

ENVIRONMENTAL EDUCATION FOR SUSTAINABILITY

© Szabolcs SIMON
(Apor Vilmos Catholic College, Vác, Hungary)

simon.szabolcs@avkf.hu

Our modern way of life is placing an increasing burden on the planet, and this will lead to a disaster. The health of our planet is put to a risk and this will determine our future and no one's well-being can be secure if the environment is not protected.

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Our aim is to reach a better quality of life and on this road a new way of thinking is needed. We need to think in a profoundly different way about how we organise our lives and work and our education system. We should open more doorways to sustainability. Many schools, organizations and companies do a lot for a better environment. Recycling bottles and giving charity to people in need are good initiatives but not enough. Sustainability thinking inspires people in all parts of the world to find solutions to global problems.

Education is one of the key ways to develop sustainability thinking. Sustainability issues can be easily integrated into a range of curriculum areas and schools if they provide real-world learning opportunities can create globally responsible citizens who make the world a better place. Schools in co-operation with civil society groups can establish their own sustainable development strategies to promote and support sustainability thinking in education.

Global problems now worry not only scientists but they challenge more and more often the individual and the whole society in everyday life matters. Leaders of the economic world together or individually seek solutions to these urgent problems. The change in our environment and the challenge in the economic life have their effects on the structure of education as well. It is not easy for the representatives of the environmental economics and educational economics and decision makers in the financial sector in a debate to concur but we must try to reach an agreement.

Education as a key way to social change not only imparts general and specific information and teaches different skills but inculcates values as well. And as such it has many ways to shape a new way of thinking and enhance the change in the different segments of our society. Without values education cannot fulfil its mission and can only lead to ineffectual learning.

Sustainability and environmental issues should however not be limited to science teaching but should be integrated into other fields of education as well. Schools teaching values therefore should establish relations with civil society groups, governmental, church and business institutions and organizations to promote attitude change.

World competitiveness and structural reforms

The Lisbon European Council adopted a programme of economic reform in March 2000 to make the EU the most competitive and dynamic knowledge-based economy in the world by 2010. In order to achieve this goal or as later modified to be one of the most competitive economies, the EU Heads of State and Government invited the Commission and the Member States to build a strategy to eliminate the obstacles to the free movement of services. But due to unfavourable demographic trends with the ratio of working age population to total population falling there are fewer and fewer producers for every consumer and recipient of transfers. Besides these productivity growth is declining as labour quality is dropping and investment growth is slowing. Structural reforms might counteract the impact of the declining capital/labour ratio due to insufficient investment growth.

Gros D. (2005) claims that structural reforms are not enough though as they cannot change some fundamental parameters such as negative trends in demographics or in a declining capital-labour ratio. The key reason for failure is that policy decisions are determined by short-term considerations. Despite the reform of the Stability and Growth Pact agreed in 2005 policy-makers are looking for excuses to continue their wrong policy that emphasises short-term expediency at the expense of longer-run gains. Thus structural reforms in fiscal policy is needed as well. A fiscal policy oriented towards the long run could make it easier to maintain the capital-labour ratio and hence productivity growth.

Knowledge, intelligence, values and workforce

Although the world's population is tightly connected via globalisation of economies and information flows the gap between the developed and the developing worlds afflicts scientists in the aspects of education and communication. Courses focusing on global change and environment are already expanding rapidly in universities around the world.

In Hungary the number of students in higher education has grown but unfortunately the level of quality of education has dropped in many cases and there is a structural problem with the education system. On the one hand there are too many students studying arts, law and economics on the other hand there is severe shortage of students majoring in engineering, medicine and sciences especially students graduating with two degrees and competence in foreign languages. These aspects should be considered in the future when making policies. (Vértes, 2007; Adler & Munkácsy, 2007; Kiss, 2005)

Education is seen as a three fold process in Indian culture. It imparts general and specific information, teaches skills and inculcates values. The first education commission of India headed by *S. Radhakrishnan* realized that no amount of factual information would turn ordinary men into educated or virtuous men unless something is awakened in them. Traditional Indian culture is far from narrow self centered way of thinking. It promotes *Viswasreyas*, the universal welfare and collective happiness. Unfortunately policy makers in modern education seem to neglect the ethical values, which should form the substratum of any good education, and this leads to decadent, empty learning. Education should therefore be value oriented and the future lies in the hands of those who can put education on the right track again (Burra, 2007).

L. Thurow claimed that "the dominant competitive weapon of the twenty-first century will be the education and skills of the workforce" (Csath, 2001:147) Education is crucial in the progress as knowledge and intelligence have become key components of competitiveness and this can only be achieved if decision makers agree on a value based and responsible policy to enhance sustainability. (Csath, 2001). Mackey J. (2005)¹ depicts a new form of capitalism that tries to create value not only for investors, but for all the stakeholders such as customers, employees, vendors, communities, and the environment.

Human development and economic growth

An Environment Agency report (Walker & Mitchell & Fairburn & Smith, 2003) highlights an important area of environmental inequality:

"Poor local environmental quality and differing ease of access to environmental goods and services have a detrimental effect on the quality of life experienced by deprived communities and socially excluded groups and can reinforce deprivation if not tackled alongside access to employment, health and tackling crime."

Economic growth in itself does not imply human development. Education and health alone cannot develop economy as foreign and local investment and overall policy environment all determine economic performance but human development also has a bearing on these factors. The strong two-way linkage between human development and economic growth show claim that economic growth being an input into human development will not be sustained without progress in human development (Ranis & Stewart, 2005).

Corporate social responsibility

There has been a suspicion about the social and environmental implications of business in recent years all over the world. Financial crises from the US to Asia, accounting and remuneration scandals, (such as Enron, WorldCom, Ahold and Parmalat, or Satyam scandal in India) have led to growing demand for transparency.

On the basis of the analysis of recent sustainability reportings by Fortune Global companies, it has become clear that companies have started to give information on corporate governance and increase transparency and accountability. Overall, 65% of the companies reported on sustainability and this is a remarkable increase compared to reportings in earlier years (Kolk 2008; Kolk, 2003). As Kolk (2008:12) suggests "learning how to balance different interests, making choices and implementing and explaining them in a transparent manner is the very nature of sustainability (corporate responsibility) and corporate governance". But multinational enterprises are confronted with a multitude of requests from shareholders and other stakeholders in various markets with frequent changes in regulations and governance and it is a real challenge for them to find balance.

The environmental agency model developed by Power (1991) is broadened to include a whole range of aspects. As a result of recent scandals multinational companies seem to be trying to avoid risks and unfortunately it is not obvious whether this helps to increase accountability. The influence of

¹ Rethinking the Social Responsibility of Business A Reason debate featuring Milton Friedman, Whole Foods' John Mackey, and Cypress Semiconductor's T. J. Rodgers October 2005 <http://www.reason.com/news/show/32239.html>

corporate governance reforms on business ethics forms basis for some recent research (Rossouw, 2005; Whetten & Rands & Godfrey, 2002). Kolk A. (2008) analysed the recent growing increase in accountability pressures on multinational enterprises as well. Results show that from two different angles sustainability and corporate governance imply accountability efforts that seem to show some overlap. Accountability requirements are starting to cover staff-related, and ethical aspects as well and sustainability reporting has also emerged. Sustainability reporting is defined broadly and includes ethics, environmental and social issues (sometimes called 'corporate social responsibility' or labeled as 'triple bottom line' (people, planet, profit) reporting. Through sustainability reporting when integrated with corporate governance companies can address a wider audience and can cover both the company - shareholder and company - society relationships.

The human-environment relationship

The far-reaching transformation of Earth's environment is now apparent due to the numbers and activities of people. Global change began centuries ago but this transformation has undergone a profound acceleration during the second half of the 20th century. During the last 100 years human population increased from one to six billion and economic activity increased nearly 10-fold between 1950 and 2000. Half of Earth's land surface has been domesticated for direct human use. The evidence that these changes are affecting the basic functioning of the Earth System, particularly the climate, grows stronger every year but global change is more than climate change.

More than a decade ago it was recognised that the Earth behaves as a system that life itself helps to control. In this system the oceans, atmosphere and land, and the living and non-living parts are all connected. But this working hypothesis can only form the basis for global change research if we understand how the Earth works as a system, we therefore should first understand feedback mechanisms and the dynamics controlling the system. Achieving global sustainability demands answers to several critical questions. Global change research has provided answers to many important questions, but in the process has generated new questions as well.

An integrative Earth System Science is already beginning to unfold and it tries to depict the nature of changes in the Earth system over the next decades, and understand the nature of abrupt and extreme events processed through nature-society interactions among several many other key questions. Environmental systems do not often behave regularly and predictably but rather manifest chaotic dynamics or abrupt transitions. These systems usually become even more complicated when human activities are involved and unfortunately human activities can drive changes with catastrophic consequences for the Earth system. In order to cope with these challenges Earth System science can take advantage of the considerable progress made in the field of environmental sciences and other complex systems analysis (Steffen & Elliot, 2004).

Conclusion

The challenges of a rapidly changing Earth demand new strategies, and new policies. Global change challenges both science and society and scientists must transfer knowledge base to policy makers, resource managers and the general public to support societal action. Ethical aspects of business and education are inevitable in the progress. Education in order to be successful

should be value based and enhance responsibility to provide workforce for sustainable economy. Environmental sciences should take an integrative approach to analyse the Earth as a system and seek solutions to global change.

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