepreneurs, with a focus on underserved groups.



REQUIREMENTS TO OBTAIN THE 8-POINT AGENDA



- Infrastructure e.g. Three story Building, Research hub, equipment.**

ROADMAP

01

- ✓ Advancing Sustainable Industrial Technology
- ✓ Empowering Livelihoods through Technology
- ✓ Building an Inclusive Entrepreneurship Ecosystem

02

- ✓ Pilot projects initiated for each research priority
- ✓ First batch of research findings published
- ✓ Community engagement and training programs launched

04

- ✓ Technology transfer initiatives fully operational
- ✓ Commercialization of research outputs begins
- ✓ Strengthened local governance models based on research

03

- ✓ Develop commercial prototypes for food technology innovations
- ✓ Strengthen industry-academe-government linkages for research collaboration
- ✓ Mainstream environmental sustainability practices in MSU-MSAT curriculum
- ✓ Roll out peace and conflict resolution technology nationwide

05

- ✓ Develop international partnerships for research and technology exchange
- ✓ Establish MSU-MSAT as a hub for sustainable research and innovation
- ✓ Expand inclusive entrepreneurship programs to national level
- ✓ Sustain and improve governance models based on research insights
- ✓ Develop policies for long-term research sustainability

The background is a dark green color with several decorative elements. On the left, there is a large, light green rounded rectangle. In the top right, there is a horizontal light green rounded bar. Below it, the text 'THANK YOU!' is written in a bold, white, sans-serif font. To the left of the text, there is a grid of small, light green triangles. At the bottom left, there is a horizontal row of small, light green vertical bars.

**THANK
YOU!**