

# Role of Universities in Environmental Protection

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Ecology is becoming an important subject today because it scientifically studies the relationship between nature and living organisms as well as with their surroundings. Further, this subject investigates the unique interactions in our environment. Compared with the past it is becoming a subject much referred to due to the destruction of the natural resource base through deforestation, destroying fauna and flora, and disturbing the natural environment for various development activities. Air pollution has an adverse effect on the ozone layer.

These factors need very serious attention today. If not solved they may lead us towards various unending questions. Will man senselessly destroy the ecosystems that support life on this planet? Will he be able to maintain a sustainable earth and eventually build a new humanity?

In this context Environmental Protection is a major issue confronting the world today. It is imperative for universities to examine these environmental problems and to provide an effective and efficient way to manage them. The aim of universities is to enable communities or societies get actively involved with Environmental Decision-Making and Action in their own local areas. Focal Environmental Issues needs to be addressed. Changes should also be brought about in the environment through Environmental Protection Programmes. Universities should involve both the State and Local Governments in reorganizing Environmental Protection Programmes. Feedback from the users of these programmes can also be sought out in order to provide unique and flexible information to those who needs advice and assistance in the Community.

Many noted scholars and leaders believe that humanity has reached a pivotal point in history. Present policies on Environmental Protection may have cause environmental deterioration and deepen economic social divisions within the country, but new policies can be developed to manage and protect the environment for a better sustainability which can improve living standards of those in need.

The aim of the community is to protect and improve the environment. Effective protection of the

environment requires activity on many wide-ranging fronts - for example, from acting to limit global environmental threats (such as global warming) to safeguarding individuals from the effects of poor air quality or toxic chemicals. Actions to protect the environment also produce benefits such as housing (through improved energy efficiency of buildings), social progress (through action to combat fuel poverty) and economic growth (through more efficient use of resources, such as re-use, recycling and recovery of waste.

The university can play an important role in Education and Research for the development of intellectual framework and training of individuals who will guide society's use of natural, technical, and human resources. Through Educational and Research Missions, the university can effectively address issues of population, resource management, pollution, and social change. In managing its infrastructure, the university can strive to conduct its activities in a manner that will develop environmental awareness and fosters responsible management.

## University's Environmental Activities

University's environmental activities can be divided according to the following four sectors:

- i. **Operations and Infrastructure** : Includes all non-academic units that provide services and support to the university, such as construction, purchasing, maintenance, and human resources.
- ii. **Teaching and Research** : Encompasses numerous academic units with many leading environmental programs, from engineering to ecology.
- iii. **Student Activities** : Includes a variety of student environmental groups. Students have to play a major role initiating many campus environmental programs, such as the recycling program.
- iv. **Cross-Campus Activities** : Encompasses groups that have linked members from across the University, often focusing on a particular environmental issue.

## Need for Improvement

To address the need for improved environmental

leadership in Environmental Protection the University can focus on the following processes:

1. **Planning:** There are quite a few established universities that have developed comprehensive programs for Environmental Protection and lessons can be taken from them in planning. As an environmental leader, the University can develop an environmental mission statement that expresses the institution's commitment to environmental stewardship. In addition, the University needs to make a strategic plan to establish environmental goals, objectives, and strategies for all major campus units.
2. **Organisation:** To implement the strategic plan, the University can address environmental activities throughout the campus. In particular, there is an acute need to link the environmental affairs both within and between existing academic and operational units. Environmental literacy should be emphasized by promoting interdisciplinary, systems-oriented environmental curricula within existing academic units. Similarly, Environmental Research at the university would benefit from mechanisms to promote greater interdisciplinary collaborations. Academic and operational programs would both gain from environmental teaching and research efforts that are directed towards hands-on environmental issues facing the university's campus.
3. **Financing:** While environmental programs are not without cost, appropriate investments can lead to substantial savings. The Finance Department of the University can set up funds to promote resource conservation and pollution prevention throughout the campus. There can also be other financial incentive mechanisms to promote environmental investments, conservation behavior, and information transfer.
4. **Evaluation and Communication:** It is also important to evaluate and communicate the progress of the University's Environmental Stewardship Programs. This will mean identifying and tracking performance measures, which can be in the form of financial measures, inputs, or outputs. No matter which performance measures are used, the results should be widely available to all stakeholders at the university and to the surrounding community. Indeed, all campus constituencies from administrators to students should share in the

responsibility for the success of the university's environmental programs.

## **University Environmental Protection Committee**

A University Environment Protection Committee can also be established by the University itself for the purpose of Environmental Protection in the area. It may consist of:

- (a) The Chancellor, as Chairman;
- (b) The Vice Chancellor,
- (c) Professors, Teachers, Experts, NGOs who are actively involved in Community field work, especially at grass root level.
- (d) The Chief Commissioner/ Secretary may, from time to time, at the request of the Chancellor may attend the meetings of the Committee.

## **Functions of the Committee**

1. Set objectives and goals, and determine university policies and priorities for the protection of the environment, having due regard to the recommendations of the government;
2. Review progress made by public departments on any aspect of environmental management projects and programmes;
3. Ensure coordination and cooperation between public departments, local authorities, and other government organisations engaged in environmental protection programmes;
4. Make recommendations and provide directions as it may determine to public departments in the community;
5. Monitor and review the activities of public departments concerned with the protection and management of the environment.

## **Aims of the University for Environmental Protection**

1. Propose and develop policies on various aspects of environmental protection and management pursuant to national objectives and goals set by the government from time to time;
2. Coordinate and Monitor different activities concerning the protection and management of the environment in the community;
3. Investigate reports of pollution, spills, and other related cases;

4. Establish some sort of standards for the protection of the air, land, water and as may be necessary to safeguard the human health and the environment;
5. Carry out research and commission studies on environmental quality and related matters;
6. Prepare environmental action plans and issue reports on the state of the environment in cooperation with other public departments, the government, and non-governmental organization or associations;
7. Initiate and coordinate actions required in a state of environmental emergency or any other situations which may pose a serious threat to the environment;
8. Appoint technical advisory committees or other committees;
9. Publish and disseminate information concerning the protection of the environment;

### **Awakening of Environmental Protection**

The awakening of Environmental Protection is a process that can include the following aspects: Personality awakening. Family awakening. Village community awakening, Urban community awakening. National awakening and Global awakening.

The achievement of these six levels of awakening leads to universal awakening. To reach this state, the university can provide the education that can contribute to these aspects very effectively. To facilitate fulfillment of these goals there are ten basic human needs, like Environment, Water, Clothing, Food, Health, Housing, Communication. Energy, Education and Culture, to be satisfied. Among those needs the environment should be considered one of most important.

These nine basic human needs are universal. They are essential and indispensable to maintain human life. Therefore the universities should aim at inculcating knowledge to the communities on how to protect the environment using indigenous knowledge and that complete human personality development is achievable within a suitable environment.

The word 'environment' is used here to mean the physical, social, emotional and mental environment in which humans live. The physical environment includes the house, kitchen, latrine, well, sources of water (such as tanks, ponds, streams), garden, soil, land, vegetation, pathways leading to and from the house, neighbourhood, roads in the village, the main roads, air and all other things of physical character.

Social and emotional environment refers to the surroundings, neighbours, intellectual and spiritual development, concentration as well as factors such as noise, which may influence or lead to mental disturbances.

A clean and beautiful environment is one with unpolluted air, healthy soil and uncontaminated water suitable for human survival and devoid of unfavourable influences that make growing children go astray, and which provide them with physical and mental security while giving satisfaction and happiness in addition to a sound life-style.

### **Role of the University in Environmental Protection**

Any activity on campus, large or small, can affect the natural or physical environment. Hence, every activity on campus provides the opportunity to minimize environmental impacts and promote stewardship. Historian Paul Kennedy, in his 1993 book *Preparing for the 21st Century*, stresses "the need to respond to demographic and environmental challenges, instead of simply hoping that a solution will turn up on its own." The university, by virtue of its leadership role, has a responsibility to the community, the state, and the world to minimize the deleterious impacts of its activities on the environment and to educate others to do the same.

There may have been environmental stewardship activities on campus that deserve acknowledgment. However, several improvements can, and should, be made to make the University a true environmental leader. An increase in communication and leadership as well as a clear definition of environmental objectives and responsibilities are necessary to ensure that the University is doing its best to minimize impacts on the natural environment, teach environmental protection, and promote stewardship to the greater community.

The role of any university is to address operations, education, and research, all of which can positively affect environmental protection. It can specifically address to decision-makers and managers who can help direct and implement change, but require the attention and understanding of all members of the campus community: students, faculty, staff, and alumni. The role of the university in Environmental protection may be read as follows:

## **I. Campus Environmental Activities**

The universities can involve themselves in:

### **(a) Plant Extension**

A University can manage and oversees the planning, design, construction, and renovation of all buildings and spaces that make up the campus.

### **(b) Plant Operations**

A university can provide maintenance and custodial service to building space. Services can include utilities, grounds keeping, landscaping, waste management, recycling, public transportation, and parking.

### **(c) Occupational Safety and Environmental Health**

A university can be responsible for bio-hazardous and hazardous waste materials management, radiation safety, pollution prevention, water runoff, air and water quality compliance.

### **(d) Purchasing, Stores and Auxiliary Services**

A University also Manages and coordinates contracts and procurement for all materials and services that are consumed on campus, as well as mail and printing services.

### **(e) Other Departments**

Other departments like student welfare branch. The Information Technology branch, the Sports branch, have less-obvious environmental responsibilities, but their activities and functions yield significant environmental impacts. All of these and other activities affect natural, built, and human resources and all have the opportunity to be conducted in a more environmentally sustainable manner.

## **II. Teaching and Research Activities**

The university should have a strong reputation for interdisciplinary scholarship, and many environment-related teaching and research activities on campus in both depth and diversity. These activities fall within the university branches of Academic Departments and Research.

Research activities in the environmental area are similarly diverse. Many researchers are leaders in their fields and offer students educational opportunities in classroom, laboratory, and field

settings. As in other fields, most research opportunities focus on graduate (particularly doctoral) students, but all students can benefit from the knowledge and activity of the faculty. While much environmental research is specialized and sometimes disciplinary in nature, the university should have a number of multi-disciplinary projects, councils, institutes, and centers that address broader environmental issues.

## **III. Student Activities**

Students ought to play an important role in campus environmental stewardship through extracurricular activities and work-study programs. Several student organizations are to devote to aiding university's environmental efforts, as well as raising awareness around the campus and neighboring communities.

### **(a) Campus Environmental Protection Subcommittee**

A sub-committee consisting of students from different departments can be formed in the university's campus. The committee can help in assessing concerns of the university and highlight the areas of concern. For example, the sub-committee can; establish an indoor air quality monitoring program. Begin a waste source reduction program to improve the existing waste reduction program. Develop long-term plans and discussions with the other institutions in the community in order for the university to achieve its goals. Identify waste disposal and storage sites (both hazardous and non-hazardous). Establish a database of pesticide usage. Identify and enforce vehicular restrictions in order to improve pedestrian and green spaces. Facilitate micro planning of public spaces. Increase awareness of University hazardous chemicals. Begin to collect information on the University's use of scarce/valuable resources (water and energy)

### **(b) Pollution Prevention Project**

In this student-initiated activity, students can examine pollution prevention opportunities at the University. Working with faculty and staff, the students can conduct an environmental audit of the campus; developed a framework for implementing programmes for Environmental Protection.

### **(c) Management Project**

Students can also initiated project on

Environmental Management. For example a team of three or four students can examine solid waste management at the university.

#### ***(d) Dialogue with Members of the University***

Students can have a dialogue with campus planners and administrators and host a forum to discuss an ecological approach in the university's landscape. Potential activities can be identified, including demonstration projects, improving community input in landscape designs, and increasing the use of native plant species. The University authorities can help students to set the stage for future collaborative projects.

#### ***(e) An Experimental Course can be introduced in various departments of the University***

An experimental course can be designed to involve students in academically challenging projects that would help to prevent pollution and conserve resources. The classroom component of the course can introduce the preventive approach to environmental management. This can help to bridge academic and operational sectors of the university.

In many ways, these activities can demonstrate the challenges that typically confront environmental managers - working with a variety of stakeholders and balancing economic, environmental, and other considerations. Individual projects conducted by students may be successful but their total impact might be limited because they are not part of a larger, broader environmental initiative on campus. But to fully capitalize on the synergy of these individual efforts, active and coordinated environmental leadership is needed.

### **IV. Planning for Environmental Leadership**

The university can also play an important leadership role and bear a responsibility to the larger community to minimize its impacts on the environment; to use natural, and human resources in a manner that develops environmental awareness; and to foster an ethic and culture of environmental stewardship. Leadership is not static. The university should strive for continual improvement through its initiative. This initiative should focus on the quality of customer service and the end product. However, total quality cannot occur in an environment characterized by high resource use, energy consumption, or waste. Other initiatives - pollution

prevention, energy efficiency, waste reduction, best management practices - can be integrated into the university's mission to achieve Total Quality Environmental Management. Environmental leadership is necessary for any university to effectively utilize its resources to foster a sustainable society through teaching, research, and operational activities.

### **V. Enhancing Environmental Education and Literacy**

Broadly speaking, the educational experience for students should promote interdisciplinary sensitivity and systems-oriented thinking. This integration, an inherent part of scholarship in all disciplines, is particularly crucial in Environmental Education. Environmental topics can provide an excellent vehicle for integrative and systematic thinking while at the same time promoting environmental literacy. Undergraduate programs should offer cross-disciplinary environmental literacy programs that promote synthesis and integration. Professional schools, graduate programs, and continuing education programs could continue to define their educational mission in a unit- or program-based approach, but students should be made aware of and encouraged to participate in environmental education opportunities. New courses should be encouraged to extend beyond disciplinary boundaries and to incorporate innovative teaching approaches. For example, opportunities exist to connect the growing interest in service learning with campus environmental stewardship.

### **VI. Promoting Environmental Research**

The faculty and the administration at the university have to recognize that environmental research can benefit from pooled resources and facilitation of multi-disciplinary interaction. However, research activities are dominated by "bottom-up" (researcher-initiated) projects, conducted by individual staff, centers, institutes, and other entities. Many of these activities are disciplinary in nature, responding to specific requests from funding agencies, foundations, and industry.

The university administration can respond to this problem with several initiatives, e.g., conducting surveys of environmentally related research. Researchers and others in the university community

would benefit from an electronic forum, an announcement list, an environmental publication, a comprehensive distribution list of interested individuals, a campus-wide environmental lecture series, and/or other mechanisms aimed at facilitating communication, involvement, and collaboration.

## **VI. Evaluating and Communicating Progress**

Ultimately, each unit within the university will need to identify the data, and it should track to evaluate its progress toward achieving its goals. Progress should be widely publicized so that all units can be educated and inspired.

## **Conclusion**

Thus, Chancellors, Vice Chancellors and faculties in universities should recognizing the importance of environmental issues, and enact policies, establish committees, and host programs to make environmental stewardship a top priority. The scope and vision of environmental programs at universities can show potential for greater accomplishments on their own campuses. Thus, when the University commits itself to an important issue, great things can happen. If it does so, there is no doubt it will become a preeminent environmental leader. To make the commitment, the University must define its environmental objectives in the form of a mission statement, and develop a strategic plan to achieve its goals.

An environmental mission or policy statement is a commitment to environmental protection and stewardship that sets norms and expectations on the community's behavior. University leaders can set the tone by soliciting input and involvement from all stakeholders to design a mission statement that reflects the commitment of the entire university community.

Universities from all regions should be deeply concerned about the unprecedented scale and speed of environmental pollution and degradation, and the depletion of natural resources. Urgent actions are needed to address these fundamental problems and reverse the trends. University heads must provide the leadership and support to mobilize internal and external resources so that their institutions respond to this urgent challenge.

The university can use every opportunity to raise public, government, industry, foundation, and university awareness by publicly addressing the

urgent need to move toward an environmentally sustainable future. Create programs to develop the capability of university faculty to teach environmental literacy to all undergraduate, graduate and professional school students. Set an example of environmental responsibility by establishing programs of resource conservation, recycling, and waste reduction at the universities. Convene school deans and environmental practitioners to develop research, policy, information exchange programs, and curricula for an environmentally sustainable future.

Many organizational mechanisms can increase functional integration within and between academic and operational units. The most ambitious of which would be the establishment of an office to coordinate all environmental functions. Activities that would be the responsibility of this office or coordinated among existing units or departments include: Forming cross-campus committees to recommend proactive environmental activities and coordinate environmental issues of campus-wide concern; to ensure their effectiveness, these committees would need diverse membership involving students, faculty, and staff, as well as the ability to make recommendations to the administration and implement real changes; setting up a telephone number, World Wide Web site, and electronic-mail address to provide consistent access points for campus environmental information; and sponsoring regular forums and workshops to bring together and inform audiences from across the campus. Ideally, these events would be interdisciplinary, co-sponsored by several units, and publicized widely. Producing an annual environmental report that integrates campus environmental information should be made available in a variety of communication forms. Issuing a directory of environmental contacts, indexed by topic and by operational, education, and research sectors is also necessary. Expanding the university's initiative to promote a cross-functional team approach to environmental management and pollution prevention is required. These and other coordinating activities require staff and time that could be obtained by, in many cases, reassigning personnel and using student interns in partnership with existing staff; or by establishing new part-time or full-time positions. The benefits of increased coordination and awareness will far exceed the relatively small costs required to implement these organizational adjustments. □