



**Business @
Biodiversity**

Agriculture Sector and Biodiversity Conservation

Best Practice Benchmarking



**Outcome of a workshop by the
European Union Business and Biodiversity Platform**

Background

The EU B@B Platform has been working with the selected sectors to benchmark best practices in each sector with regard to the conservation of biodiversity.

This document is the outcome of the EU B@B Platform sectoral workshops which were held at the European Commission premises in Brussels on September 13 (Food Supply and Extractive industry), September 14 (Agriculture and Forestry) and September 15 (Finance and Tourism). These workshops aimed to present and discuss case studies linked to the Sectoral Guidance document, and to present and discuss benchmarking methodologies towards designing the European Business and Biodiversity Award.

This Sectoral Guidance document includes examples of best-practice guidance concerning the main risks, responsibilities and opportunities for companies in relation to nature and biodiversity conservation. It has been built upon existing guidelines and handbooks previously produced with business organisations and private companies, as well as other relevant materials. It also takes account of EU nature legislation, notably biodiversity-relevant EU agreements and directives.

This Sectoral Guidance document is meant to provide companies with tools and methods, guidance and best practices already implemented to help them introduce biodiversity conservation into their strategies and operations.

Summary

The current document aims at providing guidance to the agriculture sector in Europe with regard to pro-biodiversity business opportunities and strengthening the role that the agriculture sector can play with regard to biodiversity conservation.

The document summarizes the key findings resulting from a literature search, a collection of best practices and stakeholder input during a sectoral stakeholder workshop held in September 2010.

Agriculture is the dominant land use in Europe; almost 50% of the land surface is given over to agricultural production of some form. A significant part of Europe's natural heritage (including its biodiversity) is therefore to be found within rural landscapes.

There are mutual and complex interactions between agriculture and biodiversity: agriculture needs biodiversity and it influences biodiversity. The agricultural sector is one of the major natural resource-based industries that can provide biodiversity benefits through the application of sustainable management systems and the adoption of alternative and innovative technologies and practices.

Understanding interactions between biodiversity and agricultural production and translating this knowledge into management practices is essential to ensure the delivery of safe and sufficient food, fibre and fuel, as well as public environmental services that all Europeans and the world benefit from. The notion that agriculture has to become more sustainable is incorporated in local, regional, national, European and global policies and instruments. Knowledge is being increasingly accumulated on how biodiversity can be mobilized to make agriculture sustainable.

Economic activity is one of the major drivers of biodiversity loss, and Europe is still losing biodiversity at an alarming rate. Key direct drivers of biodiversity decline are habitat change, climate change, invasive species, over-exploitation and pollution. Business can help reduce these pressures by managing and mitigating their impacts on biodiversity and ecosystem services. Practically all businesses have an impact on biodiversity, either through their supply chain or through investments they make. Therefore, the EU Business @ Biodiversity Platform promotes the practical integration of biodiversity issues in the agriculture sector and addresses the market-based approach to conservation and viable use of biodiversity and its ecosystem services.

Pro-biodiversity business opportunities are supported by an increasingly robust collection of market-based tools which enable companies to adopt biodiversity-responsible practices and to develop and market biodiversity-based goods and services. Tools for building biodiversity business are in place or under development. Companies face several risks related to biodiversity and ecosystem services, but at the same time they present new business opportunities. A number of companies have already started to manage these risks through appropriate enabling frameworks and partnerships as shown by a number of best practices included in this document.

The effective application of best practices at the farm and landscape levels requires the translation of knowledge into policies and practices that create synergies between different components of biodiversity and the provision of ecosystem services. The study of how to change behaviour of farmers to pursue biodiversity-friendly practices is therefore a priority research area for the future. At the same time, possibilities for exchange of experience and networking between the relevant stakeholders are essential to the practical application at farm and landscape levels and across geographical boundaries.

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1. Introduction

1.1. Background to the document – why a guidance document?

Agriculture is the dominant land use in Europe; almost 50% of the land surface is given over to agricultural production of some form. A significant part of Europe's natural heritage (including its biodiversity) is therefore to be found within rural landscapes. Through optimizing farm diversification and land management practice, the agricultural sector has a major opportunity to contribute to biodiversity whilst at the same time utilizing it as a sustainable resource for increasing economic viability in the medium to long term. However, there is a clear need to provide easily available guidance based on existing knowledge, best practice and publications in a form that can be easily understood and rapidly translated into actions by practitioners and stakeholders.

This document, developed in the framework of the EU Business @ Biodiversity Platform¹, is intended to respond to this need.

1.2. Purpose, scope and target of the document

Business stakeholders play an important role in integrating biodiversity into different EU policy areas. The EU Business @ Biodiversity Platform aims to strengthen the link between the business sector and biodiversity conservation. The Facility works with the selected sectors (agriculture, food supply industry, forestry, extractive industries, financial sector and tourism) to benchmark best practice in each sector with regard to the conservation of biodiversity. The EU intends to develop means to establish pro-biodiversity business, help business to find solutions to change their activities and to ensure a fair income while considering biodiversity and creating new business opportunities.

This includes the development of best-practice guidance concerning the main risks, responsibilities and opportunities for companies in relation to nature and biodiversity conservation. The guidance builds on existing guidelines and handbooks previously produced with business organizations and private companies, as well as other relevant materials. Insofar as relevant, EU nature legislation, notably biodiversity-relevant EU agreements and directives, is also taken into account.

1.3. Nature and structure of the document

In order to carry out an analysis of sectoral best-practice guidance, a bibliographic research was carried out. This research aims at gathering for the agriculture sector the main documents, reports and programmes giving details on best practices for biodiversity protection. A synthesis by sector of the overall best practices identified will allow having an overview of the lack of guidance and identifying key needs.

The document is made up of 5 main sections:

- Section 1: provides an introduction and background to the document.
- Section 2: introduces the perimeter and interdependencies between the agricultural and food supply sectors. It explores the impacts, dependency and benefits between the agricultural sector and biodiversity, describes policy and legislative context, and gives information about the main stakeholders.
- Section 3: examines the common and sector-specific approach and key steps of biodiversity integration in business and focuses on selected best practices.

¹ DG ENV.B.2/SER/2009/0018

- Section 4: identifies gaps and needs based on best practice analysis in the sector.
- Section 5: concludes with the key issues of further research needs and cooperation between the relevant stakeholders.

2. The agricultural sector, related sectors and biodiversity

2.1. The scope and interdependencies between the agricultural and food supply sectors

Biodiversity means 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; it includes diversity within species (genetic), between species, and of ecosystems (CBD, 1992).² Biodiversity plays a pertinent role in the provision of ecosystem services, including those that are essential to sustainable agricultural production (provisioning services, regulating services, supporting services, cultural services). Maintaining biodiversity is considered to be essential in order to sustain the ecological functions and processes which ensure the fertility and productivity of agricultural ecosystems. The diversity among living organisms which provide these functions has been termed “functional biodiversity”, and represents an important contribution to biodiversity by agriculture.³

Agriculture is the utilization of natural resource systems to produce commodities which maintain life, including food, fibre, forest products, horticultural crops, and their related services.¹

Whilst biodiversity may once have been seen as a by-product of providing agricultural products and services, it is now clear that society also demands that farming delivers high quality and safe products whilst in the meantime providing a range of environmental services. Thus, whilst sustainable food production remains the major concern of European agriculture, it is also a key sector for the provision of wider societal benefits in relation to, for example, biodiversity conservation and enhancement. With close links to the food supply industry through common long-term objectives such as food security and preservation of the environment, actions carried out by both sectors can be seen to have wider outreach and potential influence.

The food industry is a complex, global collective of diverse businesses that together supply much of the food energy consumed by the world population. The entities included in this definition are mainly the food industries and the retailers.

Both agriculture and the food supply industry are directly dependent on the services delivered by healthy ecosystems, ranging from water cycling and purification, to climate regulation and soil formation.

While the policy framework is an important driver shaping agriculture in Europe, it is far from the only one. Market forces are a major factor; international trade and global trends play an important role, as do the preferences of and decisions made by consumers and the food industry. Thus the relationship between the food supply industry and agriculture travels in both directions in relation to the protection and management of biodiversity.

2.2. The impacts, dependency and benefits between the agricultural sector and biodiversity

In large parts of Europe, a high proportion of natural areas are influenced by human activities and their sustainable maintenance is only possible with ongoing human intervention.

The agricultural sector is one of the major natural resource-based industries that can provide biodiversity benefits through the application of sustainable management systems and the adoption of alternative and innovative technologies and practices. Agriculture can contribute to biodiversity conservation to various degrees, ranging from conservation measures and precision farming, to agricultural activities that are less directly focused on biodiversity conservation.

2.2.1. Interdependence of agricultural production and biodiversity

There are mutual and complex interactions between agriculture and biodiversity: agriculture needs biodiversity and it influences biodiversity. Biodiversity is the basis for agricultural production. On the one hand, it is the origin of all crops and domestic livestock and the variety within them. On the other hand, components of wild biodiversity in agricultural and associated landscapes provide and maintain ecosystem services that are essential to agricultural production.

Since the end of the last ice age, Europe's natural environment has been shaped by human activities, and particularly by farming. The loss of 'naturalness' (forests, mega-fauna) caused by the rise of agriculture was compensated for, in biodiversity terms, by new, open, semi-natural habitats. Habitat diversity per area was increased by the creation of mixed farming landscapes.

Since the 1950s, however, there has been a marked decline in biodiversity across European farmland. This has arisen primarily through the industrialization of agriculture, resulting in farm specialization, the development of high yielding crops and livestock, intensive use of chemical inputs and mechanization. Simplification of the landscape has occurred, replacing the multiple land use systems that predominated in the past.⁴

In recent years there has been growing awareness and recognition in different sectors of society that the conservation and sustainable use of biodiversity is fundamental to human well-being. Biodiversity plays a pertinent role in the provision of ecosystem services, including those that are essential to sustainable agricultural production. Wild plants and animals, the cornerstones of biodiversity, are the origin of all crops and domestic livestock and the variety within them. In addition, components of biodiversity in agricultural landscapes maintain ecosystem services such as pollination, biological pest control, soil and water conservation, nutrient cycling, and climate regulation.

Modified landscape management and alternative farming practices can contribute to biodiversity conservation in various ways. However, biodiversity in and of itself does not automatically translate into ecosystem services such as enhanced pollination or natural pest control. To optimize these benefits, we need to understand which biodiversity elements drive these ecosystem services. Based on this information, benefits to farm productivity can be generated through a rational design and management of agro-ecosystems and landscape structures. Such management strategies can range from informed choice of non-crop vegetation such as field margins, forests, hedgerows, and other non-crop elements, to conservation tillage, crop diversification or crop rotation.

Since half of the European Union's land territory is farmed, this form of land use is the main component of much of the semi-natural environment. Farming and biodiversity are therefore strongly interdependent and the EU Common Agricultural Policy (CAP) is considered a key tool for halting the loss of biodiversity in agricultural landscapes in Europe.

Recognition of the strong links between biodiversity and agriculture is reflected in policy frameworks at the EU and national levels. So far, environmental policies in the EU have primarily focused on negative impacts of agriculture on biodiversity and ways to alleviate these. More recently, European farmers and policymakers have increasingly recognized that agricultural production and biodiversity need not necessarily be in conflict, but are interdependent and can strengthen each other. In response to these changing perspectives, policymakers have started to

integrate ecosystem health into some sectoral policies with a focus on harnessing synergies between biodiversity conservation and sustainable production.

2.2.2.Challenges to the EU agricultural sector

While many forms of agriculture undoubtedly benefit biodiversity and support habitats, a real challenge for agriculture in the coming years is to move to a truly sustainable agriculture and to combat the negative impacts of intensive agriculture on environmental quality and its high dependence on non-renewable resources, while maintaining Europe's capacity to feed a growing population and its strong and diverse agricultural systems.

Major challenges to the EU agricultural sector are, among others, related to the negative impacts of intensive agriculture on environmental quality and its high dependence on non-renewable resources. The intensification of farmland has been linked to the decline of farmland birds and butterflies, poorer plant diversity as well as soil biodiversity.⁵ Other urgent issues are the negative impacts of land-use intensification and land abandonment on biodiversity. Undergrazing (meaning a reduction in rates below those required to maintain ecological integrity of habitats and species viability) in some areas is also likely to cause environmental problems related to biodiversity and conservation. Open landscapes, farmland habitats, and farmland biodiversity depend on well adapted forms of farming activity. In line with this, land abandonment is an important threat, particularly to high nature value (HNV) farmland areas.⁶ A large number of highly valued wildlife species and semi-natural habitat types in Europe are dependent on the continuation of low-intensity agricultural practices. Of the 231 habitat types of European interest targeted by Annex I of the EU Habitats Directive, 55 depend on extensive agricultural practices or can benefit from them. Similarly, eleven targeted mammal species, seven butterfly species and ten *Orthoptera* species (including grasshoppers and crickets), as well as 28 vascular plant species listed in Annex II of the EU Habitats Directive depend on a continuation of extensive agriculture.⁷

In addition, the direct and indirect impacts of climate change on agro-ecosystems and their productivity are becoming more apparent. The interactions between land use, biodiversity and climate change are of fundamental importance, as the agricultural sector is viewed as being part of the problem and part of the solution.

These challenges call for new approaches to agricultural management that reconcile food, fibre and fuel production with the conservation and sustainable use of biodiversity in order to strengthen the delivery of ecosystem services to the benefit of the agricultural sector and society as a whole.

2.2.3.The benefits

Benefits to agricultural productivity can include improved pollination, natural pest control, nutrient cycling, soil and water conservation and, as a consequence, a decreased demand for external inputs and the production of higher quality and value-added products as well as increased resilience and adaptive capacity of agricultural production systems against the disturbances or climate change.

Benefits to society as a whole include reduced environmental impacts, conservation of wild biodiversity, landscape aesthetics and mitigation of greenhouse gas emissions.

Experience and research have shown that agro-biodiversity can:

- Increase productivity, food security, and economic returns.
- Reduce the pressure of agriculture on fragile areas, forests and endangered species.
- Make farming systems more stable, robust, and sustainable.
- Contribute to sound pest and disease management.

- Conserve soil and increase natural soil fertility and health.
- Contribute to sustainable intensification.
- Diversify products and income opportunities.
- Reduce or spread risks to individuals and countries.
- Help maximize effective use of resources and the environment.
- Reduce dependency on external inputs.
- Improve human nutrition and provide sources of medicines and vitamins.
- Conserve ecosystems' structure and stability of species' diversity.⁸

Understanding interactions between biodiversity and agricultural production, and translating this knowledge into management practices is essential to ensure the delivery of safe and sufficient food, fibre and fuel, as well as public environmental services that all Europeans and the world benefit from.

2.3. Policy and legislative context relevant to the agricultural sector and biodiversity*

The notion that agriculture has to become more sustainable is incorporated in local, regional, national, European and global policies and instruments. Knowledge is being increasingly accumulated on how biodiversity can be mobilized to make agriculture sustainable.

The UN Convention on Biological Diversity (CBD) was adopted at the Rio de Janeiro Earth Summit in 1992, which committed governments to develop national strategies for the conservation and sustainable use of biological diversity. At the global level, the Convention on Biological Diversity contains a Thematic Programme on Agricultural Biodiversity (annexed to decision V/5). The Programme recognizes the dilemma of agriculture in that it provides essential ecosystem services and, on the other hand, is a major driver of biodiversity loss.⁹

2.3.1. Biodiversity policy in the EU

The European Community is one of the 191 Parties to the UN Convention on Biological Diversity (CBD). The EU policy framework to implement the CBD was established in the Commission Communication on a European Biodiversity Strategy adopted in 1998. The strategy contains four biodiversity action plans for (1) conservation of natural resources, (2) agriculture, (3) fisheries, and (4) economic and development cooperation outside Europe.¹⁰

In 2001 European Heads of State agreed on the goal of halting the decline of biodiversity by 2010 and therefore the EU Biodiversity Action Plan for Agriculture (2001) was set up. The plan aims to integrate biodiversity considerations into farming practices and its priorities are:

- Ensuring the development of current intensive farming practices towards the achievement of a reasonable or rational degree of intensification.
- Maintaining an economically viable and socially acceptable agricultural activity, by targeted and tailored measures aiming at safeguarding biodiversity, in particular in biodiversity-rich regions where such activity has been weakened.
- Using agri-environmental measures for the conservation and sustainable use of biodiversity.
- Ensuring that an ecological infrastructure exists throughout the area.
- Supporting specific measures related to the use of genetic resources, to the maintenance of local, traditional and rustic breeds and varieties and the diversity of varieties used in agriculture.

* Specifically in relation to EU environmental policy

- Introducing specific measures for encouraging the marketing of species and varieties that are naturally adapted to the local and regional conditions. Benefits are in terms of diversity of farming systems and resistance to pests and diseases.
- Implementing measures to prevent the abundance and spreading of non-native species introduced and favoured by agriculture.¹¹

The key policy instruments that establish specific aims and mechanisms for conserving habitats and species are the EU Birds (79/409/EEC) and Habitats (92/43/EEC) Directives. Together they form the legal framework for Natura 2000, the centrepiece of EU nature and biodiversity policy. Their Annexes contain habitats and species of European importance. Based on the distribution of these species and habitats, a selection of representative sites is designated, where measures should be taken to ensure a Favourable Conservation Status for the habitats and species that have justified their selection. Natura 2000 is an EU-wide network of protected sites aiming to ensure the long-term survival of Europe's most valuable and threatened species and habitats.

A large proportion of the Natura 2000 network is under farmland. In many cases, this farmland consists of semi-natural habitat types listed in Annex I of the Habitats Directive (e.g. hay meadows and various sorts of land used for grazing). In other cases, it is farmland that supports rare species, particularly from Annex I of the Birds Directive. Today, Natura 2000 covers nearly 20 percent of the EU's territory, is the largest network of protected areas in the world and is widely considered a success story.

In May 2006, the EU Communication 'Halting Biodiversity Loss by 2010 - and Beyond: Sustaining ecosystem services for human wellbeing' (2006) was presented and a new detailed EU Biodiversity Action Plan (2006) was set up to achieve this goal. The EU's policy approach recognizes that biodiversity is not evenly spread and that certain habitats and species are more at risk than others. Consequently, it affords special attention to the creation and protection of a substantial network of sites of highest nature value - Natura 2000. However, the approach also recognizes that much biodiversity resides outside these sites. Action in the wider environment outside Natura 2000 is provided for by dedicated nature policy and by integration of biodiversity needs into agricultural, fisheries and other policies.¹² The Mid-term Assessment of this plan (2008) has already shown the difficulty in meeting the target of halting the loss of biodiversity by 2010.¹³

The Council of EU Environment Ministers has recently renewed the ambition to halt the loss of biodiversity by 2020. As a reaction to the European Commission's Communication presenting four different options for an EU vision aiming to halt the loss of biodiversity beyond 2010, Environment Ministers adopted a new EU biodiversity headline target and voted for the strongest option, which calls for "...halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss".¹⁴ On 26 March 2010, European Heads of State and Government endorsed this target in their conclusions. The communication also states that strengthening rural development policy with a view to developing ecosystem services by preserving and enhancing farming and forestry with a high nature value in the context of the CAP is essential.

Protecting nature must now be integrated in a new long-term economic strategy for Europe while the new EU biodiversity strategy is expected to be presented by the Commission in 2011.

Beyond the EU, policy responses have also been formulated within the global frameworks of five biodiversity-related conventions: the Convention on Biological Diversity, the Conservation of Migratory Species of Wild Animals, the International Treaty on Plant Genetic Resources for Food and Agriculture, the Convention on Wetlands, and the World Heritage Convention, and at the pan-European level within the Bern Convention on the Conservation of European Wildlife and Natural Habitats.

2.3.2. The EU Common Agricultural Policy

The EU Common Agricultural Policy (CAP) is a key tool for halting the loss of agricultural biodiversity in Europe by 2010 – and beyond. In conjunction with market developments, technological and structural change has been an important driver in the relationship between agriculture and biodiversity. The CAP was introduced in the 1950's and was the basis for today's European Budget and EU wealth. The importance of agriculture for Europe's economy and policy should therefore not be underestimated.¹⁵ Today the CAP represents about 40% of the total European budget, with agricultural and regional policy together accounting for over 80%. The CAP has two pillars which differ in terms of financing, functioning and structure.

The first pillar provides support for farmers, currently through the Single Payment Scheme (SPS), mainly used in the EU-15, and the Single Area Payment Scheme, mainly used in the EU-12. These two schemes accounted for about 70 percent of CAP resources in 2008. The payments are linked to "cross-compliance" requirements: farmers that receive the subsidies must meet both EU rules (several directives are indicated in EU legislation) as well as national rules on good agricultural and environmental conditions. This pillar also supports export subsidies and other market interventions.

The second pillar provides support for rural development across several thematic areas; the second pillar is notable in that it supports actions closely linked to environmental and biodiversity goals, including for farming and other activities in Natura 2000 sites as well as more generally for extensive or HNV farming. Biodiversity issues are addressed specifically via instruments such as the agri-environmental measures. Support from Pillar 2 is partially co-financed by Member States and regional administrations. However, when re-calculated to account for expected modulation and Member State co-financing, this amount increases to almost 37 percent of the total CAP budget for the 2007 – 2013 period.¹⁶ Rural development policy, known as Pillar 2 of the CAP, has considerable potential to tackle the biodiversity challenge. The EU rural development policy 2007-2013 provides aid for farmers who sign up to environmental commitments, and the Reform of the CAP aims to strengthen landscape protection and reward farmers who go beyond traditional methods to plant hedgerows, create ponds or leave fields uncultivated.

The CAP underwent a mid-term review and reform in 2003, which resulted in compulsory modulation (requiring countries to shift funds from Pillar 1 support to measures available under Pillar 2) and cross-compliance, under which direct payments became contingent upon respect of EU and national rules on good agricultural and environmental conditions. The 2003 reform also further strengthened rural development policy, both in scope and financial resources. In 2008, EU agriculture ministers undertook a "health check" of the CAP, which resulted in a range of measures, including assistance to five challenge areas (climate change, renewable energies, water management, biodiversity and dairy sector restructuring) and an increase in the mandatory modulation rate for transferring funds from Pillar 1 to Pillar 2.

At present, the CAP faces serious and multi-dimensional challenges. As agricultural realities, broader development goals including increased importance of environmental issues, and marked budget constraints define the debate around the EU Budget 2014-2020, there are high expectations for the CAP post 2013. The European Commission has recently concluded a public debate on the future of the CAP after 2013 and issued a formal Communication on this matter at the end of 2010. Formal legislative proposals for the post-2013 CAP will follow in mid-2011.

As was also noted under the heading "Green Growth" in the Spanish Presidency paper prepared for the Informal Agriculture Council in Merida in June 2010 on "Agriculture and reform of the Common Agricultural Policy (CAP) in the perspective of the EU 2020 strategy", "the CAP has taken on board the need to incorporate sustainability and preservation of the environment and resources in all its actions. In the period up to 2020, this priority needs to be given greater visibility, highlighting agriculture's contribution to the provision of public goods, the preservation of biodiversity and the fight against climate change".

2.3.3. Other policies

While the CAP is certainly the major political and financial instrument which determines the impact of agriculture on biodiversity, there are other policies which play a role and will be important in this assessment. These include not only the biodiversity instruments discussed in the previous section, but other areas of environmental policy, such as the Water Framework Directive and its river basin management requirements; the Common Fisheries Policy; the EU climate-energy legislation and GHG emission limits, biomass and biofuel targets; the Cohesion Policy and its funding for regional development.

Other international environmental policies with significant impacts on biodiversity business include:

- The Cartagena Protocol on Biosafety, under the CBD, which regulates international transfers of genetically modified organisms.
- The Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising Out of Their Utilization, a voluntary agreement under the CBD.
- The International Treaty on Plant Genetic Resources, negotiated under the auspices of the Food and Agriculture Organization.
- The Kyoto Protocol, under the Framework Convention on Climate Change, which includes provisions for mitigating climate change through forestry and land use activities that affect biodiversity.

2.4. Main stakeholders

This section gives a brief overview of key stakeholders from European policy, land managers, science and civil society. By its nature it is an incomplete selection.

2.4.1. The policy sector

European Commission Directorate-General for Agriculture and Rural Development (DG AGRI)

DG AGRI is responsible for EU policy regarding agriculture. Its mission statement is closely linked to the Common Agricultural Policy (CAP).

European Commission Directorate-General for the Environment (DG ENV)

DG ENV is responsible for EU policy on the environment. DG Environment sets the EU biodiversity target, periodically reviews it, and monitors the state of Europe's nature and biodiversity.

European Network for Rural Development (EN RD)

The European Network for Rural Development (EN RD) contributes to the efficient implementation of Rural Development Programmes throughout the European Union (EU). Each Member State has established a National Rural Network (NRN) which brings together the organizations and administrations involved in rural development. At EU level, the European Network for Rural Development ensures the networking of these national networks, organizations and administrations.

The Food and Agriculture Organization of the United Nations (FAO)

FAO's Agriculture Department is helping countries achieve sustainable gains in agriculture to feed a growing world population, while respecting the natural environment, protecting public

health and promoting social equity. The department helps farmers to diversify food production, reduce the drudgery of farming, market their products and conserve natural resources.

2.4.2. The business and land managers sector

European Landowners' Organization (ELO)

ELO is a not-for-profit organization representing the interests of the owners and managers of rural land and rural businesses within the EU. It aims to promote "a prosperous and attractive European countryside", and it lobbies to advance its aims at local, national and European levels. ELO's main concern is to ensure that rural areas are developed in a way that balances economic activity with conservation of the rural environmental heritage.

Copa-Cogeca

Copa is the Committee of Professional Agricultural Organizations in the European Union, which represents the European farmers while bringing together 60 EU farmers' organizations. Cogeca is the General Confederation of Agricultural Cooperatives in the European Union, which represents European agri-cooperatives while bringing together 35 EU agricultural cooperative organizations.

Copa-Cogeca's mission is: (1) defending the general interests of agriculture; (2) maintaining and developing relations with EU-institutions as well as with representative organizations at EU level; and (3) finding solutions that are in the common interest.

European Council of Young Farmers (CEJA)

CEJA is the voice of Europe's next generation of farmers to the European institutions. CEJA's main objective is to promote a younger and innovative agricultural sector across the EU 27 and to create good working and living conditions for young people setting up in farms and those who are already "Young Farmers".

The International Federation of Agricultural Producers (IFAP)

IFAP is a global network of farmers' organizations representing over 600 million farm families grouped in 120 national organizations in 79 countries. It is a global network in which farmers from industrialized and developing countries exchange concerns and set common priorities. The focus of IFAP's policy work is to improve the position of farmers in a rapidly changing world-wide environment, characterized by globalization, liberalization and changes in what is expected from the agricultural sector.

International Federation of Organic Agriculture Movements (IFOAM) EU Group

IFOAM EU Group is the EU working level of IFOAM – the International Federation of Organic Agriculture Movements. IFOAM's goal is the worldwide adoption of ecologically, socially and economically sound systems that are based on the principles of Organic Agriculture. IFOAM EU Group is a non-profit membership-based organization that brings together more than 300 organizations, associations and enterprises. It represents the organic movement in Europe and promotes the further development of organic food and farming.

Syngenta

Syngenta, a leading company in the agriculture sector, works in partnership with many organizations around the world to research and promote sustainable agriculture practices while focusing on four key areas: soil conservation, water protection, biodiversity and integrated crop management.

2.4.3. Research and cooperation platforms

The European Learning Network on Functional AgroBiodiversity (ELN-FAB)

ELN-FAB covers EU-27 plus Switzerland and Norway. It compiles best practice examples and disseminates practical guidance to European farmers and landowners concerning functional agrobiodiversity in order to promote sustainable agriculture. ECNC-European Centre for Nature Conservation hosts the Secretariat of the European Learning Network and plans to broaden and intensify the current activities with the goal of exchanging knowledge and practical experience across country and language borders, between farmers, policy makers, scientists, businesses and NGOs, to enable fast and effective implementation of best practices.

The Sustainable Agriculture Initiative (SAI)

SAI Platform is an organization created by the food industry to communicate worldwide and to actively support the development of sustainable agriculture involving the different stakeholders of the food chain. SAI Platform supports agricultural practices and agricultural production systems that preserve the future availability of current resources and enhance their efficiency. This increases agriculture's contribution to the optimal satisfaction of society's environmental, economic and social requirements.

The Rural European Platform (REP)

REP was founded by the Dutch environmental research institute Alterra of Wageningen University and the Norwegian Crop Research Institute Bioforsk and launched in July 2004. REP is an independent European platform for farmers, private land owners, nature conservationists, policy makers and scientists in and outside the boundaries of the European Union. REP works on realizing a genuinely sustainable rural development approach to exchange ideas on rural development in Europe, providing examples that convince and policies that work.

3. Classification and evaluation of available best practices

3.1. Common approach and key steps of biodiversity integration in business

Economic activity is one of the major drivers of biodiversity loss and Europe is still losing biodiversity at an alarming rate. Key direct drivers of biodiversity decline are habitat change, climate change, invasive species, over-exploitation and pollution. Business can help reduce these pressures by managing and mitigating their impacts on biodiversity and ecosystem services. They should systematically review their operations in relation to biodiversity and ecosystem services (BES) and assess how direct and indirect drivers of change in ecosystem services may affect their business.¹⁷

Practically all businesses have an impact on biodiversity, either through their supply chain or through investments they make. Therefore, the EU Business @ Biodiversity Platform promotes the practical integration of biodiversity issues in the selected financial and economic sectors and addresses the market-based approach to conservation and viable use of biodiversity and its ecosystem services. The links between business, biodiversity and ecosystem services vary across sectors and even within sectors. These links depend on the location of the business, the source of its raw materials, in some cases the location of its customers, and/or the production technology employed. Broadly, these links can be grouped into business impacts on biodiversity, on the one hand, and business dependence on ecosystem services on the other.¹⁷

3.1.1. The business case for biodiversity and ecosystems

Biodiversity business is defined 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.”¹⁸

This definition reflects the three over-arching goals of the United Nations Convention on Biological Diversity (CBD), which also calls for increased efforts to enlist the private sector in biodiversity conservation, sustainable use and equitable benefit sharing. In both the environmental and business communities, there is growing recognition of the potential to conserve biodiversity on a commercial basis.

The business case for biodiversity is easy to make when a firm depends directly on biodiversity to operate. Biodiversity-friendly agriculture is one example where the income stream to private enterprise depends very clearly on the health of the surrounding ecosystem. In such cases, business owners and managers need little persuasion to invest in biodiversity management. Examples can be found in other business sectors, where greater biodiversity is associated with lower costs, increased productivity and ultimately higher profits. In a range of contexts, scientists have discovered that greater variability in genes, species and ecosystems is associated with increased biological productivity, resilience and consumer preference. For example:

- More diverse ecosystems are preferred destinations for tourism.
- 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.¹⁸

3.1.2. The key action points for business¹⁷

The business case for biodiversity and ecosystems is getting stronger. The companies that understand and manage the risks presented by biodiversity loss and ecosystem decline, and that move quickly to seize business opportunities, are more likely to thrive.

Business can show leadership on biodiversity and ecosystems:

- 1. Identify the impacts and dependencies of your business on biodiversity and ecosystem services (BES).** The first step is to assess business impacts and dependencies on biodiversity and ecosystems, including both direct and indirect linkages throughout the value chain, using existing tools while also helping to improve them.
- 2. Assess the business risks and opportunities associated with these impacts and dependencies.** Based on this assessment, companies can identify the business risks and opportunities associated with their impacts and dependencies on BES, and educate their employees, owners, suppliers and customers. Economic valuation of BES impacts and dependencies can help to clarify risks and opportunities.
- 3. Develop BES information systems, set SMART targets, measure and value performance, and report your results.** Biodiversity and ecosystem strategies for business are likely to include improved corporate information system, development of quantitative BES targets and performance indicators, and their integration into wider business risk and opportunity management processes. A key step for building trust with external stakeholders, while creating peer pressure within industry, is for business to measure and report their BES impacts, actions and outcomes.
- 4. Take action to avoid, minimize and mitigate BES risks, including in-kind compensation (‘offsets’) where feasible.** BES targets may build on the concepts of ‘No Net Loss’, ‘Ecological Neutrality’ or ‘Net Positive Impact’ and include support for

biodiversity offsets where appropriate. Industry associations will continue to play a key role in developing and promoting robust and effective biodiversity performance standards and impact mitigation guidelines for their members.

5. **Grasp emerging BES business opportunities, such as cost-efficiencies, new products and new markets.** Business can support the growth of green markets and help design efficient enabling conditions for biodiversity and ecosystem service markets. Such opportunities may be facilitated by engaging with public agencies, accountancy and financial standard setting bodies, conservation organizations and communities.
6. **Integrate business strategy and actions on BES within wider corporate social responsibility initiatives.** There is potential to enhance both biodiversity status and human livelihoods, and help reduce global poverty, through the integration of BES in corporate sustainability and community engagement strategies.
7. **Engage with business peers and stakeholders in government, NGOs and civil society to improve BES guidance and policy.** Business can bring significant capacity to conservation efforts and has a key role to play in halting biodiversity loss. Business needs to participate more actively in public policy discussions to advocate appropriate regulatory reforms, as well as developing complementary voluntary guidelines.

3.1.3. Biodiversity business risks and opportunities

Based on the analysis of the TEEB Report for Business¹⁷, companies face several risks related to biodiversity and ecosystem services, but at the same time biodiversity also presents new business opportunities.

The main risks may be summarized as:

- **Operational** - Increased scarcity and cost of raw materials such as freshwater, disruptions to business operations caused by natural hazards and higher insurance costs for disasters such as flooding.
- **Regulatory and legal** - emergence of new fines, new user fees, government regulations, or lawsuits by communities or groups that challenge business activities.
- **Reputational** - damage to corporate reputation from media and non-governmental organization (NGO) campaigns, shareholder resolutions and changing customer preferences.
- **Market or product** - customers switching to other suppliers that offer products with lower ecosystem impacts or governments implementing new sustainable procurement policies.
- **Financial** - Higher costs of capital or difficulties acquiring debt or equity as banks and investors adopt more rigorous lending and investment policies.

Effective biodiversity and ecosystem risk management may be facilitated by appropriate enabling frameworks and partnerships. These may include new markets for biodiversity-friendly products, investment screening processes that require attention to biodiversity impacts, and/or regulatory settings that pay close attention to biodiversity risks during the impact assessment process. Business risk management strategies also often involve public-private partnerships and stakeholder engagement.

Biodiversity and ecosystem services offer opportunities for all business sectors, such as:

- **New technologies and products** – that will serve as substitutes, reduce degradation, restore ecosystems or increase the efficiency of ecosystem service use.
- **New markets** – such as water-quality trading, certified sustainable products, wetland banking and threatened species banking.
- **New businesses** – such as ecosystem restoration and environmental asset finance or brokerage.

- **New revenue streams** – for assets currently unrealized, such as wetlands and forests, but for which new markets or payments for ecosystem services could emerge.

3.1.4. Pro-Biodiversity Business – SMEs in the focus

“A pro-biodiversity SME is dependent on biodiversity for its core business and contributes to biodiversity conservation through that core business.”¹⁹

Based on the results of the Biodiversity Technical Assistance Unit (BTAU) project²⁰ funded by the European Commission, it can be stated that a Pro-Biodiversity Business (PBB) generates both positive financial and biodiversity returns. Companies active in the sectors that most impact on biodiversity in the EU are mostly Micro, Small and Medium Enterprises (SMEs). SMEs are an integral part of the European economy and it is therefore vital that they play their part in making the European economy more sustainable. There are an estimated 23 million SMEs in the EU, representing approximately 99% of all businesses and nearly 60 percent of the total value of the economy.

Pro-Biodiversity Businesses (PBB) pursues four objectives: (1) Conservation of biodiversity; (2) Sustainable use of biological resources; (3) Positive financial returns; (4) Equitable sharing of the benefits arising from the use of biological resources.

SMEs directly depend on biodiversity

A typical PBB has a high degree of dependence on biodiversity for its core business and vice versa, contributes directly to biodiversity conservation through its core business. Many PBBs, particular those in the primary sector (for example, agriculture, forestry and fisheries), make a contribution to the conservation of biodiversity in the particular sites where they operate, whilst others do not make a contribution at a particular site but do so more generally through educational or awareness-raising activities (for example, through ecotourism). PBBs by their very nature tend to be located within or close to sites with high biodiversity value (for example, National Parks, buffer zones of Biosphere Reserves, and increasingly in the EU as owners and users of Natura 2000 areas).

3.1.5. What are the benefits of pro-biodiversity business?

Pro-biodiversity business is a concept in which business generates profits through production processes that conserve biodiversity, use biological resources sustainably and share the benefits of this use equitably.²¹

There may be different reasons why a company and its stakeholders are interested in pro-biodiversity business concepts:

- A businessman developing an ecotourism resort might say that the profitability of his enterprise depends on the health of the ecosystems.
- A farmer might say that the richness of the ecosystem increases the resilience and productivity of his farmland.
- A fisherman might say that without sustainable fishing practices fish stock would be depleted and there would be no future for his business.
- A supermarket-owner might be looking for pro-biodiversity products because of the eco-friendly tendencies of his customers.
- Large corporations might want to invest in biodiversity to underscore their Corporate Social Responsibility.
- A conservationist would say that biodiversity business generates new and additional investment in conservation activities.

- On a macroeconomic level, pro-biodiversity business may contribute to a redirection of the flow of funds, knowledge and employment from the cities to the countryside and from wealthy to poor countries. In other words, it might help reduce rural poverty.

As illustrated above, there are three main benefits from pro-biodiversity business: firstly, through conservation of biodiversity through long-term sustainable use of biological resources; secondly, through positive commercial returns on investments. A third important benefit not mentioned until now are the social, employment and cohesion benefits arising from the use of biological resources. Basically, a pro-biodiversity business strives to generate positive financial, biodiversity and social returns.²¹

3.1.6. Can markets work for biodiversity management?

Despite increasing evidence of the commercial benefits of conservation, for many SMEs the case for investing in biodiversity remains unclear. Entrepreneurs are beginning to discover that biodiversity conservation can form the basis of profitable new business models, (for example, biodiversity-friendly agriculture where the income stream to private enterprise depends on the health of the surrounding ecosystem). These include the supply of commodities and services according to emerging standards of biodiversity-friendly production, supported by independent certification or assurance mechanisms, as well as the supply of ecosystem restoration and management services to both public and private customers.¹⁸

3.1.7. Incentives and tools

Frustration with conventional approaches to conservation has led to a search for new ways to align private and public interests in biodiversity. This may be seen as part of wider efforts to enlist the private sector in the provision of public goods, through public-private partnerships, corporate social and environmental responsibility, and the use of economic incentives. Examples include cap-and-trade or tradable quota systems, resource user fees and pollution taxes, competitive tendering of management services and concessions, certification and labelling of environmental performance, which are also widely used in the agricultural sector, performance bonds and bonuses.¹⁸

Growing consumer environmental concerns have stimulated markets for products and production practices that conserve biodiversity. NGO campaigns, scientific research and media attention are part of the reason for this change, but businesses are also showing leadership, as indicated by the development of 'corporate social responsibility' initiatives. As a result, more and more consumers are favouring ecologically-certified goods and services.¹⁷ Several certification schemes have gained wide consumer recognition and a small, but rapidly growing share of total sales in some markets (e.g. coffee, timber, fish, organic food). These trends can be expected to continue in the short and medium term, and probably beyond, with demand for a range of certified goods and services growing at a higher rate than for 'conventional' products.¹⁸ For instance, global sales of organic food and drink amounted to US\$ 46 billion in 2007, a threefold increase since 1999.¹⁷

3.2. Sector-specific approach to implement Business & Biodiversity actions

The agriculture sector faces a growing dilemma: it needs to feed a rapidly growing and increasingly affluent global population while also conserving biodiversity and sustainably managing natural resources on an increasingly depleted planet. The need for increased food production is meanwhile constrained by poor land management and lack of means (financial and technological) to maintain let alone enhance productivity.

Agricultural productivity is heavily dependent on numerous species and ecosystem services, including soil micro-organisms, natural and domesticated pollinators and pest predators, the

genetic diversity of crops and livestock, as well as freshwater supplies, climate regulation and nutrient cycling.¹⁷

3.2.1. How to integrate biodiversity into agribusiness?

There are numerous opportunities for farmers, landowners and land managers to get engaged by shifting to more sustainable methods of farming and incorporating land management.

Sustainable agriculture seeks to improve the benefits of agricultural production by reducing threats to and enhancing benefits to biodiversity, through improved production and management practices.

The agricultural sector is one of the several natural resource-based industries that can provide biodiversity benefits through the application of modified management systems and the adoption of alternative technologies and practices. According to Bishop et al (2008)¹⁸, the promotion of biodiversity-friendly agriculture tends to involve some or all of the following practices:

- 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 in the 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.

3.2.2. Strengths of a pro-biodiversity agricultural sector

The following issues help to create pro-biodiversity agriculture:

- Cooperation with other companies in the production and supply chain (may help reducing negative effects).
- Cooperation with environmental or nature protection organizations.
- Joining business and Biodiversity Offset Programmes.
- Development and implementation of Biodiversity Action Plans (BAP).
- Certification of products.
- Certification of environmental management system (ISO 14001).
- Compliance with national and international legislation and agreements.
- Respect for the rights of actors involved in BioTrade activities.
- Clarity about land tenure, use and access to natural resources and knowledge.
- Financial incentives for sustainable agriculture through payments for environmental services, tax reduction, other funding.
- The development and application of cost-effective, credible monitoring and evaluation systems and practical biodiversity metrics.
- Monitoring and carrying out an Environmental Impact Assessment and taking measures.
- Using environmental screening systems to select suitable areas and enterprise activities²¹.

3.2.3. Threats to a pro-biodiversity agricultural sector

- (Large scale) conversion and fragmentation of natural habitats (e.g. deforestation for major crop production and making areas more accessible for other economic activities through road network development).
- Pollution (through intensive use of pesticides, fertilizer and manure).
- Desiccation (drying out) through unsustainable water use/management (e.g. drainage, irrigation).
- Impoverishment of native agro-biodiversity (cattle and crops). For example, land abandonment and the subsequent loss of traditional management of extensive farming systems can lead to reduced biodiversity because extensively managed agricultural landscape systems are of value for conserving threatened species (it can also have a positive effect on biodiversity, however, depending on the specific circumstances).
- Invasive alien species.
- Emissions of greenhouse gasses (carbon and methane)²¹.

3.2.4.Pro-biodiversity business opportunities in the agricultural sector

The agricultural sector probably offers the most opportunities for pro-biodiversity business development. Agriculture depends on healthy ecosystems to provide services that include nutrient and waste recycling, pollination from insects, sediment control, and clean water. An enterprise that maintains or enhances biologically diverse soils will generally be more productive and will deliver the same quantity and quality of services for agriculture.

Some examples of sustainable agricultural business activities generated through the BTAU project²⁰ and provided by the small business sector include:

- Extensive ecological crop production on arable lands.
- Organic crop production.
- Extensive grazing/livestock production.
- Selective mowing of meadows.
- Landscape maintenance.
- Extensive orchards.
- Organic wine production.
- Bee keeping and honey production.
- Specialized seed production.
- Sustainable forestry.
- Sustainable reed harvesting.
- Provision of ecotourism products and services.

3.2.5.Pro-biodiversity guidelines in the agricultural sector

Farmers and landowners should have the means to lower the impacts that their activities have on habitats and species. Over the past two decades there has been a rise in branding and certification schemes in the agricultural sector (organic production, local and regional brands, etc.) that create market niches which can assist businesses to access new markets, expand their customer base and increase their income, while conforming to better management practices.

There are numerous labels and certification standards for agricultural products. Some certification programmes give prominence to biodiversity and ecological criteria, notably the Rainforest Alliance and the Smithsonian Migratory Bird Centre ('bird-friendly'), but these Programmes focus only on tropical commodities. Other schemes address biodiversity issues little or not at all. Examples of biodiversity-friendly agriculture practices being promoted and adopted by producers on a large-scale are extremely scarce. In response, several agricultural certification systems are working to incorporate biodiversity in their standards. IFOAM for example now has developed draft landscape and biodiversity standards that could be incorporated into its organic standards in the future.

Most existing agricultural certification schemes focus on the individual farm level, with little or no attention to impacts on biodiversity at the landscape level. There is even less analysis of the cost-effectiveness of different practices or how these might be combined, sequenced over time or located physically within given landscapes to manage the trade-offs between biodiversity and agricultural production. Certification can however contribute to the marketing of pro-biodiversity products.²¹

The main pro-biodiversity guidelines are:

- International Federation of Organic Agricultural Movements (IFOAM), (<http://www.ifoam.org>).
- Conservation Agriculture (CA) techniques, focuses on the protection and sustainable use of natural resources, (<http://www.fao.org/ag/ca/>).
- GACP (Good Agricultural and Collection Practices (for medicinal plants), (<http://whqlibdoc.who.int/publications/2003/9241546271.pdf>).
- Certification Global GAP agriculture (GAP = Good Agricultural Practices), focuses mainly on food safety, (http://www.globalgap.org/cms/front_content.php?idcat=48).
- Certification FLO, Fairtrade, focuses on social and environmental criteria, (<http://www.fairtrade.net>).
- International Organic Accreditation Service (IOAS), (<http://www.ioas.org/>).
- Rainforest Alliance, sustainable agriculture program and certification, (<http://www.rainforest-alliance.org/>).
- Sustainable Agriculture Initiative (SAI) Platform, focuses on principles and practices for the sustainable production of arable and vegetable crops, coffee, dairy, fruit and sustainability in water management, (<http://www.saiplatform.org>).

3.3. Classification and analysis of existing best practices

3.3.1. Introduction to analysis grid

There are many ways to classify or categorise biodiversity business. One common distinction focuses on whether biodiversity is treated as a risk or as a business opportunity. Other classifications include distinctions between:

- Biodiversity as an input to production, as a competing use of resources, as an output for sale, or as the basis of liability and compensation claims.
- The relative emphasis on biodiversity conservation, sustainable use of biological resources, and/or equitable benefit sharing.
- The extent to which different business models focus on conserving the diversity of genes, species or ecosystems or capitalize on different values, i.e. direct use, indirect use, option and existence values.
- Biodiversity conservation as a by-product of other goods and services, versus conservation as a commercial service in its own right.¹⁸

The case studies below were selected because they represent best practice examples of agriculture and farming related activities that take into account biodiversity conservation or enhancement. The summary examples presented below concern the following issues: tools to support markets for biodiversity – certification schemes, assessment and reporting, voluntary incentives; and case studies – best practices implemented by large companies and small and medium-sized enterprises (SMEs), and other initiatives.

3.3.2. Selected best practices

Tools to support markets for biodiversity

Based on the findings of the TEEB Report for Business¹⁷, it is clear that biodiversity or ecosystem services can be the basis for new businesses. Conserving biodiversity and using biodiversity and ecosystem services sustainably and equitably can be the basis for unique business propositions, enabling entrepreneurs and investors to develop and scale up 'biodiversity businesses'.

Biodiversity business opportunities are supported by an increasingly robust collection of market-based tools which enable companies to adopt biodiversity-responsible practices and indeed to develop and market biodiversity-based goods and services. Tools for building biodiversity business are in place or under development: critical market-based tools for capturing biodiversity and ecosystem services opportunities, such as biodiversity performance standards for investors, biodiversity-related certification, assessment and reporting schemes, and voluntary incentive measures are already available or under development and could be promoted across all business sectors and markets.¹⁷

Responding to consumer preferences – certification schemes

Business, biodiversity and the linkages between them are heavily influenced by consumer preferences, which are constantly evolving. Many consumers increasingly prefer organic foods. In addition to healthier products, these consumers are seeking traceability, ethical sourcing, sustainability, and corporate social responsibility. In response to these trends, major brands are shifting toward natural, fair trade and organic products.¹⁷

The behaviour of some FMCG (Fast Moving Consumer Goods) brand owners suggests that eco-labelling is moving from niche markets into the mainstream. In recent years, several brand owners and retailers have added ecologically-friendly product attributes to their major brands, often through independent certification schemes. Examples include Mars (Rainforest Alliance cocoa), Cadbury (Fairtrade cocoa), Kraft (Rainforest Alliance Kenco coffee), Unilever (Rainforest Alliance PG Tips), FSC, PEFC standards and the Cork Mark. Importantly, all of these brands offer biodiversity attributes through certification schemes but do not ask consumers to pay a premium or to compromise on quality, taste or availability. Retailers are also taking action on biodiversity and communicating that action to consumers. In the UK, for example, the Waitrose supermarket chain links their Palm Oil Policy to customer labeling.¹⁷ Other prominent examples of large food and agriculture companies which are increasingly involved in promoting and buying certified produce include MacDonald's, Proctor & Gamble and Nestlé, which are major buyers of fair trade certified coffee.¹⁸

ISEAL is the global association for social and environmental standards and has become an umbrella organization for a growing number of sustainability standards and certification schemes. To this end, in 2010 ISEAL is launching a new "Verification Code of Good Practice for Assessing the Impacts of Standards Systems". This aims to define good operating practices in terms of accreditation, certification and auditing of entities to social and environmental standards, and also to create a requirement for all credible standards systems to measure and demonstrate their contributions to social and environmental impacts using consistent methodologies. A focus of the Code will be to achieve a balance between ensuring that certification is rigorous, in terms of meeting the needs of consumers, but also accessible, by ensuring that smaller enterprises can afford to enter certification programmes and see them as market enablers rather than barriers.¹⁷

Scaling down biodiversity and ecosystem risks to business – assessment and reporting

Businesses are finding new ways to integrate biodiversity and ecosystems into risk assessment and management. Based on the analysis of the TEEB Report for Business¹⁷, a range of practical tools are available to help business reduce biodiversity and ecosystem risks. These tools include standards, frameworks and methodologies, data collection and analysis tools, as well as model and scenario building tools.

In the case of the **Corporate Ecosystem Services Review (ESR)**, developed by the World Resource Institute (WRI), the World Business Council for Sustainable Development (WBCSD) and the Meridian Institute, the guidance may stand independently of other standards and support a general intent to understand biodiversity and ecosystem services related risks and value. This provides step by step guidance on how businesses can identify and manage potential risks around ecosystem services, including those they impact as well as those they depend on for their operations.

The Corporate Ecosystem Services Review (ESR) is a structured methodology for corporate managers to proactively develop strategies for managing business risks and opportunities arising from their company's dependence and impact on ecosystems. It assists companies in identifying impacts and dependence on healthy ecosystems such as freshwater, timber, genetic resources, pollination, climate regulation, and natural hazard protection and connecting these to their bottom line. The ESR builds on existing environmental management systems and due diligence tools by:

- Looking beyond issues of pollution and natural resource consumption.
- Addressing dependencies and impacts companies have on the natural environment.
- Considering both business opportunities and risks.
- Coupling economic and environmental issues.
- Providing a framework for stakeholder engagement.
- Enabling use of environmental risks and opportunities for more innovative corporate strategies.

The ESR has been applied by over 100 companies and has resulted in a number of recognized benefits by:

- Enabling companies to identify new business opportunities arising from the company's dependence and impact on ecosystems and the services they provide and to anticipate new markets as they are developing. In this way, the tool has also provided companies with information necessary to influence government policies on ecosystem conservation.
- Strengthening existing approaches to environmental impact assessment by addressing ecosystem issues not usually considered during that process. For instance in the case of Mondi, Europe's largest producer of office paper, application of the ESR led to the development of initiatives to improve water efficiency through control of invasive species and selection of water efficient tree strains.
- Providing a framework in which stakeholder engagement processes and relationships have improved. Syngenta, a large agribusiness company, applied the tool to identify opportunities to further engage a growing customer segment in India and identified multiple opportunities to provide additional services to these farmers.
- Allowing companies to demonstrate leadership in this area by proactively addressing the degradation of ecosystem services.

The **Global Reporting Initiative (GRI) Biodiversity Reporting Resource** was released in 2007 to assist companies in reporting their biodiversity performance. As the tool explains, "reporting offers organizations an opportunity to explain their relationship with biodiversity. In what way does the organization respond to negative impacts on biodiversity deriving from its activities? What are positive impacts?"

The **Natural Value Initiative (NVI)**²⁵ is a recent development that helps the finance sector evaluate and assess how companies – particularly in the food, beverage and tobacco (FBT) sectors – are managing their biodiversity opportunities and risks. It includes the Ecosystem Services Benchmark (ESB), which is somewhat akin to the ESR mentioned above. The ESB has been tested on over 30 FBT companies that are particularly dependent on biodiversity and can therefore have significant impacts on mitigating biodiversity loss.

Voluntary incentives for biodiversity business¹⁷

There are several types of voluntary incentives which can encourage and enable biodiversity business. These include the following:

- **Awareness raising initiatives**, which can change perceptions of investors, managers, employees or consumers about biodiversity.
- **Voluntary biodiversity offsets**, which are conservation measures that can compensate for the residual, unavoidable harm to biodiversity caused by development projects. The **Business and Biodiversity Offsets Programme (BBOP)**, for example, is reviewing offset design approaches via a series of pilot studies with the intent of drawing out best practices that align with the stated principles. There is increasing interest in tying the level of compensation or investment in biodiversity conservation activities to the level of impact the project has based on the concept of biodiversity offsets. BBOP has defined biodiversity offsets as: *“Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people’s use and cultural values associated with biodiversity”²²*.
- **Biotope arrangements**, which have promoted the collection, production, transformation, and commercialization of goods and services derived from native biodiversity under criteria of environmental, social and economic sustainability.
- **Bioprospecting arrangements and Access and Benefit Sharing agreements**, which have funded biological research and discovery partnerships between pharmaceutical companies and countries with high levels of biodiversity.
- **Stewardship payments**, which pay landscape managers to deliver biodiversity conservation and provide environmental services that benefit the public.
- **Conservation auctions**, which can be used to deliver stewardship payments.
- **Conservation covenants** as part of voluntary land transactions, to embed biodiversity conservation in the title deed.
- **Payments for watershed protection**, which range from payments by private water users to environmental agencies and NGOs, to direct payments by central governments to private landowners, and can be a cost-effective means of providing reliable supplies of fresh water.
- **Public-private partnerships**, which explore business opportunities for safeguarding biodiversity, and can link commercial debt finance with public subsidies to produce social, commercial and biodiversity benefits.

Case studies

Companies face several risks related to biodiversity and ecosystem services, but at the same time they present new business opportunities, as well. A number of companies have already started to manage these risks through appropriate enabling frameworks and partnerships. Some examples are given below.

Best practices implemented by large companies

Addressing barriers to sustainable supply – conserving pollinators (Sainsburys & Carrefour)

Thirty five percent of the global food production from plants benefits from animal pollination. The value of these ranges from \$112 billion to \$200 billion annually. Bees are in decline globally, linked to escalating levels of pollution, disease, and loss of habitat.

Sainsbury and Syngenta have developed a nationwide project in the UK known as 'Operation Bumblebee'. The project has already resulted in the enrichment of over 130,000 acres of field in over 500 farms with bumblebee critical pollen and nectar. As well as increasing the population of bumblebees by potentially many millions, other wildlife – including butterflies, other insects and farmland birds – will also benefit. In addition, as part of Carrefour's Quality Lines' supplier specification, fallow land is encouraged to promote the sustainability of bee populations and the biodiversity of wild fauna.

The Co-Operative Food company in the UK recently launched 'Plan Bee' – a ten point programme aimed at addressing concerns regarding rapidly declining pollinators. This plan included prohibition of the use of neonicotinoid-based pesticides on own-brand fresh produce, funding for research to investigate the decline in the honeybee, trialling of a bee-friendly wildflower seed mix on Co-Op Farms, encouragement of beekeepers to establish hives on Co-Op Farms in the UK and a range of awareness raising programmes to engage consumers.

Source: <http://www.co-operative.coop>; <http://www.operationbumblebee.co.uk>,
<http://www.naturalvalueinitiative.org/>

Nestlé's Nespresso Sustainable quality programme for coffee

The Nespresso AAA Sustainable Quality™ Coffee Program aims to stabilize the supply chain and safeguard the long-term supply of the highest quality coffee. It promotes environmental sustainability and social responsibility on the farms that produce coffee for Nespresso's gourmet espresso capsules. The programme discourages the unnecessary use of fertilizers, encourages integrated pest management strategies and promotes use of shade coffee to better protect the crops from erosion, and diversify the plantation area. Trees used for shade such as banana, citrus, avocado, both provide nutrients to the soil and offer additional sources of income for farmers. The programme protects ecosystems by incorporating planning and management of protected natural areas. It prohibits hunting and captivity of wild animals and illegal logging. The programme includes ecosystem restoration, e.g. planting trees near water sources. The Rainforest Alliance Sustainable Agriculture Network (SAN) verifies that the farms in the AAA programme are implementing better methods and are decreasing their impact on the natural world.

A Tool for the Assessment of Sustainable Quality (TASQ™) is used to help implement the AAA programme. It includes quality, environmental, social and economic indicators. Farmers and growers are provided with a self-assessment guidebook and are trained to use it. A team of agronomists later assesses these farms and the resulting data from the TASQ™ is analyzed. Farms found to be falling short on certain critical practices such as deforestation or the misuse of dangerous agrochemicals must correct these problems before they can qualify for the programme.

Currently 50% of Nespresso coffee is sourced through this programme (25,000 farmers in five countries). Nespresso has recently committed to source 80% (80,000 farms, nine countries) of its coffee from the AAA Sustainable Quality™ Coffee Program including Rainforest Alliance Certification™ by 2013.

Source: <http://www.ecolaboration.com/#/aaa/en/coffee/aaa>; <http://www.naturalvalueinitiative.org/>

Unilever's sustainable agriculture programme

Unilever's activity on sustainable agriculture occurs within a corporate policy framework that commits the company to 'minimize any adverse effects on soil fertility, water and air quality, and biodiversity from agricultural activities'.

The company has developed sustainable agriculture standards, which provide guidelines for farmers. These have been developed for the crops that Unilever sources in the greatest volume, in consultation with an external advisory panel. The documents outline sustainable best management practice for each crop, against 11 sustainability indicators, which include: soil fertility/ health; soil loss; nutrients; pest management; biodiversity; value chain; energy; water; social/ human capital; local economy and animal welfare. By 2005, good practice guidelines were published for peas, spinach, palm oil and tomatoes, and requirements were incorporated into contracts with growers. These guidelines have been adopted/ adapted by companies in a number of other sectors.

In implementing these standards, the company has produced biodiversity action plans for two sites and a farmer-focused tool to assist farmers in addressing sustainability indicators, including biodiversity. The company conducts workshops with suppliers and has developed commodity specific training which includes biodiversity and ecosystem services.

In addition to managing risk, Unilever is piloting ways of realizing competitive advantage. Its Brand Imprint tool which takes a 360 degree look at product impact from environmental, social and economic perspectives and actions are developed accordingly.

Source: <http://www.unilever.com>; <http://www.naturalvalueinitiative.org/>

"Préférence" – new orientation in sustainable potato production (France)

"Préférence": An efficient, supportive tool in sustainable potato farming

"Préférence" has been demonstrating its efficacy for Nestlé and potato producers for the past six years. This easy to use tool made it possible to formalize and implement good agricultural practices that guarantee quality, traceability and protection of the environment. Each producer is audited every third year, which enables him to know his weak points and to improve his practices. *"Préférence"* is now updated to further sensitize farmers to sustainable agriculture practices. That is why new themes have been integrated in the *"Préférence"* toolkit, such as "conservation of biodiversity" and "reducing greenhouse gases".

The most important points to audit:

- Potato production: From plantation to harvest, the farmer must be able to reconstitute all the operations carried out in the potato growing process in order to guarantee optimum traceability.
- Harvest and storage: Verified harvest equipment and good storage infrastructures limit the damage to potatoes.
- Environment: The farmer has to show his commitment to environmental protection in three main areas: the protection and, if possible, improvement of water, soil and air conditions.

Operation Pollinator: Investing in natural capital for agriculture¹⁷

Syngenta, a leading company in the agriculture sector, is developing a conservation program that may enhance farm productivity by reversing the decline of an ecosystem service critical to agriculture – pollination. From field vegetables in Italy, to melons in France, to blueberries in the United States, the importance of insect pollination is unequivocal.

In 2009, Syngenta launched Operation Pollinator, an initiative which currently involves 13 EU countries and the USA that aims to restore native pollinators in agricultural landscapes by creating suitable habitats on or near farmland. Establishing and managing floral plant margins around crops increases plant diversity and native pollinator populations, delivering significant environmental benefits with the potential to increase farm profits.

The potential benefits of Operation Pollinator are clearly apparent in the State of Michigan, home to the USA's largest blueberry industry. The economic value of pollinators in Michigan is substantial: the fruit and vegetable sector is worth approximately US\$ 800 million annually and includes crops that are highly dependent on pollination to sustain marketable yields. In Michigan, blueberry production has 90% reliance on bees for pollination, to help ensure high yields in this crop worth an estimated US\$ 124 million annually (USDA NASS 2008). With recent declines in honey bee populations, other crop pollination strategies are needed to protect grower productivity.

Operation Pollinator advises and trains growers interested in converting marginal agricultural land to native pollinator habitat. In coordination with federal conservation programs, growers are assisted to make simple changes in farm operations that are compatible with current practices and existing goals for soil and water conservation.

Enhanced native pollinator populations are part of a diversified strategy for maintaining crop yields and improving fruit quality for insect pollination-dependent crops. When managed bees are in short supply or if bee hive rental costs increase, abundant native bee populations can provide supplementary pollination services to farmers.

Syngenta understands that the future of agriculture ultimately depends on protecting the environment and enhancing the livelihoods of growers, through the development of more sustainable agricultural systems. Modern agriculture increasingly recognizes the commercial benefits of farm management that increases the biodiversity of beneficial insect species, while also conserving other natural resources (e.g., soil and water). If this can be done in a way that enhances long-term agricultural productivity, not only Syngenta but also the growers it serves and society as a whole will reap the rewards.

For more information see: <http://www.operationpollinator.com>

Blueberry Production in Michigan:

- In 2006 there were 575 blueberry farms across the state, with 18,500 acres under production.
- The average yield of blueberries in 2009 was 5,350 pounds/acre.
- In 2007-2008 fresh blueberries retailed above \$2.00/pound (USD) although prices have since dropped to below \$1.30/pound (USD).
- Managed bees cost Michigan blueberry growers about \$80/acre/year (based on 2 hives/acre).

Agéris Farm Network

Syngenta, a leading company in the agriculture sector, has developed in France a programme of sustainable farming that demonstrates how competitive agriculture could be sustainably managed. In particular, it looks at how adapted practices associated with an active ecosystem management can produce biodiversity and be beneficial to the environment.

Created in 2001, the *Réseau Agéris* forms a direct partnership between Syngenta and a number of motivated farmers in France to support them in their efforts to promote the preservation of landscapes and the environment. Currently 12 farms cover the vast majority of France's agro-climatic regions including West Indies in La Guadeloupe.

Agéris works as a toolbox for farmers to share their experiences and exchange ideas on best practices for improving crop and farm management enabling these tools to be used in a way that improves yields while providing ecological benefits. Biodiversity enhancement, water protection, and soil erosion prevention are some of the key issues tackled by the network.

Results from Agéris farms allow Syngenta to make recommendations on various environmental schemes like hedge management, intercrop choices, field margins, set-aside practices and pollinators.

Biodiversity Audits demonstrate that a great diversity of plants, insects and animals has developed thanks to the implemented measures. Up to 420 plant species (8% of French flora) and more than 70 bird species (12% of the total birds species of France) can be found on a single Agéris farm.

For more information see:

http://www.syngenta-agro.fr/synweb/agroCompet_235_7_885_Exploitations-Ageris.aspx

Listel Wine Production

Listel produces wine on relict sandbanks formed by the Rhône River, on the French Mediterranean coast, also recognized as a UNESCO site and included in the Natura 2000 network. Its vineyards and natural habitats are divided into patches which creates an irregular mosaic which reflects and is synonymous with the landscape management of the Mediterranean coast. Besides the wine production which today achieves approximately 4.5 million bottles a year in the Jarras estate, horse breeding is also an important activity.

Being a main factor in successful grape and wine production and a non-renewable resource, soil is a crucial component of the landscape management; the soil is managed in order to meet the standards implied by the thematic strategy of the European Union on soil protection in the Mediterranean Basin (and should meet the levels required by the anticipated legislation on soil protection). Examples of concrete actions in the field of land use and land management, in pursuit of soil protection as defined by EU criteria (in what might be called a preventive approach) include: the maintenance of traditional activities such as “enjoncage” and sowing cereals in the vineyards; improving the soil’s biological diversity and biological activity; supplying the estate with fresh water in order to counteract the impact of salinization; and maintaining agricultural practices (that have proven to be ecologically and economically sustainable and improve the knowledge on fresh water table dynamics and its impact on vineyards).

Chocolats Halba: Implementing agroforestry to ensure cocoa bean security and partner satisfaction¹⁷

The chocolate and confectionery company Chocolats Halba, a subsidiary of the Swiss retailer COOP, has integrated sustainable cocoa sourcing into its supply chain. Like the rest of the chocolate industry, the company faces chronic supply shortages. Because of price instability, cocoa production is more risky for small-scale farmers, who produce most of the world’s cocoa; many are searching for alternative employment opportunities. Chocolats Halba discovered that the best way to support farmers was to establish diversified agroforestry systems that include cocoa as one of many crops. In such systems, biodiversity is generally higher because they establish a more diverse landscape. With agroforestry systems, farmers also have a higher and more diverse income, which means that cocoa farming is not only good for biodiversity and ecosystem services – it is also good for making cocoa growing attractive again.

According to Christoph Inauen, Head of Chocolats Halba Sustainability and Projects: “Farmers that work with us realize that we are not only interested in cocoa but also in their livelihood, their income, biodiversity (we help them reforest deforested areas), and other issues. This makes our relationship very strong: farmers give their best to improve the quality of the cocoa in order to give us something back. So we have reliable sourcing partners and very strong relationships with our farmers. In case of a supply shortage, this would surely help us.”

The benefits of biodiversity-based corporate social responsibility lie with the quality of its products, the security of its supply chain, the long-term contentment of its cocoa-growing

partners, and the positive environmental impacts being generated in tropical countries—which are among the most important regions for conserving biodiversity and ecosystem services.

Conservation Grade nature-friendly farming¹⁷

The UK-based Conservation Grade certification system of 'nature-friendly farming' provides food brands, producers and consumers with efficient food production while enhancing biodiversity and ecosystem services and preventing wildlife declines on farmland. It does so by requiring Conservation Grade farmers to take 10% of their land out of production for conversion to wildlife habitats. In return, these farmers are able to use the Conservation Grade logo on all of their products and have access to a supply contract for their produce for which there is a guaranteed premium over the market price.

The Conservation Grade farming scheme exemplifies innovative new solutions to feeding the growing world population without destroying biodiversity and ecosystem services. Independent scientific trials have demonstrated that the Conservation Grade system leads to significant increases in biodiversity, as compared to conventional agriculture, without foregoing output for the land under conservation.

For more information see: <http://www.conservationgrade.org/>

Best practices implemented by Small and Medium Enterprises (SME)

Extensive sheep farm in Ostoja Popradzka Natura 2000 site²³

The Sheep Farm carries out extensive sheep grazing on montane meadows. The micro-enterprise has its own herd but also lease (hire) sheep from a number of other farmers. They produce sheep milk, cheese, wool, mutton, hay and "sheep farming services", to other farmers. According to information provided by authorities of the Popradzki Landscape Park increasing the population of sheep (which almost completely disappeared between 1980 and the late 1990's) and bringing back sheep farming into the region is a critically important measure to maintain the open landscapes of the region. In this area of Poland, farmers therefore have an important role to play in supporting the management of the Natura 2000 site of Ostoja Popradzka. The Sheep farm plans to expand the scale of production in the near future to enhance its income basis and thus sustainability in general along with selling regional products based on local biodiversity. An old indigenous sheep race is bred and preserved, mountain meadow and pasture biodiversity is preserved, and the environmental objectives of the Popradzki Landscape Park are supported.

Weleda: Organic production of lavender from Moldova and roses from Turkey²¹

Lavender: About 40 km north of Moldova's capital, Chisinau, Weleda established its sustainable project for the cultivation of organic Lavender. Weleda works with up to 200 seasonal harvesting partners in this area. Many people in rural areas of Moldova live below the poverty level. Through this partnership, Weleda has supported organic cultivation and provided farmers with the ability to export their goods with a long-term guarantee. This secure demand supports the economic and social makeup of the region. In addition, the organic cultivation of Lavender in Moldova further supports the fertile earth and environmental wellbeing of the region.

Roses: In order to answer the annual demand for roses in a sustainable way, Weleda developed a fair trade project with the local farmers and residents of the village of Senir in Isparta, Turkey. Several years ago, Weleda began by helping these communities convert their land into organic cultivation. Since then, 290 farmers in 7 villages with 120 hectares under cultivation have enhanced their farms according to organic standards. Weleda continues to provide educational, ecological and social support, offering this local community a secure living, while protecting their land and water for a sustainable future.

For more information see:

http://usa.weleda.com/about_us/fair_trade/wild_rose.aspx

http://usa.weleda.com/about_us/fair_trade/lavender.aspx

The “Jistebnice Highlands” Project (Czech Republic)

The objective of the project is to preserve a specific area of land which historically belonged to the Maděra family, in the same condition that it was in prior to the period of socialist collectivization. In the period of collective farming of “united farmers’ cooperatives” this land was not included in consolidated areas consisting of many hectares of land. The land was spared inappropriate interference with the water regime, with erosion-control ridges, as well as moors and preserved damp meadows. After the fall of communism, Mrs. Maderova was able to regain possession of the land. In 1991, taking into consideration the value of the land concerned and its importance for the landscape, she decided to manage it in an environmentally sound manner, without the application of chemical preparations, the aim being to preserve the existing biodiversity. The land also serves as a refuge for species that were once common in the surrounding landscapes, previously affected by large-scale collective farming.

The above goals were attained by active participation in administrative proceedings and plans under preparation relating to the land concerned or any land immediately adjoining it. This concerns any ill-considered digging and spreading of ridges, which serve for erosion control, the construction of roads on agricultural land, extending the built-up area of villages with the construction of residential buildings on sites which are ecologically valuable, preserving the original appearance of the landscape and creating a healthy and clean environment. The natural transition from the built-up area to the non-built-up area, as well as free access to the landscape, remains preserved.

Other initiatives and good practices

There is increasing interest on the part of major food and agriculture companies to promote more sustainable agricultural practices, partly in response to pressure groups, but more fundamentally in order to secure their supply chains and consumer markets. Some examples include:

- The Sustainable Agriculture Initiative Platform (www.saiplatform.org), which aims to promote agricultural practices and production systems that preserve resources and enhance efficiency.
- The Sustainable Tree Crop Program for Africa (<http://edcintl.cr.usgs.gov/treecropsaf.html>), focusing on cocoa, coffee and cashews with support from the United States Agency for International Development (USAID), major chocolate and cocoa trading companies, and other businesses.
- The Common Code for the Coffee Community, coordinated and partially-funded by the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) (www.gtz.de), in conjunction with leading coffee traders, roasters and retailers.
- Business for Social Responsibility’s Food and Agriculture Group (www.bsr.org), focusing on sustainable water use within its corporate members’ supply chains.
- Based, in part, on the perceived growth in demand for more sustainable agricultural products and the potential benefits for biodiversity conservation, a number of agencies are launching new programmes to support this form of rural development. In addition, some investment banks and other financial institutions are becoming more active in the sustainable agriculture sector. Examples include Rabobank, Citigroup, Triodos Bank and ABN-Amro.¹⁸

There is no standard solution for maintaining biodiversity: example of flower strips²⁴

Setting up flower strips on cropland is undoubtedly a key measure for improving the biodiversity of the agricultural environment. In areas where cropland dominates, flower strips not only sustainably improve the image of the agricultural landscape but also provide food and a refuge for insects and other wild animals. Moreover, they also constitute a source of food for honeybees.

Thus in 2009, for example, farmers from the French Nouricia cooperative began creating flower strips in collaboration with beekeepers. By 2010, 15 farmers had grown flowering plants over 32 ha of land, thereby providing sources of nectar and pollen. In the first year alone, these areas accounted for half of the pollen collected by bees, which is proof indeed of how important they are as a source of food.

The industry-financed initiative “Operation Pollinator” was given the objective of increasing the population of native pollinating insects in the agricultural environment. Many cash crops depend on insect pollination, e.g. fruit trees and bushes, rapeseed, sunflower, strawberries. With improved pollination, yields and quality can also be increased. Farmers are a part of this initiative in 13 countries across Europe (Portugal, Spain, France, Belgium, Netherlands, Ireland, UK, Sweden, Germany, Switzerland, Italy, Hungary and Greece). They receive special seed mixtures and advice about setting up flowered areas and are compensated for any resulting income losses. As plant protection products cannot be used on flower strips, they do not simply provide a valuable dwelling for native insects but they also reduce the risk of pests such as aphids developing resistance.

Flowering plants grown on fallow land also play a positive role. The French cooperative Terrena-Poitou created meadows for bees on 300 ha, planting *Phacelia* and alfalfa, amongst others. Seeds were in part provided to farmers free of charge. In particularly dry years an exemption can be granted, allowing these fields to be harvested, whereby the alfalfa fields can provide an additional source of livestock fodder.

In England, a voluntary initiative – Campaign for the Farmed Environment (CFE) – was launched in 2009 with the objective of retaining and exceeding the environmental benefits provided by land formerly required being set-aside under the Single Payment Scheme (SPS). The benefits of the land management encouraged by the initiative will improve water quality and soil protection and increase populations of farmland wildlife. One of the campaign’s objectives is for around 60,000 ha of uncropped land to be dedicated to nature conservation, including the establishment of flower strips.

Developing flower strips and areas and in particular the choice of seeds depends on whether the purpose is for providing food and a habitat for beneficial organisms, a refuge for small game or a meadow for bees. Local factors such as the soil properties and the operation of the farm (farming system, crop rotation, annual or multi-annual establishment) also have an influence on the size of the area and the flowering plants chosen. However, they all make an important contribution towards increasing the biodiversity of the agricultural environment.

4. Gaps and needs: Best practices analysis in the sector

4.1. Critical success factors

Based on the above case studies and the analysis of Bishop et al (2008)¹⁸, several critical success factors can be identified, which underpin and stimulate private investment in biodiversity conservation. Perhaps the most important is the presence of adequate policy frameworks, but many other factors also matter for increased private investment in biodiversity business:

- Multi-stakeholder participation and 'ownership' of biodiversity business initiatives, involving the full gamut of private stakeholders (e.g. investors, entrepreneurs, brokers, auditors, customers), but also public agencies and NGOs. A prerequisite for moving forward in this area is to clarify the respective roles and commitments of different stakeholders in developing pro-biodiversity business.
- Demand-led developments: opportunities should be generated based on market needs and on consumer demand.
- The importance of public policy for stimulating biodiversity business. Voluntary action is clearly a valuable tool for raising awareness and testing alternative business approaches to biodiversity conservation. Voluntary initiatives such as eco-labelling and certification can also drive major market changes, where consumer preferences for 'sustainable' goods and services are strong. In that respect implementation of effective marketing activities is a key issue.
- Distribution chains should be designed and implemented efficiently.
- Biodiversity business plans and performance indicators: integrated biodiversity business plans and project-level biodiversity management plans need to include both commercial and biodiversity performance indicators. Both process and output indicators can be used to assess the extent to which biodiversity is reflected in business management decisions, products and services.

4.2. Identified key needs

The EU Business and Biodiversity Platform – Agriculture Workshop (14 September 2010, European Commission, DG Environment) provided the opportunity to discuss the key needs in relation to business and biodiversity and the EU B@B Platform itself.

The key needs and recommendations identified by the participants were:

- How to convince farmers to continue biodiversity-friendly practices when financial support stops? How to change behaviour?
- The role of pictures and success stories (cases and practical examples) is crucial when convincing people to change behaviour.
- Regional biodiversity targets need to be set and communicated through core species that are visible and emblematic for certain agriculture practices (e.g. bees, farmland birds and butterflies).
- The local adaptation of rules, regulations and agriculture practices is crucial for success.
- Adopt a bottom-up approach and listen to stakeholders / local actors.
- The biodiversity education of the farmers is missing – both in terms of the young farmers (e.g. inclusion of biodiversity in curricula of agricultural high schools), the new generation and existing farmers (e.g. through training sessions).
- The economic and social return needs to be clear.
- The long-term financial perspective is essential – less yield for more biodiversity is not motivating farmers.
- Peer to peer communication is also a key to success – “the role of neighbours” is essential within the farming community. This is valid to all business operators, not only land managers and farmers, but also SMEs and large companies.
- Could biodiversity be used as a proxy for sustainability on the farm?
- The EU B@B Platform is expected to make recommendations and to help harmonizing the policy requirements - bringing together the agriculture and the environment policy (e.g. in relation to buffer strips, cross-compliance).
- There is a need for down-to-earth guidelines, to be as practical as possible and specific to farming practices. The link between agriculture and biodiversity needs to be presented in positive terms – it provides a unique opportunity.

- Developing appropriate indicators applicable at regional level, since within Europe biodiversity is very heterogeneous at farm level. Those indicators should fit to both regional and local conditions and might serve as tools for benchmarking at later stage.

5. Conclusions

The effective application of best practices at the farm and landscape levels requires the translation of knowledge into policies and practices that create synergies between different components of biodiversity and the provision of ecosystem services. The study of how to change behaviour of farmers to pursue biodiversity-friendly practices is therefore a priority research area for the future. Targeted advice can significantly assist the integration of biodiversity conservation at farm level.

At the same time, possibilities for exchange of experience and networking between the relevant stakeholders are essential to the practical application at farm and landscape levels and across geographical boundaries. Some of the case studies in this document illustrated that besides food, feed and fuel, agriculture can also produce biodiversity. Policy tools exist to foster it, but a joint-up approach is crucial for success.

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The European Union Business and Biodiversity Platform

The EU Business and Biodiversity Platform is a unique facility within the European Commission's Initiative where businesses can come together to share their experiences and best practices, learn from their peers, and voice their needs and concerns to the European Commission. The Platform aims to strengthen the link between the business sector and biodiversity conservation. The IUCN Regional Office for Pan-Europe, in partnership with PriceWaterhouseCoopers, ECNC, ELO and Blue4You, implements the B@B Platform which is funded by the European Commission. More information at <http://ec.europa.eu/environment/biodiversity/business>.



IUCN

IUCN, International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges. IUCN supports scientific research, manages field projects, and brings governments, NGOs, the UN and companies together to develop policy, laws and best practice.

www.iucn.org



PriceWaterhouseCoopers

The French SBS practice (www.pwc.fr/dd), member of PricewaterhouseCoopers Advisory France and a part of PricewaterhouseCoopers Sustainable Business Solutions (SBS) network (www.pwc.com/sustainability) is dedicated to providing clients with environmental/sustainability advisory services.



ECNC

The ECNC-European Centre for Nature Conservation working for the conservation and sustainable use of Europe's nature, biodiversity and landscapes, developing partnerships with organizations, institutes and businesses.

www.ecnc.org



ELO

ELO, European landowners' organization is committed to promoting a sustainable and prosperous countryside and to increasing awareness relating to environmental and agricultural issues.

www.europeanlandowners.org



Blue4You

Blue4You is an agency specialising in online communication and development of dynamic applications. Blue4You gathers the strategic, technical and graphic expertise to create powerful institutional interactive campaigns.

www.blue4you.com

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