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Abstract

Today we face the challenge of building biodiversity business. There is a need to develop new business models and market mechanisms for biodiversity conservation, while also raising awareness and persuading the public and policy-makers that biodiversity can be conserved on a commercial basis. In this context the present paper is analyzing the arise of a new economic concept 'business biodiversity', focusing on the strategic importance of biodiversity for business and also presenting some business biodiversity models which have already began to have success in the global economy.

Key-words: sustainable development, biodiversity, business biodiversity, economics of biodiversity

JEL Classification: Q57

1. The strategic importance of biodiversity for business

Biodiversity is defined as *'the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.'*¹

First of all, biodiversity is of strategic importance for business sector, because is providing the raw materials and natural assets for many enterprises. Of course, this is most obvious in cases where profits depend directly on healthy ecosystems, such as ecotourism, which is expanding at a rate of 20-30% annually, compared with 9% for tourism sector as a whole². But we also must consider positive effects as biological productivity in agriculture, forestry, fisheries, pharmaceuticals, food processing etc. At a fundamental level, all economies and all businesses depend, directly or indirectly, on biodiversity and its component resources. Biodiversity is similarly recognized in the Millenium Ecosystem Assessment as the foundation of all ecosystem services, which in turn support and protect economic activity and property.

Let's do not forget the indirect benefits in terms of ecological, aesthetical and ethical value. Corporate actions on biodiversity can help companies to distinguish

¹ Millenium Ecosystem Assessment 2005, *Ecosystems and Human Well-being: Biodiversity Synthesis*, World Resources Institute, Washington DC, p.18 (www.maweb.org)

² *Why does conserving biodiversity matter to Europe's businesses?* – Natura 2000, no. 24/July 2008, p.4

themselves from competitors, while also involving retailers, investors, employees, local communities and others. In present the problem of public image is becoming crucial for businesses if they are to compete successfully for customers. Many companies have realized the necessity of meeting their social responsibilities to implement sustainable practices and limit their impact on the environment.

2. The concept of Business Biodiversity

We can define Business Biodiversity concept as '*commercial enterprise that generates profits through production processes which conserve biodiversity, use biological resources sustainably and share the benefits arising out of this use equitably*'³.

The business case for biodiversity is easy to make when a company depends directly on biodiversity to operate (the case of nature-based tourism), but examples can be found in other business sectors, where greater biodiversity is associated with lower costs, increased productivity and higher profits:

- Biologically diverse soils are generally more productive for agriculture;
- Marine biodiversity is associated with increased productivity of fisheries;
- Crop genetic diversity is a key factor in maintaining disease resistance and yields;
- Diverse tropical forests are prime locations in which to find novel genes and compounds for agricultural, industrial and pharmaceutical uses.

The concept of Business Biodiversity is related with *Potsdam Initiative*⁴ – *Biological Diversity 2010*, when it was initiated the process of analyzing the global economic benefit of biological diversity.

3. The Business Biodiversity models

The *Building Biodiversity Report 2008* presents an analysis of business biodiversity landscape, considering sectors and activities of potential business opportunities as: 'biodiversity-friendly' agriculture, sustainable forestry, business with non-timber forest products, sustainable fisheries and aquaculture, carbon sequestration in biomass, watershed protection, bioprospecting, eco-tourism, biodiversity offsets, biodiversity management services, recreational hunting and sport fishing⁵. In base of this report let's analyze in details the next biodiversity business models which have already began to have success in European economy:

- **'Biodiversity – friendly' agriculture**

Terms such as 'sustainable', 'green' and 'eco-agriculture' are widely used to describe environmentally-friendly agricultural practices, which often also have positive socio-economic impacts. The promotion of biodiversity-friendly agriculture tends to involve some or all of the following practices:

³ Bishop J., Kapila S., Hicks F., Mitchell P., Vorhies F., *Building Biodiversity Business*, 2008, Shell Int. Ltd., IUCN, p.24

⁴ G8 Environment Ministers Meeting, Potsdam, 15 – 17 March, 2007

⁵ Bishop J., Kapila S., Hicks F., Mitchell P., Vorhies F., op.cit., selection p. 30-127

- Creating biodiversity reserves or sanctuaries on farms.
- Developing habitat networks around and between farms; this can include the creation of ‘biological corridors’ that connect areas of significant biodiversity.
- Reducing conversion of wild habitat to agriculture by increasing farm productivity and by protecting priority areas, such as watersheds, forest fragments, rivers and wetlands.
- Taking marginal agricultural land out of production and assisting regeneration of natural habitats.
- Modifying farming systems to mimic natural ecosystems as much as possible.
- Low-input or less environmentally damaging agriculture practices, focusing on reduced erosion and chemical or waste ‘run off’, through ‘zero tillage’ planting techniques, contour ploughing, use of vegetation and trees as windbreaks, use of leguminous species, etc.
- Sustainable livestock practices that range from modified grazing and pasture management systems to promoting the incorporation of trees and other vegetation into livestock grazing areas.

Various labels and certification standards are used to distinguish farms that adopt such practices from conventional agriculture, such as ‘bird-friendly’, ‘shade-grown’, ‘conservation’, ‘sustainable’, ‘organic’ and ‘fair trade’. These and other practices have the potential to be scaled-up significantly and, depending upon how they are implemented, to enable agribusinesses of all sizes to promote biodiversity conservation.

- ***Sustainable forestry and Non-timber forest products (NTFP)***

International Tropical Timber Organization defines sustainable forest management as *‘forest-related activities should not damage the forest to the extent that its capacity to deliver products and services – such as timber, water and biodiversity conservation – is significantly reduced. Forest management should also aim to balance the needs of different forest users so that its benefits and costs are shared equitably’*⁶.

Sustainable forestry and related ‘low impact’ logging practices are designed to minimize adverse impacts on forests, rivers and streams, protect important habitats, maintain the various environmental services that forests provide. Broader definitions of sustainable forestry include a range of socio-economic objectives such as poverty reduction, social equity and empowerment. From a biodiversity perspective, a key element of sustainable forestry involves identifying environmentally sensitive areas and managing them under relatively strict guidelines.

Non-timber forest products are natural products other than wood derived from forests or wooded land. Examples of NTFP include edible nuts, mushrooms, fruits, herbs, spices, honey, gums and resins, rattan, bamboo, thatch, cork, ornamental plants and flowers, and an array of plant and animal products used for medicinal, cosmetic, culinary, cultural or other purposes. A significant category of NTFP is animal species hunted for

⁶ citation from Bishop J., Kapila S., Hicks F., Mitchell P., Vorhies F., op.cit., p. 41

their meat, skins, and other products, often referred to as the ‘bushmeat trade’. It is important to note that NTFP introduced as cash or subsistence crops in some parts of the world have become invasive, posing a threat to local biodiversity.

NTFP have attracted considerable interest in recent years due to their ability to support rural livelihoods while also contributing to conservation objectives. Efforts to promote more sustainable use of forests have led to increased interest in NTFP collection and marketing as an instrument for sustainable development.

- ***Sustainable fisheries and aquaculture***

The Marine Stewardship Council (MSC) asserts that sustainable fisheries should be based upon:

- the maintenance and re-establishment of healthy populations of targeted species;
- the maintenance of ecosystem integrity;
- the development and maintenance of effective fisheries management systems, taking into account all relevant biological, technological, economic, social, environmental and commercial aspects, and
- compliance with relevant local and national local laws, standards and international understandings and agreements.

The main reasons for the seafood sector to engage with the issue of biodiversity include:

- *Securing supplies of target fish.* The health of ecosystems determines their productivity, hence an ecosystem approach to managing fisheries is needed to secure long-term supplies.
- *Reputation and access to markets.* Consumers and retailers are increasingly concerned about the impacts of fisheries on target and non-target species and seabed habitats, and are demanding assurances that these are addressed by the industry.

- ***Eco-tourism***

In accordance with The International Ecotourism Society (TIES), eco-tourism is defined as ‘*responsible travel to natural area that conserves the environment and improves the well-being of local people*’⁷. TIES considers that those who implement and participate in ecotourism activities should follow the *ecotourism principles* as:

- minimize impact;
- build environmental and cultural awareness and respect;
- provide positive experiences for both visitors and hosts;
- provide direct financial benefits for conservation;
- provide financial benefits and empowerment for local people;

⁷ <http://www.ecotourism.org> – The International Ecotourism Society definition of ecotourism from 1990

- raise sensitivity to host countries' political, environmental, and social climate.

The global importance of ecotourism is highlighted by several international agreements including: The UN Commission on Sustainable Development, 7th Session (1999); the UN World Tourism Organization Code of Ethics (1999); The Guidelines on Biodiversity and Tourism Development issued by the CBD (2003); The Quebec Declaration on Ecotourism (2002); and the World Summit on Sustainable Development (2002). Guidelines and standards relating to sustainable / responsible tourism (including specific reference to biodiversity) are also being developed by the Tour Operators' Initiative for Sustainable Development which has created environmental guidelines for hotels, resorts and tourist attractions.

There are a lot of examples of how ecotourism is making direct, significant contributions to biodiversity conservation. One approach is through revenue generated to support protected areas. Some protected areas generate significant revenue from visitor fees collected at the point of entry or as user fees applied as, for example, part of an overall package cost (South Africa). In addition to the payment of fees, financial contributions may be generated through the sale of licences, concessions and leases. Public authorities often delegate responsibility for managing tourism operations in protected areas to private businesses, NGOs, individuals or local communities (Indonesia). Many countries also impose indirect taxes on tourists and tourism facilities, with a proportion of the revenues earmarked for conservation (Belize, Caicos Islands).

In *Building Biodiversity Report 2008*⁸ are identified the next investment opportunities in ecotourism:

- Invest in ecotourism companies that can then take on the management of tourism concessions in national parks. These companies could also create or invest in private ecotourism facilities in areas of important biodiversity. Such investments could range from joint partnerships with existing ecotourism or hotel management companies to the creation of new companies. Any tourism facilities / operations would need to be certified according to credible standards.
- Investment in joint ventures (public-private partnerships), particularly between communities and the private sector (and government), based on participatory and equitable negotiations.
- A variation on this theme would be to invest in and / or create a 'chain' of ecotourism hotels and related operations – with well-designed facilities, professional management, centralized 'back office' operations, and a common promotional strategy – to create a brand that is synonymous with the highest ecotourism standards. This goal could also be achieved by buying a number of leading ecotourism operations.
- Invest in existing eco-funds, and / or create new investment funds, that include ecotourism in their portfolios.
- In the generation of sustainable livelihoods via businesses that value biodiversity there are opportunities to improve marketing (from product development to distribution); performance indicators to measure conservation results and poverty reduction; improved procedures for knowledge transfer between different

⁸ Bishop J., Kapila S., Hicks F., Mitchell P., Vorhies F., op.cit., p. 90 - 91

projects, and investment in small / community-based operators whose services and products can be integrated in the mainstream tourism industry.

Conclusions

Biodiversity protection is a priority issue in EU environmental policy. A challenge of our times is to integrate biodiversity considerations into other important policy areas, such as agriculture, regional development, fisheries, energy, transport, trade, development aid and research, and especially to build partnerships with businesses. Measures include market incentives, development assistance, biodiversity-friendly trade and international governance processes. We can not conclude this paper without reminding the Countdown 2010 biodiversity target⁹ - 'to achieve a significant reduction of the current rate of biodiversity loss', and, at EU and pan-European level, an even more ambitious target - 'halt the loss of biodiversity'. Can the 2010 biodiversity target be met? Yes, but only with an emerging consensus about needs to be done and with a major shift in re-thinking on the role of business in biodiversity conservation.

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⁹ <http://www.countdown2010.net> (What is the 2010 biodiversity target?)

Also, it is important to mention that since 2006, the 2010 Biodiversity Target is fully integrated into the Millennium Development Goals.

