POLICY STATEMENT ON MANAGING UP BAGUIO AS A GREEN CAMPUS* (Approved by the UPB University Council, December 3, 2012)

UP Baguio (UPB) is already often cited by various groups and sectors as a green campus. This may perhaps be a reference to the relatively extensive green open space on campus, or to its compact space and scale, which makes it convenient for students, staff, faculty and visitors to navigate the campus on foot. It may also be in recognition of a relatively long tradition of environmental consciousness among individuals and organizations on campus. There is need to further strengthen and propagate this concern for the environment, and for such concern to become one of the indelible marks of any member of the UPB community. The integration of environmental protection into the curricular, research and outreach programs of the University shall be sustained and further enhanced. At the same time, efforts to make green practices and environmental awareness and protection a part of the UP Baguio way of life shall be pursued.

I. UP's 3-fold function: Instruction, Research and Extension Service

A. Instruction

Presently, environmental concerns are already integrated into formal classroom instruction in selected courses in all three colleges. In 2011, UP Baguio carried out the Unit-based Sustainability Assessment Tool in six of the nine academic departments. This assessment tool was designed to measure the integration of sustainability concepts and issues in course syllabi and classroom instruction, and results confirmed that the academic departments have significantly incorporated sustainability into their teaching function.

In the College of Social Sciences, environmental protection and sustainability are integral to a number of courses in both the graduate and undergraduate levels. Among these are Social and Development Studies (SDS) 265: Community-Environment Relations, Social Anthropology (SA) 165: Human Ecology, and Philosophy 27: Philosophizing on Being Human. At times, special topics courses (Social Sciences 198) have also been designed to focus on environmental issues, such as Disaster Management. Environmental Psychology has also been offered as an elective under the course Psychology 195: Special Topics.

* Among the indicators generally adhered to in greenmetric university rankings worldwide are integration of environmental protection and sustainability in the academic functions of teaching, research and publications, space for campus greenery, development of sustainable sources of energy, funds dedicated to environmental and sustainability research, green building design and attention to the efficient use of water and energy, climate change adaptation and mitigation, student organizations related to the environment and sustainability.

† The most widely accepted definition of Sustainability is that introduced by the World Commission on Environment and Development, also known as the Brundtland Commission, in 1987 referring to the capability to meet the needs of the present without compromising the ability of future generations to meet their own needs.
In the College of Arts and Communication (CAC), raising environmental awareness is integrated as direct content in assigned readings and writing and reporting assignments in a number of GE courses. In undergraduate and graduate literature classes, eco-criticism is being advanced as a more recent alternative approach to critiquing literary and other cultural texts. For Fine Arts courses, more enlightened environmental practices will continue to be the subject of signs and advertisements. Teachers could advise their students to choose ecologically-sound materials for their arts projects. Other art projects could incorporate the use of more recycled materials like sawdust and other found objects. Practical projects like ‘creative’ trash cans will be sustained.

At the College of Science (CS), course syllabi in Science, Technology and Society, Geology 11, Natural Science courses and most Biology classes (like Botany, Zoology, Ecology, Microbiology, Limnology) already incorporate environmental concerns, such as climate change, biodiversity conservation, nutrient cycling or biogeochemical cycles, ecosystem management, air and water pollution and other important environmental issues. Moreover, a good number of undergraduate theses in Biology have dealt with contemporary environmental concerns and problems.

In addition, at the CS, efforts shall be made to preserve or even enhance the propagation of plant and animal species that may be used in natural science classes.

An earlier concept paper prepared by Biology faculty noted that the campus was, at one time, “a source of specimen used in Botany, Zoology, and Biology classes. These include the Pampas grass, castor oil plant, Bangka-bangkaan; insects like the Pine beetle moths, and snails. The flowing water in front of the dormitory was a source of flatworms, hydroids, and frog and snail eggs. The water is gone and so are some of these specimens. Other interesting samples of ‘carnivorous’ plants which feed on small insects (Drocera peltata var. lunulata) are also in danger of being lost.”

Perhaps it is not too late for UPB to reverse this trend. For instance, the University can look into the possibility of developing the pond into a learning space as a natural habitat for showing the life cycle of certain animal and plant species.

The medicinal and herbal garden currently being developed in the vicinity of the CS can also be tapped for instructional purposes. Currently, seedlings of the following medicinal plants have been planted and are being cared for: tangel/lemon grass, oregano, tsaang gubat, mint, sabila, takip-kuhol, guava, ikmo, yacon, damong-maria, duhat, sampaguita, rosal, lagundi, sambong, yerva Buena, and aloe vera.

In the area of curriculum development, the CS is working towards the institution of a new degree program MS Environmental and Restoration Biology. The three colleges will also look into the possibility of developing an inter-college and inter-departmental course on sustainability science.

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1. From a 1998 Proposal to Formulate an Environmental Policy for UP Baguio, based on an original proposal made by Prof. C.Austria in January 1993 for the Discipline of Biology.
B. Research

UP Baguio also has a long tradition of research related to environmental concerns.

The Cordillera Studies Center was established in 1980 as the research arm of the then Division of Social Sciences. Upon its establishment and until 1989, the CSC received funds from the Ford Foundation to undertake research on upland communities using the agro-ecosystems (AES) framework which focuses on the interaction of human communities and their environment. With its growing track record in undertaking research in this part of the country, the CSC was also designated as the Area Research and Training Center (ARTC) of the Population and Development Program of the NEDA, which undertook research on People, Resources and Environment (PRE) under two funding cycles. Research projects under a Natural Resource Management Program (NRMP) were also conducted by the CSC from 1990-2000, under the leadership of the Social Sciences faculty.

Even today, the environment and natural resources management are among the continuing research thrusts of the CSC, now the research center of the entire UP Baguio.

Faculty from the CSS and the CS have developed a research proposal for a Climate Change program under the CSC. Initial research activities under this program will investigate the level of vulnerability to climate change and resilience of selected communities in the Baguio area and surrounding municipalities.

The CAC, through its Department of Communication, completed a Joint Action Research project, the output of which is a teaching manual containing lectures, activities, and visual and audio-visual aids integrating topics on solid waste management, water conservation, and sanitation and air pollution reduction. This can be utilized as materials for the University’s NSTP lecture series on environmental awareness and disaster risk reduction, and/or extension services in elementary schools. The CAC can also contribute to the wider dissemination of environment-related research output from other units of the University through popular forms such as posters, komiks, and audio-visual presentations.

Likewise, past and present research activities at the CS are concentrated in the areas of biodiversity studies, air pollution, studies on geohazards like landslides and earthquakes, energy conservation and resource management, food security, natural products and drug development, Conus research, microbial communities in soils affected by acidic coal mine drainage in degraded land areas, coral reef restoration, microbiological investigation on biodegradable plastics, materials science (optical transparent ceramics), as well as environmental monitoring and bench marking activities. The CS is currently working on the development of interdisciplinary research proposals on water filtration system for rainwater harvesting system, recycling of polyethylene wastes to carbon nanotubes, and application of nanoparticles to several biological systems. There is also a plan to set up a Computational Modeling and Simulation laboratory to facilitate advances in the areas of modeling and simulation for multi-program areas that may also be useful for environmental monitoring and bench marking activities.
C. Extension

Environmental issues and concerns have formed a significant part of the UP Baguio’s service to the wider community. Findings of environment-related research of the CSC, the various colleges, as well as individual faculty members have formed the substantive component of these outreach activities.

Presently, UPB is centrally involved in the Balili River System Revitalization Coalition, a broad multisectoral coalition, which aims to reverse the worsening degradation of the Balili River and its tributaries, a vital waterway in the metro Baguio-La Trinidad area.

II. Greening Program

A simple ocular inspection of the campus premises will confirm that UP Baguio can proudly claim to have a substantial green cover. Based on a recently conducted inventory, there are presently 507 standing trees on campus. These trees include Benguet pine, alnus, cypress, and eucalyptus. Medium-height greenery includes jacaranda and golden shower. Recently, tree-planting activities included calliandra, known for its fire-deterring properties. UP Baguio will strive to preserve the present tree cover in planning and designing further campus development. Moreover, in its greening program, the University will abide by the Native Trees Policy of the UP System, including its Planting Guidelines and Revised Species List for the Native Trees Policy for UP Campuses.

At this time, two tree-planting projects are currently being supported and undertaken by the University. The first one is located in the lot occupied by the Residence Hall and has two components: (a) the establishment of a mini-agroforestry farm and (b) the planting of narra trees. The mini-agroforestry farm, intended to serve as a showcase and for educational purposes, is being developed on an idle strip of land situated around 20 meters from the right side of the dorm. This area will be planted to cash crops and fruit trees, specifically avocado, langka, sayote, banana and Arabica coffee. On the other hand, narra seedlings will be planted at the elevated portion behind the dorm close to the property boundary for slope protection and to develop a forested area that will serve as a natural boundary for the UP property.

The second tree planting project currently being undertaken is the establishment of an arboretum in the 4-hectare Sabquil property of the University. This arboretum will feature an assortment of different indigenous species of trees, which may be used for research and other scientific purposes. To be planted in the area will be narra, apitong, ipil, bignay, molave, yakal, dao, supa, white lauan, kamagong, bitaog, dita, red lauan, dungon, kalumpit, malaruhat, lanete, lipote, katmon, antipolo and talisay. The arboretum project aims to increase the biodiversity of the area with focus on genetic conservation; promote awareness on the urgency to preserve native, rare and endangered tree species; serve as a repository and a show-window for natural plant sanctuary; and function as a research laboratory for biologists and environmentalists.*

* From J. Barile, Establishment of an Arboretum at Sabkil, Itogon, 2012.
Beyond these two tree-planting activities currently being undertaken, other greening efforts shall henceforth be considered only within the overall campus plan for greenery development. At this time, no more student-initiated tree planting activities will be encouraged within the main academic core as the area already has a sufficient green cover. In fact, we should seriously consider at this time the suggestion that no new trees or shrubs be introduced within the academic area. Tree planting may be considered for the Sabquil property, for as long as the activity is coordinated with concerned University officers, taking into account also the overall plan for the area.

Interested student organizations will be encouraged to undertake other greening activities.

The University will undertake an office greening campaign. Adding and caring for plants inside offices can also help to absorb carbon emissions in the air.

III. Campus Development

UP Baguio will commission the preparation of a master site development plan to guide all future campus development projects.

For all forthcoming construction projects, the University will endeavor to abide by the principles of green architecture and design. This will ensure that design, construction and operation of all future facilities will have minimal environmental impact. Among the concerns that will be considered will be better use of materials and efficient use of resources, less water consumption, energy efficiency and the use of energy saving devices, and over-all cost cutting measures.

Towards this end, too, the University will encourage the conduct of studies regarding the development of alternative and renewable energy sources and facilities for its own use.

IV. Campus Operations

A. Lighting

New infrastructure projects shall incorporate the use of low energy and high efficacy lighting fixtures.

For existing buildings, the University will adhere to a policy to gradually transition towards the use of energy-saving lighting facilities, such as compact fluorescent lights or LED lights. Presently, incandescent bulbs have been phased out in the University and are no longer in use for lighting purposes. The majority of lighting facilities at present consist of fluorescent bulbs. As soon as possible, and as practicable, as existing fluorescent bulbs get busted, they shall be replaced with compact fluorescent lights or LED lights.
Where feasible, a program to redesign or retrofit the electrical layout of existing buildings will be pursued to make these more energy-efficient. The provision of taller and wider windows and the use of light-shaded tiles can also significantly reduce the need for additional lighting fixtures.

All these efforts will require the allocation of substantial resources especially during the initial period of implementation. The University is committed to pursue these efforts, as in the long run, this will generate considerable savings in the electricity consumption of the University.

In the daily operations of the University, everyone is expected and enjoined to observe conservationist standards in the use of electricity.

B. Rain harvesting

Scarcity of water supply is a perennial problem in the city of Baguio. This is the regrettable situation, even while the city also has one of the highest average annual rates of rainfall in the country. In order to augment the scarce water supply from the Baguio Water District, the University has already undertaken some efforts at rain harvesting. An existing cistern at the CSS-CSC complex is rain-fed, while another cistern at the Library is partially rain-fed.

The University shall undertake a systematic program to enhance our facilities to harvest rainwater and to channel these to feed our water requirements. This will reduce our reliance on the BWD for the provision of our water requirements, and will surely have an impact on, and help ease, the critical water situation in the city.

Everyone is expected to help ensure that there shall be no wastage of the scarce water resources of the University.

C. Reducing paper consumption

As an academic institution, we have always utilized significant quantities of paper for various reports, minutes of meetings, forms, communications, etc. The University shall endeavor to significantly cut the amount of paper consumed. This effort to reduce the level of paper consumption will have a direct impact on the paper and wood industry and will have a generally conservationist effect.

Reducing paper consumption can be done by using both sides of paper and reducing the number of hard copies produced for various documents. The University will move towards greater reliance on electronic copies of various types of documents. Official publications shall also endeavor to come up with electronic versions of these publications in order to eventually reduce the number of print copies. Whenever practicable, communication may be carried out through electronic means.
The University will also move towards the digitization of University archives. The recording of our institutional history and the storage of important University records will increasingly rely on electronic means.

All residual paper wastes shall be offered to dealers who will bring these to recycling agents, thereby reducing our impact on the waste management problem in the city.

D. Air Quality

UP Baguio is a smoke-free campus and will continue to strictly enforce existing rules that prohibit smoking within the premises of the University. Signs informing the university constituents of this policy shall remain posted in conspicuous areas on campus. Contracts governing special projects which require the temporary detail of construction workers and other laborers on campus shall include a provision requiring compliance with the smoke-free, drug-free and alcohol-free campus policy. Whenever necessary, security personnel or other civic-minded members of the community shall call the attention of visitors and other transients, including drivers, delivery personnel, etc. to said prohibition.

The University will also aspire to reduce carbon emissions within its premises. Smoke-belching vehicles will not be allowed to enter the campus. Car engines should not be left idling in the campus parking area. Burning of wastes, especially plastics and other materials that produce toxic fumes, should be avoided.

E. Waste management – Segregate, reduce, reuse, recycle

UP Baguio shall responsibly undertake a waste management program that is environmentally sound and that will not compound the already unbearable waste management situation in the city of Baguio. Waste management shall be governed by the ideal: Reduce, Reuse, Recycle. At the level of each unit, office or college, there shall be a conscious effort to reduce solid waste by adhering to the practice of reusing and recycling materials whenever possible. Efforts shall be made to minimize, if not eliminate, the use of disposable materials. Following a disciplined observance of the practice of reusing and recycling, all residual solid waste shall then be segregated into the following categories: biodegradable, paper, plastic, metal.

Laboratory wastes shall be disposed of properly in a designated area. Likewise, there shall be an area designated for the disposal of fallen pine needles. Once collected in the designated area, interested parties, both within and outside the University, may request for these pine needles as raw materials for handicraft production.

An efficient Materials Recovery Facility shall be established.
F. Minimize and eventually eliminate the use of plastics, Styrofoam, pyrotechnics and balloons in official university functions

Recognizing and acknowledging the deleterious effects of plastic, Styrofoam, pyrotechnics and balloons on the environment, all units and offices shall ensure that official functions undertaken and organized by them will not allow the use of plastics, Styrofoam and balloons for ornamentation or as food containers. The use of pyrotechnics in official University functions shall be regulated.

V. Student Services

A. Food services

Canteen operations and food services are a vital auxiliary service of the University. The operation of canteens and other food services will abide by the green campus policies of the University. The use of plastic bags, Styrofoam and other disposable materials as food containers will be initially discouraged and, in the long term, banned. Canteen concessionaires and other food providers will be encouraged to offer healthy menu options, including a vegetarian option. Likewise, the use of excessive flavor enhancers shall be discouraged in order to promote healthy food consumption. Carbonated drinks shall be discouraged and eventually phased out.

Canteen operations and other food services can generate significant volumes of waste material. In order not to burden the University’s waste management and disposal system, concessionaires and other food providers should not dispose of their generated waste materials within the premises of the University.

As part of values education and raising the environmental awareness of UP Baguio students and personnel, canteen patrons will be expected to bus the plates and utensils they use, and will be encouraged to help in the maintenance of cleanliness within canteen premises by cleaning after themselves.

B. Health Services

The University Health Services Office shall take a lead role in the promotion of a green and healthy lifestyle among the students and personnel of UP Baguio. Information and education campaigns shall be conducted in a timely manner in order to ensure that the constituents are well informed about the elements of a healthy lifestyle and the benefits that may redound from opting to observe green and healthy living.
C. Residence Hall

The UP Baguio Residence Hall serves as a temporary home on campus for some UPB students. As such, the residence hall can provide rich opportunities to promote a green and healthy lifestyle among its student-residents. The dorm management will undertake a program of activities to encourage green practices among the residents. Likewise, the dorm management is encouraged to devise its own set of specific guidelines consistent with this policy. Similarly, the occupants of the UP Baguio Walk-Up Housing may also devise specific guidelines consistent with the waste management plan, and energy and water conservation measures in this policy statement.

VI. Reducing the University's Carbon Footprint

The adoption of green principles in campus development and building design, as well as the observance of conservation measures in UPB's operations, will already contribute to a reduction in the University's carbon footprint. In an effort to further reduce its carbon footprint, the University will encourage walking and biking among its constituents as alternative means to reach the campus. For those coming from distances that preclude walking or biking, the use of public transportation, such as jeepneys, shall be encouraged. Where the use of one's own private vehicle is the preferred option, carpooling with family, neighbors, colleagues and friends shall be encouraged in order to reduce the combined carbon footprint. The University will take the initiative to declare car-less days whenever feasible.

VII. Implementation Strategies

1. The overall implementation of this Green Campus Policy Statement shall be the responsibility of the Chancellor and the Executive Staff.
2. If needed, the Chancellor may constitute a committee to further define and refine the character of UP Baguio as a Green Campus. This task may include the development of indicators and quantitative measures, targets and timeframes, regulations and enforcement.
3. The academic units and the faculty shall take the lead in further promoting the integration of environmental protection and sustainability in the teaching, research and extension functions of the University.
4. A UP Baguio Green Pledge shall be formulated and a campaign among individual faculty members, staff and students of the University shall be conducted to encourage them to personally commit themselves to this Pledge.
5. If they deem necessary, all colleges, offices and units of the University, may adopt their own set of specific guidelines consistent with this policy in order to encourage the widest possible observance of the principles herein stated.
Environmentalism as a way of life

Time and again, the UP Baguio community has declared environmentalism to be among the core values that guide our existence and development as an academic institution. The principles and measures cited in this policy statement are designed to make green practices and environmental awareness a part of the UP Baguio way of life. They are designed to encourage each of us to make a conscious decision and option to choose a green and healthy lifestyle. In the end, we, as an academic community, aspire to make a positive contribution to save our Mother Earth.