INSPIRATION FROM NATURE AND CULTURE FOR A JOINT ATTITUDE TOWARD THE 21ST CENTURY

Professor Nur Sozen
Department of Landscape Architecture
Ankara University
Turkey

One of the most frequently used slogans of our time is "Global Thinking." But, as a result of ignorance and lack of proper policies, it seems to remain a slogan only. The concept of bio-diplomacy can be systematised as a very significant instrument and joint action. Over the centuries, we have witnessed the use of diplomacy to raise public awareness in various areas, mainly in the interests of individuals or small groups, over less significant matters which have focused on material values. The ego-centric attitude adopted by human society has been the main basis of our training and relations, shaping all our methods of diplomacy and concentrating all our efforts accordingly. Now, at last, a few individuals, NGO's and academic groups are emphasising the dependency of humanity on bios for its survival. But the term bios must be considered in a broad sense, since it covers every form of life, together with relationships between life-supporting systems and every aspect of culture, as indispensable elements of bios. Now the time has come to raise awareness and create a mission for bio-diplomacy. To be successful, we need all the effort and knowledge we can use, share and exchange.

Bios-Sustainability of Life

The creative process of human life depends on the mutual relationships between natural and cultural environments and the harmony between them. This brings interdependence, instead of competition, into the discussion. The life element, in other words, bios, is based on and fed by the environment, which functions as the main source. Life and environment are so closely interrelated and interdependent that considering them as separate elements leads to a flawed perception of the phenomenon of bios as a whole. On the other hand, the environment with all its elements is neither constant nor homogenous. On the contrary, it varies according to the life-forms it supports, or the life-forms vary, according to the intrinsic features of the environment. And the environment, also varies as a reflection of the individual characteristics of humanity. In other words, ever since humans have existed on our planet, they have been trying to understand their environment in order to make the maximum benefit from it, to support their life and welfare. This attitude results in a managed and shaped environment which is a clear reflection of the level of human intelligence.

Although we often seem to doubt our level of intelligence, looking at the evidence resulting from our misunderstanding of the inherited culture, regardless of its location, is likely to remain the main source of knowledge, experience and information for us, when evaluating the unique relationship between bio-environment and bio-culture.

The traditions and beliefs of our ancestors produced a series of spiritual criteria which they used for judging, and which had a remarkable controlling power over the agents who were responsible for environmental degradation. But contemporary civilisation, based on science and technology, is concentrating all its efforts on conquering yet more of nature, for the benefit of humanity. We need to define the concept of "benefit" properly because, throughout the history of civilisation, there has been evidence of short-term benefits which have resulted in great long-term losses. Or, for the benefit of some groups, others have been harmed. But ignorance of the human societies, or other forms of life which have been affected by some disasters or threatened by extinction, has very often resulted in a very high price, which has had to be paid by the rest of the forms of bios. The whole system, which covers living and non-living things, or potential elements of life, can only remain operational and sustain itself through endless sophisticated chain relations, which are delicately balanced. Every form of life or potential element of life, or bios material is necessary for natural, biological, and ecological processes. Culture is obviously one function of these processes.

Although all living organisms, including the human, have always shaped their environment to meet their basic needs, ever since life started, in known form, on our planet; almost up to the end of seventeenth century, few deliberate acts by humans were against the environment or resulted in environmental disasters, mass destruction or habitat destruction. Unlike humans, other forms of life do not harm their environment deliberately. If they change their behaviour and cause destruction, the main cause is again found to be human action and the corruption of their environment as a result of such acts. If life can be considered as a single system, the increasing occupancy by certain species, e.g. humans, leaves less space for others. Other forms of life either become extinct, in which case the co-existing forms also become extinct, or they have to change their way of life and behaviour in order to sustain themselves and survive. The resulting phenomenon might not be acceptable. Humanity's crimes against nature and the environment remained limited to certain localities and regions and, of course, controlled by its technological powers. The limitations of exploitation were strictly related to technology. "Modern" and "advanced" societies have remained...
extremely ignorant of the problems of other people, living in remote places and, although they advocate care for nature and the environment, their main interest has been focused on making more profit, consuming more of the resources and increasing the amount of Gross National Product per capita. Until the 1970's the undermining and detrimental effect of this so-called economic and industrial miracle was not understood, or was perhaps overlooked. The rapid evaluation of recent data has clearly indicated the necessity for a different approach to the matter. But is it easy to change our mentality, give up some of the comfortable amenities and change our habits of consumption?

Humans versus Bios

Until very recently it was believed that if people cleaned their surrounding area, everywhere would be kept clean. Toward the end of the 1980's, we were all astonished to see that the waste, which had been removed from our front doors, had been piling up in somebody else's backyard. The scientific report, Concern for Tomorrow, published in 1988 in the Netherlands, describes this phenomenon very clearly on a five-level model: local, the developed environment; regional, the landscape; fluvial, the river basins and coastal seas; continental, air and ocean currents; and global, the higher air layers. Each level has its own problems, yet they all affect one another.

Local environmental problems can contribute to problems at higher levels. And, conversely, global problems have effects all the way down to the local level. The higher the level, the longer it takes before the problems can be detected. It also takes more effort, is more difficult to handle and overcome, and it is longer before any counter-action has an effect.

Acidifying substances provide a good example. Totally ignoring the warnings about the risks of these substances, more power plants, based on fossil fuels, were constructed to meet the increasing energy demand. This immediately increased health problems at local level. To try to solve this, taller stacks were built, and the result was far from being a solution. It merely distributed the acidifying substances over larger areas and resulted in acid rain falling hundreds of kilometres away, killing various organisms, destroying forests, land and water habitats, affecting agricultural crops, and damaging buildings and cultural property all over Europe. By the time these kinds of consequences had become clearly evident, the problem had already been lifted from local to regional, fluvial, and continental levels respectively. The next level is global and, on this scale, the main considerations will be focused on ozone-layer depletion and climate change. These problems make no distinction between nations or people because, at that level of national boundaries, differences between rich and poor cannot be seen.

The environment can tolerate a certain load of various waste materials, but continuous overloading exceeds its capacity for recovery. The longer and more intense the assault on the environment, the longer and more difficult is its recovery. In spite of all the experience we have inherited from our ancestors, and all our technological advantages, as we move toward the next millennium we still do not seem to understand much about ecology, the interdependence of the biological and physical worlds, nor the place of cultural progress within this context.

Take water as an example; although almost all the physical and chemical properties and behaviour of this amazing substance have been discovered, we still remain unaware of some facts in practical terms. This has never been more important, since the whole world is facing a serious shortage of usable fresh water. In principle, there is sufficient fresh water available, continuously being refreshed by the hydrological cycle. The total volume of water on the earth is about 14.1017 m3, which would correspond to a layer of 2,700 m in depth, if spread evenly over the earth's surface. This might seem quite sufficient, but 97.4% of it is salt water, 1.9% is ice, and only 0.7% is fresh water. This means there is only 1016 m3 fresh liquid water available for the wide variety of life-forms on land. This amount would correspond to a layer of 70 m in thickness, if spread evenly over the total land surface. This amount still seems impressive but, only 1% of it is surface water, while 99% is underground. As we rely on fresh surface water, which is the most convenient source, pouring and dumping every kind of waste into it is incomprehensible; since it causes contamination by organic materials, nutrients, heavy metals, and synthetic chemicals, of domestic, agricultural and industrial origin. Contaminated surface water also contaminates ground water, leading to a very strange problem - dehydration. This would be like dying of thirst in the middle of the ocean. Other cycles can also be explained in a similar way.

A Rising Awareness

As far as in-depth concern for the environment goes, the year 1962, when Rachel Carson clearly explained the absolute reality of the interconnectedness of bios with the physical environment, in her book, Silent Spring, can be seen as a milestone. As soon as the book was published she faced much criticism and was blamed for resisting development but time has shown how true was her evaluation. Garry Commoner emphasised linkages and feedback mechanisms in 1966 when he wrote in Science and Survival: "The separation of the laws of nature is a human conceit; nature itself is an integrated whole." At the same time others started questioning the pressure of the human population on the limited resources of the planet earth. The population in 1900 was 1.5 billion, which had doubled by the 1960's, and is set to double again by the year 2000. This was the subject of Ehrlich's, The Population Bomb, in 1968, in which predictions were concentrated on overloading the earth's resources, and increasing mortality, as a result of wide-spread disease and starvation. This fact had also been explained as early as 1789 by Malthus, in terms of mathematical expressions. The same subject was clarified in the Club of Rome's, Limits to Growth, where the interactions between population, resources, pollution, agriculture and capital were set out within a systems framework. These are not necessarily new concepts. For example, ancient Mayans believed that every creation was followed by a destruction, which was followed by a new creation but, within this endless cycle, none of the new creations are the same as previous ones.
In spite of increasing awareness between the 1970's and 1980's, not much was done and the 1992 Rio Summit was turned into a showcase. It greatly enabled political leaders to show how committed they were to the issue and perhaps increased their anticipated number of votes.

Oldies but Goldies

As we pass another milestone and approach the 21st century, most of us feel confused because we have been asked to change our consumer habits and make a radical and sharp U-turn, which can be summarised in three words, or stages: Reduce, Reuse and Recycle.

The first stage, Reduction, introduces a new ethic and is, of course, valuable ecologically and educationally. The Reuse stage is much more far-reaching, than the Reduction stage, in reducing consumption and improving the quality of life. Recycling is the stage where previous materials and wastes are processed to provide the raw material for other uses. All three are closely related to sustainability, in which social justice is a compulsory element. Sustainable de-velopment and ecological planning are closely interrelated and this relationship can be explained in terms of the following principles:

- Protect, Preserve and Restore the Natural Environment. On Earth Day 1991, Ian McHarg said, "The fine art of the 21st century will be that of the restoration of the natural environment. We need not only a better view of humans and nature, but a working method, by which the least of us can ensure that the product of our work is not more despoliation." We must act on our growing awareness that a healthy ecosystem and natural environment must be the foundation for all that we do. The natural environment, our life-support system, creates the required quality of life. An environmental approach can produce more attractive products, with higher sales value.
- Establish True-Cost Pricing as the Basis of Economic Viability. Within this context, long-term economic gains and all the elements of bios are valued above short-term monetary profits. Sustainability of the environment and social values are also included in the calculations. This means including pollution mitigation costs, related medical expenses, loss of pay, acid rain and damage to buildings, forests etc., in the balance sheet.
- Support Local Production. Local production and market organisation of goods reduces dependency on imported material, and transport, and promotes self-sufficient communities.
- Encourage the Development of Ecological Communities. All our planning approaches need to be revised to establish integrated, ecological systems, especially for regions which are not yet developed. This kind of planning requires solutions.
- More Efficient Transportation, Communication and Production Systems. Long-term sustainability aims to move information and materials, instead of people, through the use of advanced technologies. Clean and quiet means of transport and vast communication potential such as fax, CD-ROM, computers, information networks, etc., are already in use. Advanced production systems can create new ways of handling industry so that the environment is not damaged. Changing attitudes would create new jobs and increase employment.
- Maximise Conservation Efforts and Develop Renewable Resources. The use of conservation technology, instead of mass consumption-oriented technology, reduces heavy pressure on energy, water and materials. As a result of conservation, pollution is reduced and the cost of waste management is minimised.
- Establishment of Efficient and Reliable Recycling Programmes. Humanity has been disrupting the recycling processes of nature increasingly over the past 100 years. All human societies process natural resources in a linear way, transforming them immediately into harmful wastes. We have polluted the earth and if we take the trouble to clean it up, it might be clean and healthy again, so that we can continue living. Therefore we must stop dumping and start recycling, re-using everything, as well as developing industries to use recycled materials.

Unity of Plurality

After all these confusing explanations, the basic principles of natural order and ecology can offer great assistance. To understand natural processes, we must see the patterns and forms within nature and discover their roles, as well as operations, within the system. More effort and action is required to study the physical and biological processes that are responsible for organising the environment. As our perception is closely related to our understanding and interpretation of nature, so our evaluations are based only on our own viewpoints and are limited by the amount of information we gather. Ways and means of perception must be increased. Our studies of nature are mainly based on observations, supported by the rich bank of information we have inherited from past cultures, theories and experiments. We need to raise the knowledge level of scientists, and place natural and environmental sciences at the level they deserve. We also need to create the necessary links between natural sciences and social sciences. For example, sociology, social anthropology, archaeology, geography and others can provide the most valuable informational-input, to create more reliable studies in the natural and environmental sciences.

Finally, as we claim to globalise our efforts, we have to realise that not much has been done, so far, in favour of bio-diplomacy, compared to the motivated mass-movements supporting less significant matters of only local or regional interest. Remaining unaware of the fact that life on earth is a single system, operating according to its own rules and laws, we have been trying to form groups of societies based on the same materialistic interests and, quite naively, we think we can keep these problems at bay, outside the artificial boundaries we have created. But
once the system starts disfunctioning somewhere, unpredictable chain-reactions can cause impacts and disasters in even the remotest places, regardless of political, economic, national or geographical boundaries. These thoughts are expressed best by Leopold (1949), who states: "Sustainable activities are the ones that do not destabilise the larger scale biotic and abiotic systems on which future generations will depend." Sustainable resource management and Bio-diplomacy must, therefore, concentrate on protecting the health and integrity of ecological systems.

**Conclusion**

I would like to end my presentation by touching briefly on James Lovelock's Gaia Hypothesis. Gaia is the name ancient Greeks called the Earth Goddess who nourished and cared for all, as her own children. She gave birth to everything; everything originated from her and went back to her. In ancient Greece, governing authorities were rewarded or punished according to the appearance of the land. To understand the philosophy behind Gaia, Lovelock had to deal with a confusing concept of life. The planet earth is considered "a living planet." In other words, Gaia is not limited to the biosphere, which is described as only the part of the earth where living things exist; nor is it the same as Biotica, which is only the collection of living organisms. Biosphere and Biota together form a part, but not all, of Gaia. If the world is made unfit by what we do, there is the possibility of a changing of regime to one that will be better for life, but not necessarily better for us. The only living part of the cosmos, as far as we know, the earth, makes it so clear to us, with its moist, gleaming membrane of blue sky, swirling clouds and the whole system in endless motion. Yes, the whole system is alive. We only need an eye to see, a heart to feel and a healthy mind to perceive.

If we have not developed these basic skills yet, we can go back to our religious and ethical teachings and try to understand the real messages, instead of practising them superficially. The mystic explanations of all religions, such as Buddhism, Hinduism, monotheistic religions, pantheistic or Sufi beliefs, or even beliefs which we consider "primitive," as a result of our ignorance, or lack of knowledge, can provide the inspiration needed for us to open our eyes and start thinking and questioning. This might be a good way to start changing our unfriendly and destructive attitude toward each other, and Gaia. But for real progress we shall have to learn more, because all our learning and life-practice is still based on the concept of the superiority of ourselves and our ideas to others. As a judgement, made by ourselves, this has no value or validity. The objective evidence is clearly expressed in the form of environmental damage and loss, rather than well planned gains. If we could only understand that all forms and ways of Bios and abiotic material are indispensable parts of a single life-system, it would be much easier to develop a reliable bio-diplomatic attitude.

**References**


**Professor Nur Sozen** completed her doctoral studies at Ankara University. In 1988, she became full professor at the Department of Landscape Architecture and, from 1988-1992, also co-ordinated the university's international relations activities. Since 1993, she has been Local Director of the Med-Campus project on "Masters Degree Courses on Environmental Management." She is also on the steering committee of the International Centre for Advanced Mediterranean Agricultural Studies. Professor Sozen has published extensively and her area of expertise includes all aspects of environmental issues.