

# BIO-ECONOMICS\* REDEFINING THE CONCEPT OF PROFIT

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\* The concept of Bio-Economics was first developed by Dr. Agni Vlavianos-Arvanitis in 1985  
(See *Biopolitics – Dimensions of Biology*, 1985)

## Environment – a "genuine" profit for society

In view of the heightened contemporary understanding of the close relationship between the environment and development, economic actors are key players in the drive to tie business to environmental protection. Preserving the wealth and beauty of the natural world, securing the health of the Earth's population, providing fair rules of trade, and guaranteeing equal educational opportunities for every country in the world can be a source of genuine profit, both monetary and social. The issue of "quality of life" needs to assume top priority, along with culture and education. Moreover, the concept of profit has to be redefined and encompass elements which constitute a "genuine" profit for society: culture, internal wealth, preservation of natural resources, better health and the protection of biodiversity, as a measurable part of a nation's prosperity.

The world is experiencing a range of hurdles with regard to seeking a compromise between the legitimate needs of development and the fragile environmental balances. Poor countries overuse their resource base and, thereby, their natural environment. The sale of raw materials in oversaturated markets leads to falling prices, which in turn reduces net proceeds. Because of such conditions, appeals to protect the environment are ignored or often met with derision. The conflict between the industrial countries' ongoing economic growth and the developing countries' undisputed need for growth, on the one hand and, the negative environmental effects of energy and raw material intensive utilisation on the other, cannot be solved in the present framework.

Environmentally-sound guidelines are discussed and arrogated at the negotiating table, but in real life directives all too often do not reach national decision making. An approach combining the consensus and consent of the people, as well as that of governments and international institutions, is essential in order to prevent economies from expanding without due concern for the environmental repercussions of uncontrolled growth. Corporations and entrepreneurs can work together to tackle these challenges and tread lightly on the planet in their business endeavours. At same time, a grassroots mobilisation and public participation, on both the local and international levels, can enhance the establishment of bios-supporting economic strategies and initiatives world-wide.

## Three-dimensional economics

Conventional business and national accounting are inadequate for the implementation of long-term economic policies. Economic growth is largely being measured in terms of goods and income categories only, while the effects of this on the stock and quality of resources – natural capital – are not adequately considered. Traditional economics approaches are generally limited to "two-dimensional" analyses. However, this current fragmented and limited picture of economic theory needs to be replaced by a "three-

dimensional" approach, where the value of culture, human capital, education, natural resources, and biodiversity will factor in every equation and diagram.

Financially poorer nations may be richer in cultural values, art, tradition or biodiversity. These elements represent an enrichment for the entire planet and cannot keep being ignored by economists. Evaluations of GNP and trade potential should therefore evolve to include all the above mentioned parameters and place special emphasis on the urgent task of safeguarding the environment. Policies for economic growth and employment opportunities, on a global level, can be structured according to biocentric principles and thus be more effective in countering poverty, national debts, environmental deterioration and unfair trade developments.

| <b>Bio-Environment</b>           |   |
|----------------------------------|---|
| <b>Quality of Life</b>           | • Health - Safety - Justice - Happiness - Co-existence with all forms of life. External and Internal Wealth - Micro-Environment - Macro-Environment |
| <b>Ethical Values</b>            | • Diachronic Values for Society - New Criteria for Business Compatible with Quality of Life   |
| <b>Legislation</b>               | • National - Global - Bios Rights - Bio-Diversity - Global Warming - Ozone Depletion - Overpopulation - Poverty - Deprivation                       |
| <b>Macro and Micro-Economics</b> | • Time and Space Scale - Historical Perspective - Millennium Approach - Cleaner Production  |
| <b>Bio-Diplomacy</b>             | • Interdependence - International Cooperation - Third World Viewed as Partner   |
| <b>International Commerce</b>    | • Durable Development - Internalizing External Costs - Consumer Protection  |
| <b>Governance</b>                | • New Models of Participatory Democracy - World Referendum - Defense for Bios   |
| <b>Education</b>                 | • Biocentric Curriculum in Economics - Satellites in Education  |
| <b>Media and Communications</b>  | • Internet Communication Feedback - Satellite Diffusion of Information - Marketing  |
| <b>Energy</b>                    | • Protection of Resources - Study of Bios Models  |
| <b>Employment</b>                | • New Opportunities for Employment in Bio-Environmental Protection - Green Salary for Unemployed  |
| <b>Culture</b>                   | • Arts, Cultural Values, Traditions   |

**The environment at the core of the economy** Three-dimensional economics emphasises the relevance of the environment to all economic actions. Once economics acknowledges the urgency of re-evaluating its role with reference to a long-term global environmental policy, it will be more efficient in answering to the challenges of the new millennium.

The goal should be to eliminate current inadequacies in financial trends and guarantee economic prosperity for every country in the world. Moreover, the goal should be to ultimately render the concept of a "Third World" obsolete and, through enhanced communication, trade and co-operation reach a desired state of world equilibrium in both economic and sociological terms. Humanity cannot prosper from destruction. Guaranteeing a better quality of life for every citizen in the world holds the key to a harmonious and peaceful global society in the new millennium.

### Environmental management

Managing the environmental programme in an industrial or commercial facility has become an increasingly complex and challenging assignment owing to the expanding maze of environmental laws and regulations and the growing public expectations regarding environmental protection. The foundation of environmental management is an understanding of the laws and regulations that apply to an industrial facility. Once

compliance programmes have been established at a facility, they should be supported by good and accurate environmental record keeping.

However, to meet the demands of the future, simple compliance with the law is not enough and many companies are opting for strategies "beyond compliance." The advent of international programmes such as EMAS and ISO 14000 have transformed environmental management from a local to a global issue. In the future, the environmental performance of industrial facilities around the world will be compared with the use of the same sets of standards, and the ability of companies to meet these standards may affect the acceptability of their products in the marketplace.

Environmental management programmes combine a set of tools, procedures, training and expertise that can be applied to meet the resources and objectives of specific companies or to "fine tune" existing programmes. They may also prove useful to companies that want to improve their environmental management practices, while establishing an environmental management system structure or instituting an environmental annual reporting programme.

An environmental management system (EMS) is a structured approach to planning and implementing environmental protection measures that enable organisations to measure their environmental performance, and then regularly evaluate their performance and improvement. To develop an EMS, an organisation has to assess its environmental impacts, set targets to reduce these impacts, and plan how to achieve the targets. Given the numerous ways businesses impact the environment – purchasing, manufacturing, resource consumption – improved environmental performance is of the essence.

In order for an environmental management system to be successful, existing management practices must be revised. Some simple, practical, common sense measures of "good housekeeping" can be undertaken by industry to reduce the costs of production, enhance overall productivity, and mitigate environmental impact. These practices relate to a number of measures dealing with preventing the loss of raw materials, minimising waste, conserving water and energy, and improving operational and organisational procedures. The implementation of these practices is relatively easy and the cost is usually low.

Good environmental management is common sense and often leads to greater economic efficiency. Understanding and resolving the most common environmental management issues affecting the operation of industrial facilities is essential for the successful implementation of any environmental management programme. Once a fundamental understanding of relevant laws and regulations has been achieved, site-specific programmes for each area of environmental regulation can be developed and applied. Originally, environmental measures were designed to reduce "end-of-pipe" emissions and were a large financial burden. Recently, however, a more integrated approach which involves implementing environmental management systems and other environmental management tools has gained wider acceptance in industry.

### **Revising management tools and practices**

In the new millennium, corporate environments are changing. Business is becoming more competitive and the challenge is to stay afloat. Every opportunity to raise corporate profits needs to be examined – from instilling operational efficiencies to reducing large-scale capital costs or providing simple solutions to the more complex.

One important example of these efficiencies is a waste reduction programme. The implementation of such an undertaking is known to result in increased savings for corporations, all for relatively small investments in time and energy. Even in large, multinational organisations, these types of programmes increase economic efficiency without impacting product quality.

Cleaner production (CP) is the continuous application of an integrated preventative environmental strategy applied to processes, products and services. It embodies the more efficient use of natural resources and thereby minimises waste and pollution, as well as risks to human health and safety. It tackles these problems at their source rather than at the end of the production process; in other words it avoids the "end-of-pipe" approach.

For processes, cleaner production includes conserving raw materials and energy, eliminating the use of toxic raw materials and reducing the quantity and toxicity of all emissions and wastes. For products, it involves reducing the negative effects of the product throughout its life-cycle, from the extraction of the raw materials right through to the product's ultimate disposal. For services, the strategy focuses on incorporating environmental concerns into designing and delivering services.

Experience of applying cleaner production shows that many improvements can be made in the production processes at no or very little cost. This improves both a company's profitability and its environmental performance. Industries, businesses and service providers have started to employ certain tools for cleaner production.

Some of these tools can be adopted and utilised by individual organisations, others function best if applied across a whole industry or by government. Protecting the environment extends beyond the physical boundaries of a particular site. By focusing efforts outwards, resulting product stewardship initiatives prepare a company to meet the needs of the future while increasing marketability in the present.

To decrease the impact a particular product has on the environment, it can be assessed according to life cycle analysis (LCA) procedures, by examining its environmental impact from raw materials and production to use and final disposal. By adopting a life cycle approach, environmental quality can be designed into the product at conception. This uses a cleaner manufacturing process, minimises the product's impact on the environment and can provide savings through re-manufacturing, parts recovery, and recycling.

### **Green Salary – new employment opportunities**

With current unemployment rates rising and governments forced to allot significant portions of their budgets for covering unemployment benefits, the time has come to seriously consider viable alternatives to counter the situation. In place of unemployment benefits, B.I.O. has proposed, since 1985, the introduction of a Green Salary for the unemployed in exchange for their involvement in environmental protection projects. Such projects could include tree planting, city cleanup, recycling, resource recovery and other constructive activities. This Green Salary can help elicit a positive feeling among the unemployed, in addition to providing new opportunities for work and aiding the attempt to lower unemployment levels. Moreover, businesses could be granted special tax deductions when providing opportunities for the unemployed to be involved in environmental projects.

## **Genetic Banks – saving the wealth of biodiversity**

We live in an age where the state of a nation's wealth is evaluated increasingly upon economic factors such as stockmarket performance and shrinking budget deficits. Booming industrialised economies have budget surpluses running into trillions of dollars, while even in countries with weaker economies millions of working class people are investing in shares in runaway stockmarkets. This unprecedented spurt of misguided economic growth is seriously jeopardising the environment and threatening biodiversity at a phenomenal scale.

The protection of the environment and of the life that prospers within it are low on the list of priorities of near-sighted decision-makers, demonstrating just how crucial it is to adopt a long-term vision in policy. The real wealth of our planet is in the sheer breadth, richness and beauty of the plants and animals whose species are quietly reduced every year by an insatiable hunger to feed material desires that have grown all out of proportion to our needs.

One of the ways propounded by B.I.O. to safeguard this wealth of life on our planet is Genetic Banks, which preserve the genetic material of endangered plant and animal species and thereby protect the enormous wealth and diversity of wildlife. The role of urban green spaces and sound agricultural practices in preserving genetic diversity in flora and fauna is of crucial importance globally.

Urban green spaces and urban gardens are rich reservoirs of wildlife and biodiversity. They frequently bring remnants of old wildlife habitats and are increasingly being acknowledged as a key resource for wildlife and some threatened species which no longer can depend upon their original habitats. As such, urban green spaces provide a great opportunity to protect biological diversity, a real indicator of wealth on our planet. By creating local Genetic Banks in urban gardens, genetic variety in endemic species can be preserved. Moreover, the introduction of nature conservation into the management of urban green spaces can encourage a more diverse landscape and help to stimulate wider interest and knowledge of the natural world.

Environmentally-sound agricultural practices preserve biodiversity in crops and help to protect soils from contamination and erosion. Local Genetic Banks that preserve genetic material from endemic crop species can help restore genetic variation in agricultural crops and result in pest-resistant, high-yield varieties which do not depend on chemical fertilisers.

According to a report (published in June 2001) issued by the UN Food and Agriculture Organisation's Commission on Genetic Resources for Food and Agriculture, the UN FAO places as a priority the survey and inventory of plant genetic resources for food and agriculture, taking into account the status and degree of variation in existing populations, including those that are of potential use. It additionally places as a priority the collection of plant genetic resources for food and agriculture and relevant associated information on those plant genetic resources that are under threat or are of potential use. Finally, strengthening research which enhances and conserves biological diversity by maximising intra- and inter-specific variation for the benefit of farmers, especially those who generate and use their own varieties and apply environmental principles in maintaining soil fertility and in combating diseases weeds and pests is also a UN FAO key objective. The B.I.O. Genetic Banks project can assist and complement these initiatives, and contribute to agricultural development which is based on sound social, economic and environmental conditions.

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