



THE ROLE OF PARTNERSHIP OF EDUCATIONAL INSTITUTIONS IN SUSTAINABILITY AND ECOLOGIC PRESERVATION

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RESUMO

Deterioração do meio ambiente é agora uma característica comum em todo o planeta, mas seus efeitos parecem ser mais grave nos países em desenvolvimento. Paradoxalmente, os países em desenvolvimento são mais ricos em termos de diversidade biológica, bem como em tamanho e densidade dos vários recursos naturais, mas o poder econômico dos países desenvolvidos, colocou uma enorme pressão para tirar proveito desses recursos em benefício próprio. Exemplos históricos não faltam e atuais para suportar esta afirmação. No entanto, estudiosos de instituições de ensino em todos os lugares compartilham uma preocupação com a preservação da biodiversidade e de sustentabilidade. Por isso, defendemos que através de uma parceria adequada entre as instituições de ensino e pesquisa, é possível criar uma consciência sobre a irreversibilidade do dano ecológico, a relevância de promover a sustentabilidade ea necessidade de impor mandatos e regulamentos internacionais.

Palavras-chave: educação ambiental; gestão ambiental; parceria; instituições de ensino e pesquisa; interdisciplinaridade.

RESUMEN

El deterioro del ambiente es una característica comun en todo el planeta, pero sus efectos parecen ser más severos en los países en desarrollo. De manera paradójica, los países en desarrollo son mas ricos en términos de biodiversidad, así como en el tamaño y densidad de variados recursos naturales, pero el poder económico de los países desarrollados ejerce una enorme presion para obtener provecho de esos recursos en beneficio propio. Los ejemplos tanto históricos como actuales para suportar esta afirmación no escasean. No obstante, los académicos en instituciones de enseñanza en todos el mundo comparten una preocupación por la conservación de la biodiversidad y de la sustentabilidad. Por ello, se propone que mediante una asociación académica adecuada entre diversas instituciones de enseñanza e investigación, es posible crear conciencia sobre la irreversibilidad del daño ecológico, la importancia de promover la sustentabilidad influir en la normatividad y reglamentación internacional relativa.

Palabras clave: educación ambiental; gestión ambiental; asociación académica; instituciones de enseñanza e investigación; iinterdisciplinariedad.

INTRODUCTION

Globalization, in essence an economic phenomenon, according to its supporters triggers competition, promotes gender equity, facilitates social progress, and improves living standards (MICKLETHWAIT and WOOLDRIDGE 2000). Critics, however, attribute to globalization a long list of societal ills, including rising inequality and poverty, environmental mismanagement, and the narrowing of the scope of democracy. It also neglects notions such as culture, identity, and social capital, among others (DE HAAN, 2000; MÉSINI, 2004). In fact, despite the economic progress made in quite a number of developing countries, up to 50% of the world population is still excluded from this progress. Globalization is also interpreted as localization, meaning a close association between homogenization and diversity, or between the global and the local. Diversity is not limited to socio-cultural domains but it is observed in economic and political domains too. Globalization-localization has important consequences for livelihood. It is expected that the importance of the international and the local level will increase to the detriment of the national level (RIGGS, 2002).

One common challenge for all the countries relates to creating economies and societies based on knowledge. Such societies are expected to thrust a country towards development by meeting international standards as a result of the constant production of local innovations and knowledge. In general terms, Knowledge Society refers to any society where knowledge is the primary production resource instead of capital and labor. It may also refer to the use a certain society gives to information. A Knowledge Society "creates, shares and uses knowledge for the prosperity and well-being of its people" (UNESCO, 2005).

Knowledge always has had a central role in economic growth and social welfare. However, the accelerated production of knowledge and the emphasis on innovation nowadays have placed knowledge as the most precious good. Thus, the acquisition and creation of new knowledge for a country's technological competence is seen as a prerequisite for its economic growth and development (HOWELLS, 2002; MALECKI, 2000). If knowledge and knowledge management are keys for the development of Latin American countries, it is mandatory to have an active role in the economy of knowledge through the creation and consolidation of more communities able of acquiring, communicating, and producing knowledge. Also, the creation of complex collaborative networks is required to participate in an interactive process where communication, learning, and social interactions are critical (HOLSAPPLE, 2002).

From its origin back in the middle age, universities have been in charge of forming the intellectual elite. From them emerge the professionals, technicians, and scholars who lead society. Universities must also be responsible for educating the people who will create proper human conditions where all the potential talents in society flourish and reach its maximum expression. Some researchers had pointed out to the paramount role that humanities have in teaching sciences as a vital element for making the transit toward an inclusive knowledge society where social justice prevails (BOK, 1982).

Traditionally, universities and other high education institutions serve their public through interrelated programs of instruction, research, extension, and professional service. A common goal of higher education is to assure that all students, regardless of disciplinary major, acquire literacy in science and technology, an understanding of humane and ethical values, an awareness of the

intellectual, historical, and artistic foundations of our culture, sensitivity to other cultures and to international concerns. All in all, the University carries out its traditional mission of discovering, developing, disseminating, and preserving knowledge (HEYNEMAN, 2003).

Universities have among their functions the creation, examination and critical reflection on knowledge in their immediate reality. However, the universities must face to apparently contradictory trends. On one hand, profitability and student terminal efficiency push them to play according to economic and political interests under a budget constraint. On the other, the social role of the university and its vocation guides them in their quest for quality, innovation, community service, social commitment, and the search of knowledge *per se* (SUBOTZKY, 1999). As this new culture of an “entrepreneurship” university permeates into the institution roots, the traditional dynamic of conceiving, organizing, and controlling knowledge is eroded since following a utilitarian orientation subverts the humanists’ goals (AGÜERO- IBÁÑEZ et al., 2005). Current higher education requires an adjustment according to the social and economic demands, but avoiding becoming just another tool for the prevalent economic model. As an integral part of the learning process, University fosters the discovery and dissemination of new knowledge by supporting research, scholarship, and creative activity. The University also uses existing knowledge to address problems and issues of concern at the local level, as well as related to the national and global community. Ideally, the University's endeavors in discovery and innovation are supported by public and private resources and are conducted in an environment of open scientific inquiry and academic freedom. Also, scientific research generated in higher education institutions is of particular relevance for the national science and technology systems, and for the local and regional development processes.

Estenssoro (2009) foresees that as the XXI century progresses, environmental issues will be one of the determinant factors for future international relationships and policies among diverse countries on a worldwide basis. Environmental issues will emerge as a new factor for power. Future conflicts will relate to current internal and external structures among countries, but also to world hegemonic centers. If the environmental crisis worsens, its solutions may require taking more stringent actions, so Latin American countries must revise their role in the new emerging order, considering their vast natural resources and ecosystems. In this regard, Gligo (2001) summarized the main trends and challenges for the environment in Latin America, and the required policies to support environmental sustainability and preserve natural resources. The objective of this document is to propose a partnership among diverse educational and research institutions in Latin America as a way to create awareness about the irreversibility of ecological damage, stress the relevance of promoting sustainability, and the need to create and enforce international policies, mandates and regulations.

BACKGROUND OF ENVIRONMENT AND RELATED EDUCATIONAL INITIATIVES

Bramwell (1989) summarize the evolution and trends of environmental education prior to 1990. The 1960s was an era of rising environmental consciousness, linked to growing awareness of the human-made risks of scientific and technological development. The 1970s started a mainstream affirmation of the environmental issues early activists from the 1960s, such as Rachel Carson and Murray Bookchin had warned of (CARLSON, 2002; HERBER, 1962). By the 1970s, the term

environment became an umbrella under which new research and teaching programs began to cluster, as a result, it became clear that university curricula needed to respond to the increasing volume of knowledge. Also, in the 1960s and 1970s, social scientists' interest in the concept environmental attitude increased. In the United States first, and then abroad, there was a great deal of concern relating to the environment during the 1970s decade: the Ohio Cayahoga River caught fire in 1969 capturing national attention; the first Earth Day was held on April 22, 1970; the National Environmental Policy Act was signed that same year; and energy conservation became a primary goal in the mid and late 1970s as oil embargoes severely impacted the United States and other developed countries (BARSKY and LUTZ, 2004). As a result of these and many other incidents, funding for research directed at the environment and human interaction with the environment became more of a priority.

Dunlap and Van Liere (1978) summarized their efforts to measure a fairly new environmental mind-set they and other researchers believed was becoming a predominant influence. At the time, many social scientists believed that a "paradigmatic" shift was occurring. People were becoming disenchanted with the so-called "Dominant Social Paradigm," which emphasized human ability to control and manage the environment, limitless natural resources, private property rights, and unlimited industrial growth. The New Environmental Paradigm, on the other hand, emphasized environmental protection, limited industrial growth, and population control, among other issues, basically based on the cooperation of the human being with nature. Dunlap and Van Liere developed the New Environmental Paradigm scale to measure this mind-set. Since its development, the scale has been used in many other studies--both replicating as well as modifying the scale. Many of the studies conducted since then have questioned whether in fact a paradigmatic shift is occurring or has occurred, but most researchers agree that the 12-items scale developed by Dunlap and Van Liere is considered one valid measure of environmental attitude. Agreement and disagreement with these statements constitute acceptance or rejection of the New Environmental Paradigm.

In its report "Our Common Future", the World Commission on Environment and Development (BRUNDTLAND, 1987) connected the challenges of saving the environment and the fight against poverty. The Brundtland Report defined 'sustainable' as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.

In the 1992 Earth Summit in Rio de Janeiro, Brazil, it was evident that new conceptual tools for understanding environmental phenomena on a planetary scale—such as sustainability, vulnerability, and precaution—required unprecedented collaboration among all fields of knowledge. Environmental studies took place in contexts where disciplinary perspectives predominated, and conservatism with respect to cross-cutting appointments and promotions raised barriers against scholars working on problem definitions that were not rooted in traditional disciplines (JASANOFF and MARTELLO, 2004).

The Global Development Research Center (GDRC) endorses and supports the initiative of the UN to designate the decade of 2005 - 2014 as the 'UN Decade of Education for Sustainable Development'. Much of the work of GDRC focuses on incorporating sustainability concerns within everyday decisions (Global Development Research Center (GDRC), 2000).

As institutions of education and learning, the higher education sector has a significant role to play in implementing the United Nations Decade of Education for Sustainable Development (2005–2014). Some institutions have already acknowledged, and are shaping, their roles in working

towards sustainability through appropriate development and implementation of institutional policies and practices, including the signing of international agreements related to sustainability (UNESCO, 1998). Such institutions are specifically linking learning to sustainable development (FIEN and TILBURY, 1996). The United Nations Environment Program (UNEP) is supporting a partnership program to mainstream environment and sustainability concerns into the teaching, research, community engagement and management of universities. UNEP includes an Education for Sustainable Development Innovations short course developed and implemented by partners (to strengthen capacity to establish such innovations in universities), pilot programs linking universities, communities and business and industry in sustainable development partnerships, etc.

Another important experience is the Regional Centres of Expertise (RCEs) on Education for Sustainable Development (ESD) promoted by the United Nations University. An RCE is a network of existing formal, non-formal and informal education organizations, mobilized to deliver ESD to a regional community. A network of RCEs worldwide will constitute the Global Learning Space for Sustainable Development. RCEs aspire to achieve the goals of the UN Decade of EDS, by translating its global objectives into the context of the local community in which it operates. As of April 2008, there were fifty-five RCEs globally –many of them are based in local universities (Mochizuki and Fadeeva, 2008). This global process was created to support the implementation of the United Nations Decade of Education for Sustainable Development (DESD, 2005-2014) (UNESCO, 2004).

At the regional Latin American level, there are some efforts worth mentioning. The 12 points of the “Carta de Bogotá” resulting from the First Latin American Seminar on University and Environment held in Colombia in 1985, emphasized the relevance of including an environmental dimension into higher education programs. Particular attention was given to the fact that environmental problems cannot be understood without considering the way Latin America participates in the international context, and the relevant role universities plays providing knowledge and alternatives for development and emancipation from the traditional subordination role that Latin American countries have been immersed into. Of course, the environmental dimension cannot be considered alone, but always articulated with the socio-politic, economic, and educational dimensions. The new responsibility of Latin American universities relies on their ability to develop their own scientific and technological capabilities, and mobilize the potential productivity of human and natural resources in the region to create innovative and useful knowledge able of promoting successful strategies and development alternatives (GONZÁLEZ GAUDIANO, 1989).

There is at least one concrete join effort, the authors are aware of, in which universities deal with environmental issues. This initiative, who currently groups 15 Mexican universities, has been running successfully for 10 years. The Consortium offers a collaborative space to the coordinators of environmental programs in universities to share and apply environmental concepts into their institutions, so to have an institutional environmental program inside each university is a requisite to be a member (COMPLEXUS. 2000). Even though this consortium has expanded since its inception, it still lacks an international dimension and some presence outside the university campus.

THE PARTNERSHIP PROPOSAL

It is widely acknowledged that universities are a central institution in the knowledge society. Aside from this recognition in proving knowledge and human resources, higher education institutions in general, and universities in particular, are regarded as depositaries of culture and promoters of economic, social and cultural development among nations. Our vision of the relevant social role that higher education is called upon to play toward sustainable development in the world, and particularly in Latin America, drive us to propose a partnership primarily among higher education and research institutions (eg. EMBRAPA in Brazil, INTA in Argentina, and INIFAP in Mexico) for Environmental Education. Such alliance aims to stimulate a global network of excellence for environmental education and research that will not only facilitate student and faculty mobility, but will also contribute to harmonization and quality enhancement of environmental education worldwide.

Contributing to poverty reduction stood out as the human and social development challenge that is the highest priority. Poverty reduction is a key challenge in achieving the goal of sustainable developed societies. It demands a sound analytical understanding of what drives human and social development reform, drawing lessons from examples of good practice that have yielded successful results and replicating them elsewhere, with due attention to the underlying dynamics of each context. The partnership proposed in this paper encompasses various lines of action that can be organized under different headings:

Curriculum in higher education institutions

Most universities recognize the necessity and urgency of sustainable development, and are convinced of the role of higher education in sustainable development and support initiatives to integrate sustainable development in higher education. In a framework of vision and strategy, curricula and graduation conditions should be adapted to new realities and adequate to educational forms, developing a problem-oriented curriculum, as well as proper methods and supporting resources. Special attention must be given to overcoming the compartmentalization of knowledge and linking policy and practice integrating concepts such as sustainability, community engagement, development, and poverty alleviation strategies transversally in all university.

Many universities participate in a network of institutions aiming to include sustainable development aspects in their curricula. An important dimension of this networking has been the formation of partnerships with existing regional initiatives. Also, national initiatives have undertaken environmental education initiatives within this good practice involving sustained partnerships.

Science and Research for Sustainable Development

Most of the implications of science and research with regard to sustainable development can be grouped under one or more of these three aspects: ethical, environmental and social. In relation to science and research, universities have responded to changing perceptions of them as social institutions, and of their shaping functions in society. To meet the challenges head on, universities

will need to develop a fuller, more historically informed sense of their own institutional missions, not only as incubators for the production of new scientific knowledge and technological know-how, but also as sites of capacity-building for social analysis, critical reflection and, not least, democratic citizenship (JASANOFF and MARTELLO, 2004).

Research as the production of knowledge must include both new-to-the-world discoveries and inventions and situation-specific inquiries in order to apply knowledge to development. Increasing the capacity of researchers and of knowledge users is an essential element of research development in developing countries. The political and social contribution of knowledge must take into consideration the uniqueness of a society and its stage of development, including the population's level of education, the knowledge capital and infrastructure, national competitiveness and indigenous values. The role of higher education institutions has to be appropriate and responsive to different societal needs (SUWANWELA, 2008). Technology has the potential to help create environments for the sharing and exchange of knowledge among scientists. Moreover, further research is urgently required in how to promote, transfer and scale up good practice. In order to gain a better knowledge is necessary to start a collaborative research in partnership with some regional and international organizations. Common effort must aim to identify the extent to which sustainability is developed in universities, as well as to map the progress of their experience and examples of good practice.

Interdisciplinary cooperation is a way to close the gap resulting from the modern fragmentation of knowledge. Regional agreements, either formal or informal, are required to integrate science and technology systems providing appropriate answers to international situations, but with a focus in solving local problems. Policies favoring environmental research and technical development in the universities must be a priority for Latin America.

The link with civil society

Each individual in the world have the right to a healthy, safe, and diverse environment, but people require to internalize the need of this right as a basic strategy for the defense of other equally important rights, such as the right to life and the right to education. To guarantee social development in a sustainable way will ensure a better quality of life for future generations. Environmental education is vital for empowering the new generations. Active participation developing cooperative strategies, tools and practices for sensitizing the public about environmental concerns is a must.

A critical review of the processes shaping the human development agendas would suggest that universities have been mostly followers of the discourse of environmental education, rather than its creators or champions. Of course, many individual scholars have contributed immensely to shaping these ideas, and their contributions must be acknowledged. Nevertheless, in national and international debates on sustainability and ecologic preservation, the new player has been civil society. Citizen groups, associations, NGOs, not-for-profit research institutes and independent think tanks (as civil society actors) have been very active in identifying, analyzing and articulating these issues of equity, justice, inclusion and rights. Some civil society organization and universities around the world are working together on this issue, responding to these opportunities, and this example must certainly be imitated.

Diverse activities to preserve the Environment

Universities can forge closer cooperation with different government and non-government institutions at different levels, in order to protect the environment and promote sustainable use of natural resources, and in diverse activities such as: transboundary environmental pollution reduction, biological diversity and natural heritage conservation, application of best practices, sustainable water resource management (including groundwater, coastal and marine environment), sustainable forest management, urban environmental management and governance, responsible mining and minerals development, public awareness and environmental education, multilateral environmental agreements, in particular climate change and chemical and chemical waste related conventions and partnerships, as well as air quality management.

Higher education institutions can also enhance cooperation in capacity building for countries in the area of environment through exchanges of knowledge and experiences between and among government authorities, institutions and experts, either by the provision of training courses and scholarships, or holding consultations on environmental matters on a regular basis.

Cooperation with regional and international institutions on environment-related matters can also be strengthened, promoting at the same time sustainable development as a means to reduce negative aspects of development on the environment.

Universities must promote a commitment to find and bring together relevant examples of good practice, facilitating the required knowledge exchange and the scaling up of successful experiences to bring about change within higher education institutions around the world.

Finally, it is important to take advantage of universities expertise and scholarship to serve as a consulting organ for governments and international agencies on environmental policies, mandates and regulations. Furthermore, higher education institutions must take a more active role enforcing laws and policies, at both, national and international levels. Universities must also support a public management policy to promote adequate environmental legislation and educate properly the environmental managers at different levels. These actions might help to articulate other diverse activities on environmental management and influence positively decision-making regarding environmental issues.

CONCLUSIONS

The main aim of the proposed partnership for Environmental Education is to foster an international excellence and mobility network for environmental education and research by ensuring that students and faculty develop and apply globally relevant skills and knowledge for solving environmental problems in diverse international contexts. Sustainability is at the core of this proposal, since sustainability problems hinge on threats to food security, poverty, disease, land degradation, water security, climate change, conflicts, deforestation, natural disasters, and urbanization.

Even as several of the examples of possible cooperation areas illustrate different forms of social commitment, they all reflect a strong interest on the part of the academics to determine higher

education institutions activities in relation to the particular needs of Latin American. We need to develop an integrated institutional policy framework for sustainability and human and social development, integrating the concept of sustainability transversally into our institutions but keeping at the same time an open transdisciplinary approach. Changes in these and other areas need to be taken into account in working out long-term strategies for environmental management.

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