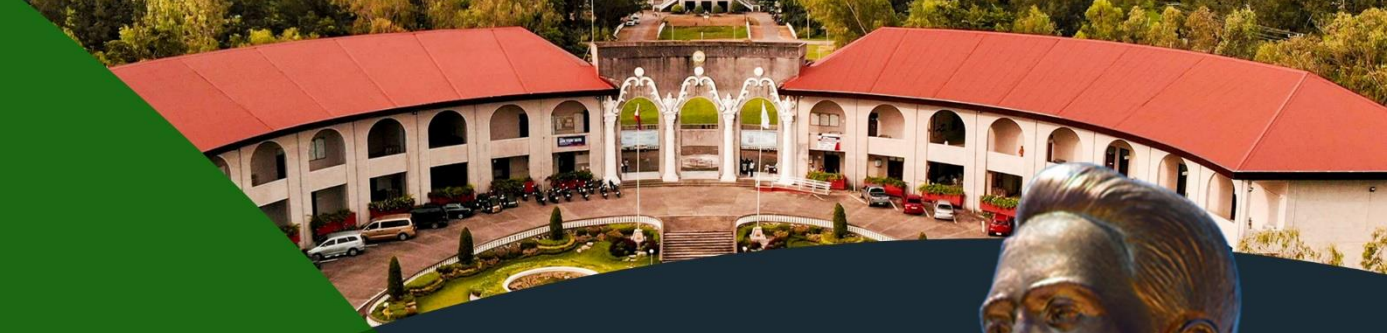

MMSU SIRMATA 2040
LAND USE DEVELOPMENT AND INFRASTRUCTURE PLAN (LUDIP)

VOLUME 1 : UNIVERSITY PROFILE

FOREWORD

On behalf of the Mariano Marcos State University (MMSU) Family, I am pleased to present the *Sirmata 2040: MMSU's Land Use Development and Infrastructure Plan (LUDIP),* pursuant to Republic Act 11396, or the "SUCs Land Use Development and Infrastructure Plan Act of 2019". This document reflects the University's commitment to optimize the utilization of our existing land and infrastructure resources in the pursuit of our mandate and aspirations, with the goal of establishing a resilient and future-ready University, characterized by:

- Safe, secure and livable environment
- Institutionalized standards of infrastructure design
- Resilient infrastructure responsive to evolving needs
- Modernized facilities aligned with world-class standards
- Aggressive development of landholdings for improved productivity
- Thorough physical planning and efficient implementation
- Aesthetic and culturally-focused campus

Sirmata is more than just a blueprint of the University's future. Rather, it is a testament to its history. It connects present and future developments with the seminal hopes that brought MMSU into being more than four decades ago. Likewise, it documents the steps we took, collectively and individually, to formulate a plan that would clearly embody our aspirations.

The process of making the LUDIP has been a difficult yet crucial step in our long-term efforts to fully consolidate and develop our land resources. Along the way, we encountered – and continue to encounter – challenges, especially considering that as of this writing, a significant number of lands under the stewardship of the University are yet to be titled. The geographical and socio-economic conditions of our campuses also made planning more painstaking, as we needed to come up with plans that address varying needs and demands.

Moving forward, we have to take aggressive steps to implement the strategies that we have outlined in this Plan. I invite every member of the university community to take the Plan to heart, and to contribute to its realization. Let us all work together to make *Sirmata* an integral part of MMSU's history.

SHIRLEY C. AGRUPIS, PhD
University President

TABLE OF CONTENTS

LIST OF MAPS

LIST OF TABLES

LIST OF FIGURES

MMSU LAND USE DEVELOPMENT AND INFRASTRUCTURE PLAN

VISION OF THE MMSU LUDIP: *SIRMATA 2040*

MMSU Vision and Mission

MMSU is envisioned is to be a premier Philippine university by 2028 while fulfilling its mission of developing virtuous human capital and sustainable innovations in a knowledge-driven global economy, guided by the core values of Knowledge, Inclusivity, Professionalism, and Spiritual and Social Responsibility (KIPS).

The University's strategic direction is encapsulated in the Seven-Point Agenda to ACHIEVE:

The vision, mission, and development agenda serve as the overarching framework upon which all campus development goals are aligned to.

Vision, Mission, Goals, Objectives, and Thrusts of the MMSU LUDIP

Prior to the enactment of RA 11396 ("SUCs Land Use Development and Infrastructure Plan (LUDIP) Act") in 2019, MMSU has been aggressively developing its landholdings in accordance with its vision and strategic plans.

Policies and administrative mechanisms are in place for the acquisition, consolidation, and development of university lands. However, the area, geographical distribution, and original ownership of the properties that constitute MMSU lands remain a challenge to their optimum utilization and development.

Hence, the MMSU LUDIP crystallizes the long-term visioning for full-scale development of all MMSU lands to fulfil the various mandates of the University, as well as to enable it to respond to challenges of the times.

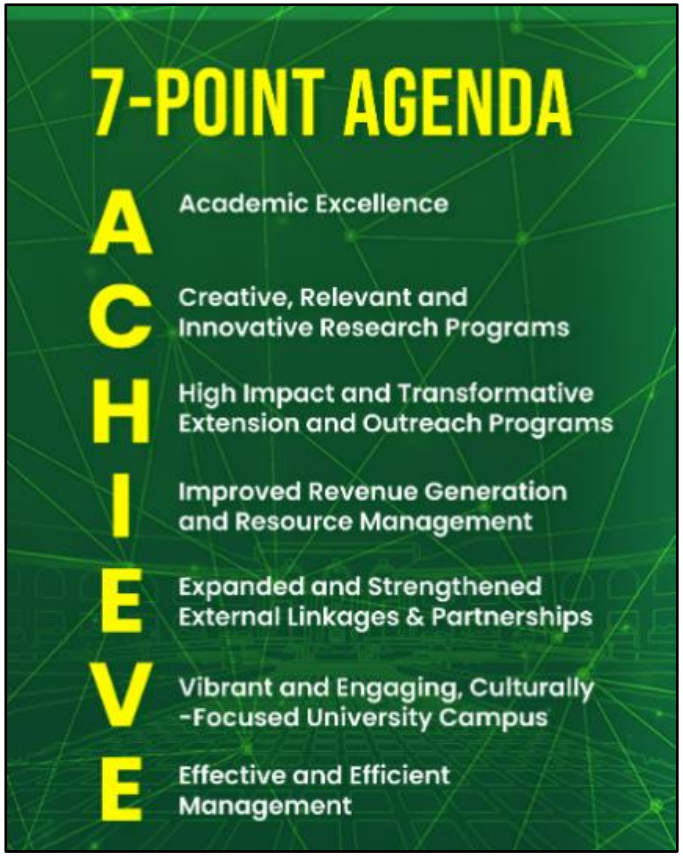

Figure 11. 7-Point to ACHIEVE

Figure 12. MMSU Sirmata Development Framework

Vision

Sirmata 2040: MMSU as a World-Class, Smart, and Resilient University

Mission and Goals

The LUDIP serves as a guide for MMSU's full-scale physical development by providing the framework toward achieving, by the year 2040, an MMSU that is characterized by:

- **S**afe, secure, and liveable environment
- **I**nstitutionalized standards of infrastructure design
- **R**esilient infrastructure responsive to evolving needs
- **M**odernized facilities aligned with world-class standards
- **A**ggressive development of landholdings for improved productivity
- **T**horough physical planning and efficient implementation
- **A**esthetic and culturally-focused campus

Objectives

The objectives of the LUDIP are organized into four goal clusters. By 2040, MMSU shall have:

Goal Cluster 1: Security & Resilience

1) Secured titles for at least 70% of its landholdings;
2) Enhanced security systems in all its campuses and properties;
3) Rehabilitated and / or upgraded 100% of existing structures;
4) Constructed facilities for disaster risk reduction and management;
5) Built new, resilient, and smart infrastructure

Goal Cluster 2: Academic and Institutional Development

1) Established state-of-the-art classrooms and learning spaces suitable for residential and flexible learning modalities;
2) Established modern laboratories with global academic, research, or workplace standards;
3) Sustained acceptable levels / ratios of facilities per student / faculty / personnel;
4) Utilized 100% of available landholdings for instructional, research, development, and resource generation purposes
5) Generated substantial returns on capital investment for land and infrastructure development;
6) Fully functionalized at least one special economic zone in any of its campuses;

Goal Cluster 3: Vibrant Campus Life and Institutional Identity

1) Established its own brand through institutionalized standards for the design of infrastructure, landscape, and built environment;
2) Established and operationalized facilities for holistic psycho-social and cultural development, such as athletic facilities, multi-purpose halls, parks and recreational spaces, among others;
3) Established a functional MMSU Village;
4) Sustained the Green Wall to build a micro-climate in the university;

Goal Cluster 4: Operational Efficiency and Customer Satisfaction

1) Established a systematic process of planning, implementation, monitoring, and evaluation of physical development projects;
2) Enhanced network infrastructure to support the deployment of smart technologies that promote efficiency and ease of doing business;
3) Sustained the involvement of all stakeholders in the land use development and infrastructure planning processes
4) Maintained quality workplace standards as defined in the University's Quality Management System;
5) Reduced spending on repairs and maintenance through the efficient implementation of repair and maintenance schedules for infrastructure and equipment;
6) Sustained customer satisfaction through the provision of adequate physical facilities

DEVELOPMENT CONSTRAINTS

Development constraints refer to the human, fiscal, physical attributes and natural resources that limit or inhibit the attainment of the goals of the LUDIP.

Relevant aspects of planning that constrain development or provide opportunities for development were also considered, such as the laws and policies affecting land use planning, environmental management, and the geophysical and socioeconomic characteristics of the respective cities or municipalities where the campuses are located.

Following are the general constraints that affect the overall formulation and implementation of the University LUDIP:

Geo-physical and Ecological Factors

- **Natural hazards.** Due to their geographic locations and characteristics, the various campuses have varying degrees of susceptibility to natural hazards and disasters, especially the frequent typhoons that visit the province. Other common hazards are earthquakes and ground shaking. The Currimao campus is also susceptible to storm surges.

- **Topography and slope.** Different topological conditions of the campuses and their location account for varying forms of development. Development initiatives are less difficult to pursue in the relatively flat areas, which are not hampered by large amounts of investment costs for physical development.

- **Climatic conditions and climate change,** which pose risks to especially to vegetation

- **Inadequate drainage facilities** and water ways in the campus especially during rainy season

- **Increasing volume of waste produced** and limited facility for waste management

Socio-economic and Political Factors

- High investment cost / cost of infrastructure inputs
- Budget / funding priorities of the government

Policy and Guidelines Constraints

The development proposals must conform to legal bases of land use and development, as well as documents, laws and issuances that seek to provide measures to protect and conserve particular areas and to ensure sustainable growth.

These policies and guidelines include:

1. **Republic Act 7586 (National Integrated Protected Areas System Act)** and its Implementing Rules and Regulations. This Act provides for the management, protection, sustainable development, and rehabilitation of protected areas to ensure the conservation of ecosystems and biological diversity, and maintain and enhance their

natural conditions was referred to in the formulation of plans concerning environmentally critical areas.

2. **Republic Act 7279 (Urban Development and Housing Act of 1992).** This Act provides for the implementation of comprehensive and continuing urban development and housing programs to uplift conditions of the underprivileged and homeless citizens in urban areas and in resettlement areas, and optimize the use and productivity of land and urban resources.

3. **Presidential Decree 1586 (Environmental Impact Law).** This Law provides for the establishment of the environmental impact system in the pursuit of comprehensive and integrated environmental protection program. It mandates that an Environmental Compliance Certificate be secured from the DENR for all environmentally critical projects and projects in environmentally critical areas.

4. **Presidential Decree 1067 (Water Code of the Philippines)**. This Code provides for the protection of waterways and the observance of easement regulations in the physical planning of a municipality.

5. **Presidential Decree 856 (Sanitation Code of the Philippines).** This Code is considered in studying the location of development proposals having impact on health and sanitation.

6. **Presidential Decree 1151 (Philippines Environmental Policy Decree).** This decree provides for the ensuring of consistency of development proposals with the environmental policies.

7. **Republic Act 8371 (The Indigenous People's Rights Act).** This decree provides for the protection of indigenous people's rights to ancestral domain, and to consider their individual rights, culture and practice in planning.

8. **Republic Act 9593 (The Tourism Act of 2009).** This Act provides guidelines in planning for tourism-related endeavors.

9. **Presidential Decree 1152 (The Environmental Code of the Philippines).** This Code established specific environment management policies and prescribed environmental quality standards.

10. **Republic Act 6969 (Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990).** This act seeks to control, supervise and regulate activities on toxic chemicals and hazardous waste.

11. **Republic Act 8749 (Clean Air Act of 1999).** This Act provides for a Comprehensive Air Pollution Control Policy and for Other Purposes.

12. **Republic Act 9003 (Ecological Solid Waste Management Act of 2001).** This Act provided for an Ecological solid waste management program, creating the necessary institutional mechanisms and incentives, declaring certain acts prohibited and

providing penalties, appropriating funds therefor, and for other purposes.

13. **Republic Act 9275 (Clean Water Act of 2004).** This Act provides for **a** Comprehensive Water Quality Management and for other Purposes.

14. **Republic Act 11396 (SUCs Land Use Development and Infrastructure Plan (LUDIP) Act).** This Act requires state universities and colleges (SUCs) to prepare and implement a Land Use Development and Infrastructure Plan that shall include the construction of dormitories for students and housing sites for employees

Potential direct and indirect impacts of global / national / regional and provincial plans and targets

The MMSU LUDIP is a key link in the network of plans covering development projections in the global, national, regional, and local levels. It is vertically aligned with the Sustainable Development Goals (SDGs) at the global level; the Ambisyon Natin 2040 at the national level; the Ilocos Regional Development Plan 2017-2022 at the regional level and the Provincial Development Plan and Physical Framework at the provincial level. The plan is likewise linked to the Comprehensive Land Use Plan and other developmental plans at the city and municipal level. At the same time, it is informed by the institutional Vision, Mission, Goals, and Objectives of MMSU. Hence, the LUDIP serves as an integral link between MMSU's physical development objectives on one hand and, and the regional and national priorities on the other.

Development programs, projects, and activities detailed (PPAs) in the LUDIP are the bases for a multi-year infrastructure and investment program, which consists of the prioritized list of PPAs with cost estimates. This serves as reference for budgetary allocations for the PPAs.

The 17 SDGs are dovetailed with the national, regional, provincial and city / municipality plans in order to determine their potential impacts and implications on the MMSU LUDIP. On the other hand, the potential impacts of the implementation of the LUDIP on the attainment of the development targets are also crystallized.

In harmony with these goals, the national and regional development targets are anchored on the Ambisyon Natin 2040 (Matatag, Maginhawa, at Panatag na Buhay). These aim to promote social and human capital development and strategic infrastructure development; reduce the vulnerability of individuals and families; build safe and secure communities; ensure ecological integrity; and stimulate creativity and innovation. The RDP specifically prioritizes sectors with greatest potential in realizing the national goals, including manufacturing (food processing) and agricultural development.

The current provincial vision is "Narimat nga arapaap, intay' amin maragpat!" (A brighter future, we call achieve!):

Aligned with these goals, the provincial development plans and targets emphasize anti-poverty programs; expanding opportunities in the agriculture, forestry, and fisheries sector; continuing assistance to farmers and fisherfolks; promotion of trade and industry for increased income; social welfare and services development; accessible healthcare; efficient management of environment and natural resources; promotion of public safety; organized transformation; investment and job creation;

and tourism development. In particular, economic zone development is pursued as part of the growth strategy of the province and the region. Intensified waste management and renewable energy development are emphasized toward sustainability.

To ensure complementation with these goals, sustain collaboration with the community, and achieve the development goals of the campus, it is necessary that strategies must be incorporated in the LUDIP that will address key concerns on:

1. providing adequate land, infrastructure, and facilities that will promote human capital development through education, and values and technical skills development;

2. supporting the expansion of the health sector in the province;

3. utilizing land and facilities to promote productivity and food sufficiency in the agriculture, forestry, aquatic, and natural resources sectors;

4. ensuring the efficient management of natural resources in the campus;

5. creating opportunities for industrial development, job creation, and investment;

6. incorporating climate change mitigation and disaster risk management strategies in the design and utilization of land and infrastructure resources;

7. aligning the MMSU LUDIP to the development concept, structure, and strategies of the national, regional, and provincial / local goals.

The development constraints are further analyzed in the context of the campus LUDIPs (Please see *Volumes 2-6).*

Appendix 4 presents a detailed analysis of the implications of the alignment of higher-level plans and the MMSU LUDIP, and how the LUDIP strategies cohere to these plans and targets.

INSTITUTIONAL LAND USE, ZONING, WATER, AND ENERGY POLICIES

LAND USE POLICY

This part of the Plan translates general guiding principles into corresponding policy statements to serve as enabling mechanism for the rational use of MMSU lands in the pursuit of the goals and objectives it is set to achieve and accomplish. For purposes of organized accounting and referencing, the principle-based policies are grouped into four clusters: moral-ethical and natural, social justice and equity and legal, scientific and technological, and sustainable development.

Moral-Ethical and Natural

Principle 1.0. Environmental integrity and ecological balance

Policy 1.1. Lands are nature's endowment to men for all generations today and in the future and it shall be the moral and ethical obligation of the university to be responsible and accountable steward for the sustainability of all its land resources.

Policy 1.2. The university shall observe and defer to the laws of nature in the exercise and observance of responsibility and accountability in the management of its land resources. The natural laws on regeneration, transformation, balance, and others as may be applicable shall be mandatory consideration in deciding the best options to allocate and use university lands.

Policy 1.3. The allocation and use of university lands shall aim to maintain, protect, conserve, restore, and enhance the integrity of the land itslef, the environment and ecological balance in all its campuses as it shall also effectively and positively influence the surrounding areas.

Policy 1.4. All land use options shall endeavor to preserve, promote and enhance the cultural heritage of and historical sites in the university including its immediate environs. University lands by their natural character and/or of the natural sightings or man-made structures found or established therein which has significant cultural and historical value shall be protected, maintained and enhanced.

Social Justice and Equity and Legal

Principle 2.0 Centrality in people

Policy 2.1 The use of lands of the university shall always put the interest of its constituents and clients a priority over any other and anything else. The use of university lands in the performance of its functions in instruction, research, community engagement, and business-like operations shall not be for their own sake but, first and foremost, for the interest of and as expressed by its people-constituents – students, personnel, and all other key stakeholders. The fundamental end in the allocation and use of university lands shall be to satisfy human needs as everyone will find pleasure, happiness, safety, security, and belongingness in any land-space to enjoy and be satisfied of the services of the university.

Principle 3.0 Social responsibility

Policy 3.1 University lands shall be allocated and used in a responsible manner to promote and sustain robust social processes in the university. As such, the active participation and involvement of all concerned parties, sectors and stakeholders shall be enlisted in the planning, implementation, monitoring and evaluation processes including the equitable and just sharing of benefits therefrom.

Principle 4.0 Obedience to government laws, rules and regulations
Policy 4.1 In the pursuit of social justice and equity in the allocation and use of university lands, all decisions pertinent thereto shall be in accordance with and in full compliance to pertinent laws, rules and regulations.

Policy 4.2 The MMSU-LUDIP shall be the basic institutional policy in the allocation and use of all university lands. In any case where a possible action cannot find basis in the present policy, the university, pursuant to applicable statutes and natural laws, shall formulate, approve and adopt the corresponding policy.

Policy 4.3 The university shall regulalry review, update and promptly communicate widely to all sectors the policies, rules and guidelines on land use.

Principle 5.0 Empowerment of all stakeholders
Policy 5.1 All MMSU constituents and stakeholders shall be deliberately enabled and capacitated through trainings, information and education campaigns and related activities for them to effectively understand, advocate and effectively mobilized such that each and every one shall become vital instruments in the promotion of the rational allocation and use of university lands.

Principle 6.0 Public lands are for public use

Policy 6.1 University lands are public lands and shall be allocated and used strictly for public purposes only.

Scientific and Technological

Principle 7.0 Science-based decision-making

Policy 7.1 All decisions made to allocate and use university lands shall be based on valid and reliable science and all technologies applied thereunto shall be derived therefrom. This is especially so with regards to any intent to alter and/or convert the natural state of any piece of land of the university.

Policy 7.2 Only appropriate technologies based on science shall be applied in the use of any land resource of the university.

Policy 7.3 Where applicable, verified indigenous knowledge systems shall be made part of any decision including in the body of science utilized thereto to allocate and use university lands.

Sustainable Development

Principle 8.0 Balanced development for and of the university

Policy 8.1 All competing interests in the allocation and use of its land resources shall be evaluated and decided upon in favor for the option that is to the best interest of the university; Provided that the best interest option presents the optimal balance in the development of the different sectors and functions of the university.

Principle 9.0 Economic feasibility, the doctrine of best economic option possible

Policy 9.1 Any decision to allocate and use university lands shall be in consideration to the best economic benefits possible but shall be strictly in keeping, never in conflict, with the moral-ethical, natural, social, cultural, ecological and environmental worth and integrity of the land asset. Where any conflict may arise, the later elements shall prevail.

Principle 10.0 Suitability

Policy 10.1 All land allocation and use shall be on the basis of natural suitability for any and all kinds of intents before any kind of alteration, including conversion to make it suitable, for any purpose.

Policy 10.2 Physically and productively fragile lands on the one hand and protected areas on the other of the university shall be given special considerations in their management to satisfy the requisites and demands applicable to protect, conserve, enrich, rehabilitate, and or sustain them as the case may be.

Principle 11.0 Carrying capacity
Policy 11.1 Complementary to suitability assessment, every allocation and utilization option for all university lands shall be within the limits of their objectively assessed carrying capacity.

Principle 12.0 Inter-sectoral partnerships and collaboration
Policy 12.1 All sectors in and outside of the university are indispesable partners and that their involvement and participation in the planning and implementation of land allocation and use shall be enlisted at every opportunity.

References

Philippine Agenda 21

DENR. 2019. Land use planning.

Tamil, EG. 2018. Introduction to Town Planning and Planning Concepts.

HLURB. 2013. CLUP Guidebook: A Guide to Comprehensive Land Use Plan Preparation (Volume 1).

Republic Act 11396. The SUCs LUDIP Act of 2019 and Its Implementing Rules and Regulations.

ZONING POLICY

The land use and zoning plans of the different campuses of the university as hereby conceived are made in accordance with the Comprehensive Land Use Plan (CLUP) of the cities and municipalities where they are located. In all the CLUPs, the campuses are categorized to belong in an institutional zone. In accordance with such zoning scheme and given the functional mandates of MMSU, a standard sub-zoning plan is adopted as follows:

a) Academic Zone
b) Research & Extension Zone
c) Residential Zone
d) Recreational Zone
e) Agri-industrial Zone
f) Economic Zone
g) Protected Land

Academic Zone

Principle 1. Accessibility and interconnectivity of academic building and related facilities.

Policy 1.1. Academic buildings shall be constructed and located for complementarity of utility across instructional needs and demands among disciplines.

Policy 1.2. Support facilities such as libraries, student center, clinic, auxiliary buildings and facilities shall be located and positioned for ease, safety and efficiency of access for all.

Research Zone

Principle 2. Promotion of sustained innovation and creativity for breakthrough knowledge and technologies

Policy 2.1 Proportionate suitable areas shall be appropriated in each of the campuses of for the whole university to serve as research zone.

Policy 2.2. The research zone shall be developed to support, complement and promote the function and services of the university.

Extension and Production Zone

Principle 3. Showcase of technology development, transfer, and technopreneurship.

Policy 3.1. Extension and production zones (EPZs) shall be established to highlight the operability of research results and developed technology.

Policy 3.2. EPZs shall have uniqueness of each but necessarily complementary with one another to display functions and produce chain in all settings.

Policy 3.3. EPZs shall be established to the extent proportionate to the needs and demands and dynamics of resources of each campus or collectively in the university.

Residential Zone

Principle 4. Community Building

Policy 4.1. A compact area dedicated for residential purpose for personnel, students and visitors shall be developed to be known as residential zone in each of the campuses of the university.

Policy 4.2. The residential zone shall be located and situated for utmost security, peace, accessibility and convenience of residents.

Policy 4.3. The residential zones shall be developed to blend and be compatible with the overall design and structure of the each of the campus.

Recreational Zone

Principle 5. Social responsibility to promote health, recreation and well-being.

Policy 5.1 A proportionate area in each of the campuses shall be apportioned for leisure and cultural purposes.

Policy 5.2 The zones dedicated for leisure, cultural including spiritual facilities and activities shall be known as recreational zone.

Agro-Industrial Zone

Principle 6. Modeling agro-industrial development

Policy 6.1 Feasible land areas of the university shall be allocated to showcase agro-industrial development making these areas for breakthrough research, training modules as well as business models.

Policy 6.2 Agro-economic zones shall be in a scale proportionate to their needs and demands of the functions and services of the university.

Agri-fisheries

Principle 7. Compatibility with related university functions and services

Policy 7.1 Relevant land and water bodies owned by the university shall be appropriately developed to advance the functions and services of the university.

Economic Zone

Principle 8. Socioeconomic development

Policy 8.1 Suitable and feasible portion of MMSU lands shall be appropriated and utilized for economic activities to optimize their utility to generate additional income of the university.

Policy 8.2 University lands appropriated for economic purposes shall be in accordance with the standard rules of comparative advantages.

Protected Land

Principle 9. Protection, conservation and preservation

Policy 9.1 Protected landholdings of the university shall be conserved, preserved and to be excluded from any form of alteration except as may be permitted by operation of law.

WATER POLICY

This part of the Plan translates general guiding principles into corresponding policy statements to serve as enabling mechanism for the rational use of water resources in the pursuit of the goals and objectives it is set to achieve and accomplish, the LUDIP and the university as a whole. For legal guidance, this policy is primarily based from the Water Code of the Philippines with its Amended Implementing Rules and Regulations (WIRR) of 2005. Accordingly, the water policy of MMSU under SIRMATA 2040 shall be expressed as principles in the first order represented by the five (5) Rules in the WIRR, and, in the second order, are the corresponding applicable policies for MMSU for each rule. Wherefore, the water policy of the university shall adopt the first three (3) Rules of the WIRR 2005 as principal and the "principle" components as follows: 1) appropriation and utilization; 2) control, conservation, and protection of waters and related land resources; and 3) administration and enforcement. The sense of the two (2) other Rules are incorporated in the adopted first three (3) Rules.

Principle 1.0. Appropriation and Utilization of Waters

Policy 1.1. Moral obligation and legal covenant. It shall be the moral obligation and a legal covenant of the university to be a resposible and accountable steward of its water and related resources for sustainable use by the university today and in the future.

Policy 1.2. Support to the mandated functions of the university.Water resources of the university shall be wisely appropriated and used in support to the effective and efficient performance of its mandated functions and services.

Policy 1.3. Water as a social and economic good. The university shall ensure accessible, adequate and quality standard supply of in-campus water to its constituents. At the same time, water resources of the university shall be explored and appropriated wisely in their prescribed forms and standards to support the strategic operations of the university.

Policy 1.4. Compliance to government and quasi-government laws and declarations. The appropriation and use of water resources of the university shall be in accordance with pertinent government and quasi-government laws and doctrines. Quasi-governments include supra-regional groups like the ASEAN, international bodies like the UN, and others of global recognition.

Policy 1.5. Laws of nature. The university shall observe and defer to the laws of nature in the exercise and observance of responsibility, accountability and covenant in the appropriation and use of its water and related resources.

Policy 1.6 Aim. The appropriation and use of the water resources of the university shall aim to maintain, protect, conserve, restore, and enhance the integrity of the water resources itself, to the environment and ecological balance in all its campuses as to also effectively and positively influence the surrounding areas. Towards this end, management options and mechanisms therein shall hasten the university's ability to prevent, reduce, and/or mitigate risks and vulnerabilities from natural disasters.

Principle 2.0. Control, Conservation and Protection of Waters, Watersheds and Related Land Resources

Policy 2.1. Science-based. The university shall be fully guided by sound ethical science in the appropriation and utilization and in the control,

conservation and protection (CCP) practices of its water and related resources.The university shall endeavor to invest in research along this concern.

Policy 2.2. Guided by natural laws. The CCP practices on water and related resources of the university shall be guided by the laws of nature. Disobedience and disregard to natural laws portends calamities and unwanted consequences to men in general and to university operations and services in particular.

Policy 2.3 Appropriate technologies. Only appropriate technologies based on sound ethical science guided by natural laws and, if applicable, verified indigenous knowledge systems (VICKS), shall be applied in the appropriation and use and CCP practices of all water and related resources of the university.

Policy 2.4. Balanced development. All competing interests in the appropriation and use and in the CPP practices of its water and related resources shall be evaluated and decided upon in favor for the option that is to the best interest of the university; Provided, that the best interest option presents the optimal balance in the development of the different sectors and functions of the university.

Policy 2.5. Economic feasibility. Any decision to approrpiate and use and in the CPP practices of water and related resources of the university shall be in consideration to the best and balanced economic, social, political, cultural, ecological and environmental benefits possible but shall be strictly in keeping with the integrity and sustainability of the water asset.

Policy 2.6. Fragile and crifical resources. Fragile and critical water resources especially those in protected areas shall be given special considerations in their appropriation, operation and management in order to satisfy the requisites and demands for their protection, conservation, enrichment, rehabilitation, and sustenance.

Policy 2.7. Carrying capacity. Every appropriation and utilization and CCP practice-options of and for all water and related resources of the university shall be within the limits of their objectively assessed carrying capacity.

Policy 2.8. Conservation and rehabilitation. Water conservation measures like of establishment of water impoundments, catch basins, water treatment facilities, and related infrastructures shall be given importance. At the same time, activities to recharge water tables and the restoration of watersheds shall be a priority concern. Rehabilitation of "polluted" resources must be immediate.

Policy 2.9. Protection. All water and related resources of the university, ground and surface, shall be shielded from any kind of pollution, ground water exploitation, and of destruction induced by nature and/or perpetrated by man and/or animals.

Prinicple 3.0. Administration and Enforcement

Policy 3.1. University Water Resources Management (UniWaRM) Office. An office shall be created to manage and administer the water resources of the university. Where such task is an implicit or implied function of an office already existing,, i.e., a directorate, a section for such shall be created and the role of water resources management to be assigned officially.

Policy 3.2. Support committe. In the pursuit of well deliberated, well-crafted and implemented water management and administration, the university may compose a university committee to assist the UniWaRM office in the crafting of policies, rules, guidelines, and in the implementation, monitoring and evaluation of its programs projects and sctivities. The committee may be an integral part of the structure of theUniWaRM office.

Policy 3.3. Concern of all. Effective and efficient administration of water and related resources of the university is a function of the collective effort of MMSU as a unified community. The university shall strategize to empower, engage and mobilize every constituent to become a responsible and accountable party to the cause.

Policy 3.4. Engagement with the extra-community. Complementary to Policy 3.3, the university shall endeavor to work with its adjacent communities, local government units, other communities, and government agencies, non-government and poeples' organizations, and stakeholders with joint or common interest on any given water and related resources, i.e., water sheds, lakes, springs, rivers, bays, gulfs, etc.

Policy 3.5. Immediate policy and corollary action. The MMSU-LUDIP shall be the immediate institutional policy in the appropriation and use of water and related resources of the university. In any case where a possible action cannot find basis in the present policy, the university, pursuant to applicable statutes and natural laws, shall formulate, approve and adopt the corresponding policy.

Policy 3.6. Review and communication. The university shall regularly review, update and promptly communicate widely to all sectors the policies, rules and guidelines on the appropriation and use of water and related resources.

Policy 3.7. Implementing rules and regulations. The UniWaRM office shall be responsible in translating this policy into specific implementing rules and guidelines and for the execution and internal monitoring and evaluation thereof.

References

Philippine Agenda 21

HLURB. 2013. CLUP Guidebook: A Guide to Comprehensive Land Use Plan Preparation (Volume 1).

Presidential Decree 1067. Water Code of the Philippines: Amended Implementing Rules and Regulations of 2005.

Republic Act 11396. The SUCs LUDIP Act of 2019 and Its Implementing Rules and Regulations.

United Nations. 2016. Sustainable Development Goals.

POLICIES ON ENERGY GENERATION AND UTILIZATION

Principle 1. Solar Energy Generation

Policy 1.1 Designs of new buildings shall integrate/incorporate the option for the construction of solar power facility (solar panels and accessories).

Policy 1.2 Roof deck (roof integrity) must be considered in the designs.

Policy 1.3 Consideration of south facing roof (around 18°) is recommended.

Policy 1.4 Buildings shall consider provision for the integration of interconnectivity with the grid/utility with net-metering.

Principle 2. Diesel/Gasoline Generator Sets for Power Generation (For 50 KVA And Larger)

Policy 2.1 Consideration of generator sets as standby units for power generation (not only during emergencies)

Policy2.2 Consideration of standby generator sets to operate on renewable fuels (such as biofuels – hybrid with fossil fuel)

Policy 2.3 Maintenance program for generator sets should be in place and to be strictly observed.

Principle 3. Net Metering

Policy 3.1 To optimize the potentials of distributed generation in the university, all generation facilities (large capacity) especially on renewables (solar) should consider net-metering scheme.

Principle 4. Integration of *green technologies* but not limited to:

Policy 4.1 Inverter-type of air conditioning units are preferred for new installations

Policy 4.2. Roof insulation should be installed for air-conditioned areas.

Policy 4.3 LED lamps or high efficiency lights must be used in buildings/facilities including street lighting

Policy 4.4 Appropriate building orientation must be considered for new buildings to optimize energy conservation.

Policy 4.5 Sufficient shade (canopies) must be provided for outdoor units of split-type air conditioning units.

Principle 5. Energy Audit

Policy 5.1 There shall be periodic conduct of spot and detailed energy accounting and audit (electricity, water, fuel) by energy auditors within all energy centers of the university.

Policy 5.2 Spot energy audit shall be as often as possible. This can be done by coordinators.

Policy 5.3 Detailed energy audit by energy auditors shall be done at least once every three years.

Policy 5.4 University-wide Energy Efficiency and Conservation Technologies and Practices must be implemented.

Principle 6. Sustainability

Policy 6.1 The University shall sustain the conduct of research and development on alternative energy sources.

Policy 6.2 The University shall invest on energy-efficient infrastructure and facilities.

Policy 6.3 The University shall adopt and implement relevant government issuances on energy and power generation and utilization.