

EMERGING ACADEMIC RESPONSIBILITIES AND OPPORTUNITIES FOR PROMOTING REGIONAL SUSTAINABILITY & FULFILLING THE Millennium Development Goals

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Abstract

Academics have had numerous responsibilities during the centuries. However, now with global climate changes and the attendant, looming crises, it is increasingly crucial that administrators, faculty members, graduate, undergraduate students, staff members and alumni work together with governmental, non-governmental and industrial members in envisioning societies that are truly sustainable. The visions must then be effectively and efficiently implemented in numerous locations throughout the world in regionally adapted societal experiments that will help to ensure that our children's, children's, children's children and beyond will enjoy this wonderful planet. The UN Decade of Education for Sustainable Development (DESD) is an excellent framework within which academics can increasingly work to make the dramatic changes that are urgently needed. The DESD can then be implemented in the context of the *The U.N. Millennium Development Goals* (MDG) and the "Earth Charter" as further framing and challenging inputs to guide our education, research and outreach that will help to ensure sustainable cities and regions within the global context.

Keywords: UN Decade of Education for Sustainable Development, DESD, UN. Millennium Development Goals, MDG, Earth Charter, Academic responsibilities.

1. Introduction

1.1. Prologue

Academics, throughout the world are being challenged to go beyond the limits of their disciplines and to work interdisciplinarily in some or all of their teaching and research but at the same time they are usually judged by their peers based upon what they do or do not do within the narrow confines of their 'disciplines!'

As a result of this continuing dichotomy many faculty members, especially younger ones feel that they are caught in a dilemma. On the one hand they are convinced that issues pertaining to sustainability are tremendously important and that they must research and teach in these areas; however they also know that it is often the 'KISS OF THEIR PROFESSIONAL DEATH' if they do not publish a certain number of 'scholarly' papers in peer reviewed journals within the narrow limits of their 'discipline!'

Within this on-going and challenging area, this speaker will wrestle with the urgent contextual arena that increasing numbers of academics are beginning to address so that they can be leaders in helping to develop new generations of 'change agents

for sustainability,' and thereby help to ensure that our children's, children's, children's, children will also have a habitation that is humane, equitable and sustainable for them and for subsequent generations. The author hopes that the presentation and these notes will help all of you as you return to your academic institutions and to your broader communities within which you are or will be working for SD.

1.2. The Urgent Context of the need for SD-related academic efforts by more and more faculty throughout the world

In spite of some efforts of human population control, as of 2007 we are still annually adding 70,000,000 humans to this finite planet!

At the same time it is increasingly evident that the cumulative impacts of humans are already rapidly exceeding the ecological limits of the earth to sustain humans and other species. The evidence from rapidly disappearing glaciers, Arctic, Antarctica and Greenland ice melting, to spreading deserts, as well as the dramatic increases in frequency and severity of storms, that humans are dramatically contributing to global climate modifications!

In a recent article by Brown (2006), it is clear that human-induced climate and eco-system changes are resulting in dramatic acceleration in challenges for humans to survive, as illustrated by the following information:

- Between 1950–1975, China lost productive land to deserts at the rate of 1,560 sq km/yr. However, by 2000 China was losing land at the rate of 2,480 sq km/yr!
- In recent years Afghanistan lost 100 villages and Iran lost 124 villages due to advancing deserts,
- Nigeria with a 4x increase in population from 33 million to 134 million between 1950 and 2006 had an 11x increase in domestic animal population and lost 3,400 sq km to deserts.
- At the same time as the desert areas are increasing, globally, the sea level is also rising. For example, due to thermal expansion and to glacial ice melt, during the 1900s, the sea level rose 15 cm. It is projected to rise 9 – 80 cm during the current century.
- If all or most of the earth’s mountaintop glaciers and if the ice of Greenland, Arctic and Antarctic icecaps melts, the sea level is projected to rise by at least 7,000 cm!
- In addition, therefore to the decreasing fertile areas for food production, there are rapidly increasing numbers of people who are changing from being vegetarians or primarily vegetarians to being carnivores.

(It takes 10X more primary energy per person and thus, more agricultural land to support them in being carnivores than if they/we were vegetarians.)

Additionally, add to the equation the current policies throughout the EU, Brazil, the U.S., South Africa, Indonesia and many other countries to promote the production and use of ‘bio-based fuels’ . This is further, dramatically increasing competition for use of valuable agricultural for the production of Fuel, Food, Feed (FFF)! The competition among these three F’s may increase human mal-nutrition, make global warming worse and further accelerate the ecological destruction that is already at crisis levels in many parts of the world. *(At least this three FFF trade-off must be researched intensively in the near future before we make too many serious mistakes!!!)*

As another input to our decision-making process of if or how we are to work within SD, the data presented in Fig. 1, reveal that during the period, 1950–1999, dramatic increases in damages occurred that are directly attributable to ‘Natural Disasters.’ In addition to the increases in economic losses, a related phenomenon is clear; increasing proportions of the losses are not covered by any type of insurance. Consequently, the costs to families, companies, municipalities, regions and nations are increasingly bringing about dramatic increases in challenges to their social, psychological, ecological and economic well-being.

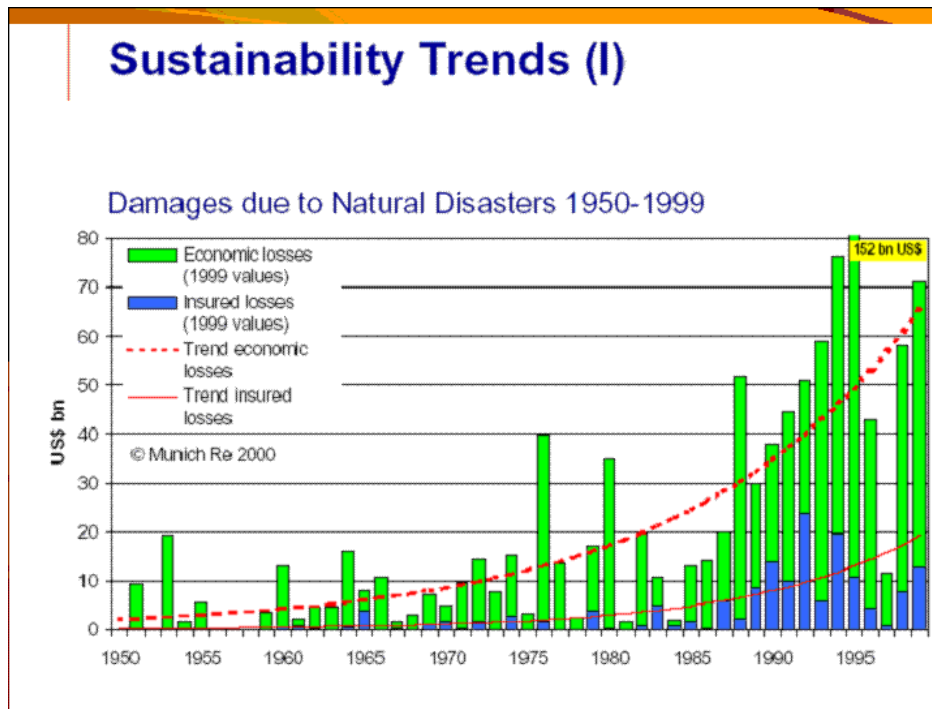


Fig. 1. According to the Munich Re Company, damages due to ‘Natural Disasters’ from 1950 – 1999 clearly reveal a rapid increase in insured losses and an even greater increase in un-insured damages.

Numerous examples of similar data can be used to underscore that the challenge to make the transition to ‘Sustainable Societies’ is increasingly urgent and may be becoming increasingly difficult to achieve!

Therefore, what should we as faculty, students and staff of colleges and universities do? How can we more effectively to help to ensure that our research results and our educational approaches help to develop societal members who are more effective and capable of anticipating, preventing and mitigating the challenges of climate change, poverty, ethnic strife and the vast array of interconnected problems throughout their communities, regions, nations and globally?

In the following sections, the author highlights some of the changes that are needed and some of the tools and international movements that are working to help academics to become increasingly skilled and effective in researching and teaching within the multi-faceted nature of these issues. An excellent diagram that underscores this multi-faceted nature of sustainability is illustrated by the ‘Diamond of Sustainability,’ developed by Mr. Bo Kjellén, of Sweden. It helps one to visualize the complex array of interconnected facets that must be addressed as we work to help societies make progress toward sustainable life-styles that will ensure that our future societies will respect and work to live within the carrying capacity of the earth’s eco-systems. We must also ensure that we effectively enlist, engage and empower all humans to individually and collectively to work together to make SD a reality and not only a DREAM OR AN IDEAL!

Clearly, it is essential for us to increasingly work inter-disciplinarily in our research and teaching so that we learn to deal with these interconnections and learn how to effectively challenge our students to do the same.

We need to work with political leaders, industrialists, NGOs, members of religious organizations and other stakeholders in enlisting and empowering their involvement in the SD journey.

2. Some of the international organizational responses to these challenges

2.1. ‘The UN Decade of Education for Sustainable Development’ (DESD)

University faculty, generally, do not feel comfortable in working in such a complex array of disciplines. Rather they were taught to specialize in one sub-discipline so they can ‘KNOW’ all there is to know in that area and thus can push back the frontiers of knowledge, at least in that area. However, it is increasingly clear that if we are to make real progress in solving present problems and in anticipating and preventing future ones, we must increasingly become skilled in thinking and working interdisciplinarily. Similarly, we must increasingly educate your students in such multi-disciplinary and trans-disciplinary thinking, education and research.

Realizing that faculty members, worldwide need help in this kind of complex work, the UN

decided to designate “The UN Decade of Education for Sustainable Development (DESD).

The DESD was officially launched at the UN headquarters in New York March 1, 2005 by UNESCO’s DG, Mr. Koichiro Matsuura. The DESD is scheduled to continue from 2005 to 2014. In his launch presentation, Mr. Matsuura stated (<http://www.dfes.gov.uk/aboutus/sd>):

There can be few more pressing and critical goals for the future of humankind than to ensure steady improvement in the quality of life for this and future generations, in a way that respects our common heritage – the planet we live on. As people we seek positive change for ourselves, our children and grandchildren; we must do it in ways that respect the right of all to do so. To do this we must learn constantly – about ourselves, our potential, our limitations, our relationships, our society, our environment and our world.

Education for sustainable development is a life-wide and lifelong endeavor which challenges individuals, institutions and societies to view tomorrow as a day that belongs to all of us, or it will not belong to anyone.

UNESCO and The UNU in Japan are co-ordinating much of the educational material’s development and training efforts of DESD in order to assist educators, at all levels, to learn about and to have access to high quality course and curricular materials that will help them to more effectively teach their students how to work in the interdisciplinary fields related to helping societies make the transition away from un-sustainability to sustainability.

The leaders of the 2002 U.N. Johannesburg Summit not only proposed and supported the development of the DESD but they also developed and launched efforts to achieve the “Millennium Development Goals,” (MDG) and the “Education for All Dakar Framework for Action as integral to the DESD for achieving SD.

2.2. “The U.N Millennium Development Goals” (MDG)

What are the MDGs and how might we as faculty use them in our research and teaching?

The MDGs are:

1. Eradicate extreme poverty and hunger;
2. Achieve universal primary education;
3. Promote gender equality and empower women;
4. Reduce child mortality;
5. Improve maternal health;
6. Combat HIV/AIDS, malaria and other diseases;
7. Ensure environmental sustainability;
8. Develop a global partnership for development.

These MDGs are certainly a giant challenge, which if not properly addressed will result in further acceleration of un-sustainable development. Will it be possible to achieve these goals in one decade, two decades, four decades? Many say no, that is impossible! Others say yes, although it is a giant challenge, but if we work together we can make tremendous progress, furthermore, WE MUST DO IT! Certainly, progress in achieving the MDGs will

be impossible if we do not have the collective will and commitment to work intensively, consistently and in the long-term to solve them.

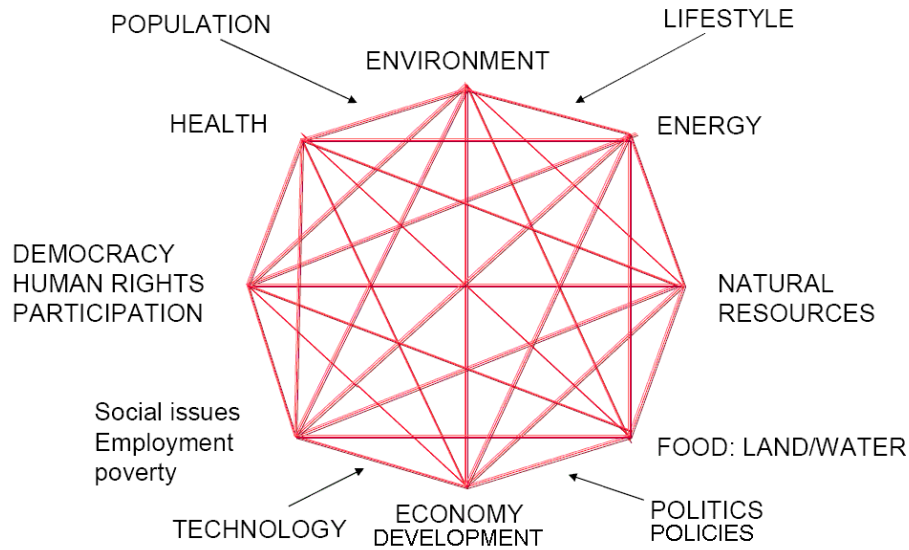


Fig. 2. The ‘Diamond of Sustainability’, developed by Mr. Bo Kjellén, of Sweden, highlights some of the multi-faceted and interconnected aspects that must be addressed in helping societies make the transition to sustainable patterns.

In this context, the former UN secretary-General Kofi A. Annan made the following statement as he officially launched the MDGs that were supported by representatives of all nations assembled at the Johannesburg 2002 conference (UN MDG, 2005):

We will have time to reach the Millennium Development Goals, worldwide and in most, or even all, individual countries, but only if we break with business as usual. We cannot win overnight. Success will require sustained action across the entire decade between now and the deadline. It takes time to train the teachers, nurses and engineers; to build the roads, schools and hospitals; to grow the small and large businesses able to create the jobs and income needed. So we must start now. And we must more than double global development assistance over the next few years. Nothing less will help to achieve the goals.

Although some faculty members have already incorporated the “Millennium Development Goals,” (MDG) into their teaching, most have not done so. What new academic programs, or course and curricular materials could be developed and utilized that would help to ensure that faculty and students are not only aware of the MDGs but are also actively involved in helping to address them through their courses and research. Academic administrators must also take active leadership in supporting such efforts.

2.3. The Earth Charter

An extremely valuable tool that many academic leaders are finding to be useful in their teaching of SD is “The Earth Charter.”

What is “The Earth Charter (EC)?” It is a declaration of fundamental principles for building a just, sustainable and peaceful global society in the 21st Century. It was developed as a mandate from the 1992 Rio Earth Summit, under the leadership of Maurice Strong, the secretary general of the Earth summit and by Mikhail Gorbachev, President of the Green Cross International. They jointly, launched a global, multi-year effort to engage people from throughout the world in drafting and debating its principles that serve as the aspirations of the emerging global civil society.

The EC was launched in 2001 and is available on-line in 32 languages. The EC team developed supportive educational and training materials to help in its use and implementation (<http://www.earthcharter.org/>)

The following are the four key principles of the EC:

1. Respect and care for the community of life;
2. Ecological integrity;
3. Social and economic justice;
4. Democracy, non-violence and peace.

The four central principles are subdivided into 16 supportive principles that amplify upon the multiple dimensions of what must be addressed as we seek to make progress toward more sustainable and equitable societies.

Because there is much within the EC that challenges many of our staunchly held academic norms, it has received mixed reactions from many academics. Some have tossed it out immediately as too idealistic or as too biased. Others, however, are finding that it provides a valuable framework within which we as educators can focus comprehensively and systematically upon the issues of SD; thus it can help us as to re-vise our courses and curricula and to re-focus our research to more adequately address the pressing SD issues that require our attention NOW (Huisingsh, 2006)!

3. General conclusions

Several decades ago, E.F. Schumacher, stated, "*We must begin to see the possibilities of evolving a new lifestyle, with new methods of production and new patterns of consumption; a life-style designed for permanence.*"

His challenge is even more important now than when he first made it as the human population continues to increase and continues to threaten the very life-support systems upon which all species are mutually interdependent upon for their continuing existence.

Fortunately, with the DESD, the Earth Charter, the MDGs and numerous other efforts, faculty and administrators have tools to work with and have increasing numbers of faculty colleagues who agree that if we don't work together, there will not be societies in the future.

Many academic authors are experimenting with new course and curricular content and approaches. Many other authors are reporting upon the successes and lessons learned sustainable regional development.

One such set of articles was recently assembled and published in The Journal of Cleaner Production. The issue contains 33 articles from

academic authors from many universities throughout the world (Lozano Garcia et al., 2006).

The authors of the articles highlight their work in courses on SD as well as on their regional SD efforts. Many emphasize that increasingly, students are demanding these types of educational and community-based experiences in their undergraduate and graduate programs.

The interdisciplinary nature of almost all of the articles underscores that the faculty, administrators and students realize that SD problems will not be solved solely by discipline-oriented efforts but in multi-disciplinary teams that also work with disciplinary specialists. It is also essential that stakeholders from all aspects of society work together in envisioning and in implementing "- - - - a new lifestyle, with new methods of production and new patterns of consumption; a life-style designed for permanence."

Let's join our hearts, minds and wills to make it happen, globally within the coming decades!!!

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