



MinSCAT

Mindoro State College of Agriculture and Technology

Research & Development Agenda 2021-2025





- The Mindoro State College of Agriculture and Technology (MinSCAT) is one of the state institutions of higher learning that is mandated to provide higher vocational, professional and technical instruction and training in agricultural and industrial fields with special emphasis given to agricultural industry.
- It shall also promote research, advanced studies and progressive leadership in the fields of agriculture including agricultural education and home technology, with special emphasis given to agricultural industry, fishery, forestry, and industrial education.

- In essence, Research and Development (R&D), in the context of the mission statement, are integral function of the College as it carries out its existing programs and thrusts to respond to the emerging goals for national leadership through curricular reforms and redirection.



Priority Thrusts and Research Areas

- The thrusts and priorities of the Mindoro State College of Agriculture and Technology (MinSCAT) are clustered based on the areas of specialization/and offerings of the different colleges and departments.
- The researches that may be generated are also in consistent with the thrusts and priorities of the Department of Science and Technology (DOST), the National Higher Education Research Agenda (NHERA) of the Commission on Higher Education (CHED), and the Department of Agriculture (DA).
- The agenda and the indicative projects illuminate the need for the conduct of multidisciplinary research. Multidisciplinary research boosts the perspective of faculty researchers on their own discipline as well as leads to acquire insights on other disciplines.
- There are various research activities being conducted by other agencies however these can be an opportunity to forge collaboration and partnership to fill each other's needs as far as research implementation is concerned.

Priority Thrusts**Research Areas****AGRICULTURE, AQUATIC AND NATURAL RESOURCES****Crops**

High-value commercial fruit crops (banana, calamansi and other citrus fruits, lanzones, rambutan), plantation crops (coffee, cacao, coconut); rice and corn; high-value vegetables and root crops; adlai

Germplasm evaluation, conservation, utilization and management; varietal improvement; production of good quality seeds and planting materials; pest and disease surveillance; cultural management and crop production systems, including nutrient supplementation, off-season production and climate-resilient technologies; postharvest processing and product development; market research for adlai; Mindoro rice branding; mapping of the value chain and identify key industry stakeholders of calamansi, banana and coconut; micropagation of seedless calamansi; development of off-season calamansi production technology; development of models and additional by-products for calamansi; promotion of technology developed on calamansi; development of strategic plan that will support from production, post-harvest, processing and marketing to bring the sector to a higher level of development; conduct of capacity development needs assessment in order to accelerate agriculture value chain

Poultry and Livestock

Native pig, native chicken

Animal improvement and welfare; development of market-driver production and approaches in eco-friendly pig production through collaborative studies with SUCs in the Region; conservation and improvement of native animals; detection of chemical residues and anti-microbial resistance; use of phytobiotics, prebiotics and probiotics; feeds and nutrition, establishment of forage and pasture area; processing and product development; social impact analysis of the studies of agricultural research institutions



Priority Thrusts

Research Areas

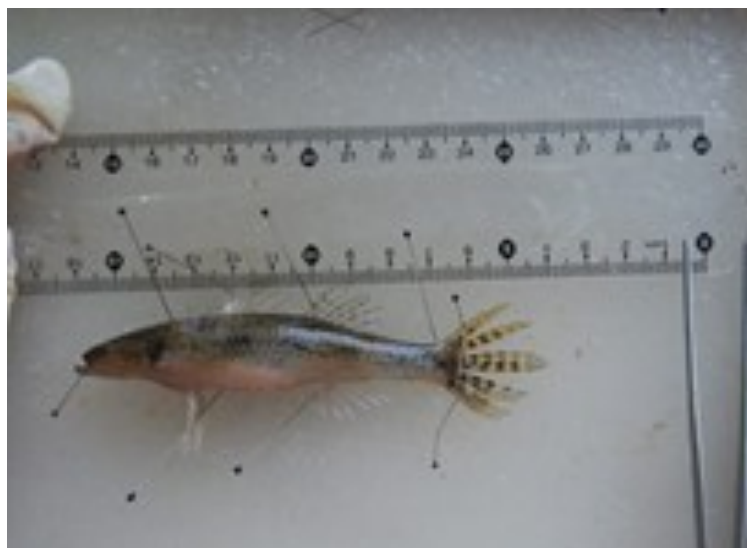
AGRICULTURE, AQUATIC AND NATURAL RESOURCES

Forestry

Production and value-adding /processing of *C. mindorensis* (bagtok), bamboo, nito, rattan and other non-timber forest products; agroforest tree nursery techniques; silvicultural systems; sustainable culture management practices; harvesting and postharvest techniques; Sloping Agricultural Land technology (SALT)

Natural Resources Management

Biodiversity studies; water resource mapping; watershed management; soil management and rehabilitation; managing excessive run-off and coastal siltation in Northern Bay of Oriental Mindoro; tamaraw conservation, vulnerability assessment; climate change strategies and decision support tools; resource prospecting for health products; waste management; protected area networking; innovative systems for landscapes and ecosystems; conduct collaborative researches on tamaraw and biodiversity with SUCs in the Region



Priority Thrusts

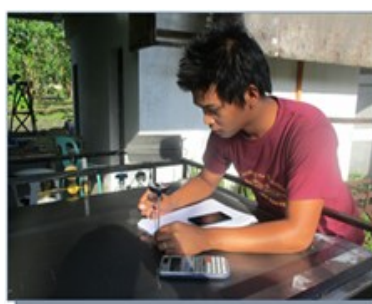
Research Areas

AGRICULTURE, AQUATIC AND NATURAL RESOURCES

Aquaculture, Marine and Inland Fisheries

White Goby in Naujan Lake (taxonomy, life history, reproductive biology, gut analysis); goby culture in captivity; brackish water culture of red tilapia using locally available feeds; location-based hatchery and nursery protocol development for mudcrab; climate change-resilient aquaculture; abalone; adaptability of seaweed varieties in Mindoro coastal areas; postharvest handling, processing and product development; marine biodiversity in Verde Island Passage

Priority Thrusts	Research Areas
<u>INDUSTRY, ENERGY AND EMERGING TECHNOLOGIES</u>	
Engineering and Agro-industrial Technologies	Biosystems power and machineries; irrigation, drainage and soil and water conservation; agricultural waste management; bio-process engineering and food engineering; agricultural and biosystems automation and instrumentation; agricultural and biological resource management; bio-information systems and agrometeorology; development of food processing equipment for MSMEs
Food Technology	Functional foods and optimization studies for nutritious foods; food formulation and recipe; ready-to-eat products; food manufacturing practices; technology commercialization of developed products; food technology for small scale economic activities to address the aim of supporting MSMEs
Automotive Technology and Electronics	Metal works; cost-efficient automotive technologies; disposal, recycling and treatment of metal wastes; electronic servicing

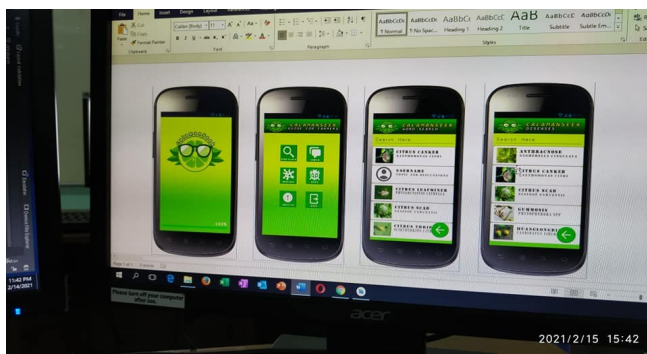


Priority Thrusts

Research Areas

INDUSTRY, ENERGY AND EMERGING TECHNOLOGIES

Information and Communications Technology	Software development for agricultural applications; web development for marketing, tourism and governance; ICT for health; social dynamics of communication on the internet; cyber-security; online and offline mobile solutions for students without internet; development and application of online and offline learning system
Alternative Energy	Biofuel/agro-fuel production from local wastes (solid biomass, liquid fuels and biogas); energy consumption/utilization and conservation;
Business, Tourism and Hospitality Management	Evaluation of potential ecotourism sites; protected area tourism; people/community involvement in ecotourism projects; medium and small scale enterprise development; opportunities and constraints identified and come-up scaling strategies for the business sector



Priority Thrusts	Research Areas
<u>HEALTH</u>	Nutrition and food fortification; safety assessment of food and food components; establishment of health benefits from botanicals and product development; climate change adaption for health; health-seeking behavior of IPs; disaster risk reduction for health emergencies; environmental health; environmental threats to health; mental health; holistic approach to health and wellness; research in equity and health; R&D on functional food technology; product development on abundant local food materials; capacity need assessment for health services of FIC
<u>DISASTER RISK REDUCTION AND CLIMATE CHANGE ADAPTATION</u>	Hazards, vulnerability and risk assessment (socioeconomic studies of communities); preparedness, prevention and mitigation of natural disasters; modelling and forecasting of climate change disaster; scenario building for disaster management; pollution control; development of global warming adaptation technologies; technological mitigation; carbon sequestration; carbon source reduction

Priority Thrusts	Research Areas
<u>INSTITUTIONAL DEVELOPMENT AND HUMAN RESOURCE CAPACITY ENHANCEMENT</u>	
Policy, Government and Education	Policy-oriented researches focused on quality and excellence in higher education; technological inputs to teacher situation; multidisciplinary teacher-education research; public administration and management; gender and development; ICT knowledge management and exchange; program evaluation; education system and processes; research management
Criminal Justice / Criminology	Road rules and regulations; traffic management; corporate and civil crime rates analysis/crime statistics; crime across cultures; criminal behavior; crime prevention strategies
Science and Mathematics	Multidisciplinary research aimed to advance the frontiers of science and mathematics; leading-edge scientific research; use of scientific principles in responding to the development of province; breakthrough or pioneering research
Humanities, Social Science and Communication	Multidisciplinary research on Philippine literature; arts and sociology; peace and development Studies with direct application to local situations; policy-oriented research; education for indigenous people; sociocultural heritage; language studies