POLICY AND GUIDELINES ON SUSTAINABLE USE, CONSERVATION AND RESTORATION OF LAND IN CAMPUSES AND ACTIVITIES OF UNIVERSITI MALAYSIA TERENGGANU

A. Background

Universiti Malaysia Terengganu began as Universiti Pertanian Malaysia's Centre for Fisheries and Marine Science during the year 1996. With rapid transformation, Universiti Malaysia Terengganu officially begin as full-fledged university on 2007 establishing two campuses (Kuala Nerus main campus and Bukit Kor Campus) and four research stations (Setiu Wetlands Research station, Bidong Island Research Station, Chagar Turle Conservation Research Station, Kenyir Research Station) by the year 2024. Over the main campus, uniquely situated in Mengabang Telipot, Kuala Nerus, UMT is the only university in Malaysia with 19% of its land covered by sea swamp forest making a campus high in biodiversity resources. However, the land usage in UMT had reach 70% from a total of 218 acre (main campus). Hence, application of sustainable land use concepts and development through planning and management in UMT is timely. Since land is the primary resource; the initial nature of planning and design of the site will have a long-lasting impact on the qualities of the overall environment and thus needs to be well thought out before implementation. Sustainability is an all-encompassing concept and philosophically promotes the notion of basic human needs instead of the current trend of lifestyle based on "human greed and human wants." At its simplest, sustainability is: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs". As highlighted in the Rio declaration on Environment and Development (1992), the critical balance of the interconnections between environment, economy, and society is important for a sustained global development. Since, universities and institutions of higher learning are the most appropriate centers for the promotion of sustainable development as they can make a unique contribution by knowledge creation and communication. Universities employing sustainable development initiatives can be role models for small-scale applications as well as can be an appropriate testing grounds for multi-level participation-based implementation of new sustainable measures.

B. Scope

Sustainable land use in UMT campuses/research stations refers to the complete physical environment of habitation (the natural and man-made) such as needs of students, faculty

and physical infrastructure to conduct research and academic programme. A university campus must not be seen in isolation. This site often has an overriding influence in the surrounding ecosystem. Hence, the choice of sustainable land use must be based on various economical, cultural, geographical, and feasibility factors.

For UMT campuses/research stations to achieve sustainable land use and conservation for the means of development, the following policy formulation is essential:

1. Land-conservation and preservation of specific natural habitat zone, pooling and sharing amongst compatible use zones.

2.Waste-management starting at source, processed recycling and on-site composting to avoid unnecessary waste holding site in campus.

3. Transportation-reduced travel time, encouraging mass transportation and vehicle pooling, prioritized pedestrian network rather than increasing vehicle parking space.

4. Environmental quality-reduced pollution of air, water, and noise.

5. Building design and architecture-green practices for the architecture of individual buildings ensuring sustainable practices in the mode of construction and choice of materials.

6. Landscape and ground cover-develop and maintain wood cover, reduce impenetrable ground cover, plantation using native flora, reduce building footprint and increase open space.

Design issues for consideration during site planning or for potential land use in UMT campus/research stations:

• Pattern of growth-the pattern of growth determines the structural form of the campus, linear, concentric, zonal, sectoral etc.

• Movement network-the network of movement of vehicles and people determine the efficient conservation of energy in the long term. Streamlined network integrating uninterrupted pedestrian lane throughout the campus is the single biggest challenge to avoid creating/increasing vehicle parking space.

• Location of core-referring to the main operational/functional spaces of the institute and needs to be well accessible for its users. The core often forms the pivotal point of

reference for future growth and expansion. Example: Extension of research stations, labs and office spaces.

• Building organization-a compact central campus with higher density, centralized common services for library, administrative offices, and common labs. Interconnection between buildings through covered walkways increases connectivity.

• Open space structure-apart from a central large open space intended for large institute gatherings, smaller open green covers adjoining buildings are more effectively usable as informal outdoor spaces (dual purpose green space).

C. Terminology

Sustainability	To prevent the depletion of natural or physical resources.
Intergrated land use	A spatial-based strategy to allocate land for different uses, balancing economic, social and environmental values at national or sub-national levels.

D. Preparations, implementation, enforcement and alternatives

I. Preparation: Dissemination of information

Sustainability related committee shall initiate the information and communication to UMT community/future tender holder/contractors on sustainable land usage policy.

II. Implementation

Special Task Force committee along with PPH shall be formed to coordinate the overall agenda, monitor and ensure enforcement of the policy. The policy cover administrators, faculty, non-academic staffs, and service providers (contractors). The campaign materials shall include signage, infographics and social media outlets approved by the University.

III. Enforcement

Written warnings on failure to adhere to sustainable land use plan by the service provider (contractors) and written explanation are required for first-

time offense and further punishment that are deemed suitable by the University administrators for repeated offenders.

E. Relevant committee and their responsibilities

I. **Special Task Force** shall monitor the implementation and ensure the enforcement of the policy.

II. **Pusat Pembanguna Harta (PPH)** shall ensure the selections of service provider with the background of sustainability and green engineering.

III. **Pusat Komunikasi Korporat (PKK)** shall be responsible for dissemination of information, education and communication campaign with rationale/importance of sustainable land use and conservation in campus and research station.

IV. **UMT staffs** are required to cooperate, help to educate and promote sustainable green practices to students and fellow colleagues.

V. **Students, Alumni, Guests, Cafeteria owners** shall abide by the guidelines.

VI. **Bahagian Keselamatan** shall enforce the policy in campuses/research stations and give out warnings/penalty for any reported misconduct. Example: vehicle parked on green space in campus.

VII.

F. Recommendations

This policy paper recommends the following:

Establishing the core green zone. Is is important to evolve conceptually a functional and symbolic core that will become the genius loci guiding all future sustainable green growth of UMT.

• The core green zone needs to be closely connected to the student's residential zone such that study and living become integrated during residency in the campus.

• The core green zone can ideally be connected by exclusive bicycle tracks and pedestrian paths to the residential zones to encourage walking.

• Establishing an efficient transport network-restricted motorways, uninterrupted bicycle and pedestrian paths to provide emergency/service access for heavy vehicles into the faculties.

• Establish a buffer zone between UMT and community to dissemination of knowledge on sustainable use of land and conservation to the local communities.

• Identify land pockets for conservation and preservation of local flora and fauna that is within UMT campus/research station, through a natural biodiversity management plan.

•Encourage medium/high-density building usage to gain on open land cover. Encourage smaller and more interactive green spaces instead of large, monumental open lawns/green covers within UMT.

•Encourage green building practices and energy conscious approach in the architectural design of buildings.

G. Policy Enforcement

This policy is effective from March 30, 2024.