

1. Overview

(1) Background and features of the practice

Human activities depend on ecosystem services which originate in biodiversity. This applies to corporate activities, which is a type of human activity. The entire foundation of corporate activities depends on ecosystem services, such as the direct use of provisional services in obtaining materials, weather conditions that suit activities to supply products and services, protection from disasters, and the presence of clean air and water.

In the meantime, corporate activities inflict various negative influences on ecosystem services and biodiversity. Moreover, the degree of impact is drastically expanding along with the rapid expansion of corporate activities. In addition, many ecosystem services have characteristics that are shared public assets so the damage from negatively influenced services affects not only companies themselves but also other entities that share the same ecosystem services.

Due to such circumstances, biodiversity conservation by companies is strongly demanded as a corporate social responsibility rather than an activity to ensure their own sustainability. Systems to internalize the social costs and benefits of biodiversity conservation in corporate activities have been developed one after another (e.g. biodiversity offsets, forest certification, and cooperation with CSR activities).

Meanwhile, there is an increasing possibility that owners and managers of natural resources that provide biodiversity and ecosystem services can gain new funding and/or human resources from companies or the market by accepting and supporting corporate biodiversity conservation activities.

(2) Details of the practices and their applicability

There is a great variety of mechanisms to conserve biodiversity based on market mechanisms, and the development and promulgation of this mechanism has rapidly progressed in recent years.

Three major practices are introduced below.

1) Biodiversity offset, mitigation banking

i. Details of the practice

- In “biodiversity offset,” the negative impacts of human activities on the ecosystem in a given location are compensated for by regenerating or creating an ecosystem in a different location with the same or better values as the affected values.
- “Mitigation banking” refers to a mechanism in which the surplus of environmental improvement effects from the compensation and mitigation is securitized, and purchasing the security is regarded as the equivalent of the actual mitigations.
- Compensation is the lowest priority in mitigation efforts; it is used when eliminating or reducing environmental impact is difficult.
- In order to apply these practices, it is required that legal systems provide a “no-net loss policy” (the entire value of nature within a given area must be sustained at a certain level) and compensation and mitigation in locations far from the target area is authorized.

- Due to the uncertainty and irreplaceability of ecosystems, various principles and standards must be followed in addition to the above stipulation. Principles of biodiversity offset provided in Business and Biodiversity Offset Program (BBOP) are shown below as a reference.
- ii. Range of application
 - This practice can be applied in countries and regions where biodiversity offset and mitigation banking are legally recognized.
 - iii. Implementing bodies
 - Owners of land where compensation or mitigation banking takes place and companies that conduct development in other areas cooperate with each other to regenerate or create secondary nature.

Principles on Biodiversity Offsets by the BBOP Advisory Committee

1. **No net loss:** A biodiversity offset should be designed and implemented to achieve *in situ*, measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity.
2. **Additional conservation outcomes:** A biodiversity offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place. Offset design and implementation should avoid displacing activities harmful to biodiversity to other locations.
3. **Adherence to the mitigation hierarchy:** A biodiversity offset is a commitment to compensate for significant residual adverse impacts on biodiversity identified after appropriate avoidance, minimization and on-site rehabilitation measures have been taken according to the mitigation hierarchy.
4. **Limits to what can be offset:** There are situations where residual impacts cannot be fully compensated for by a biodiversity offset because of the irreplaceability or vulnerability of the biodiversity affected.
5. **Landscape context:** A biodiversity offset should be designed and implemented in a landscape context to achieve the expected measurable conservation outcomes taking into account available information on the full range of biological, social and cultural values of biodiversity and supporting an ecosystem approach.
6. **Stakeholder participation:** In areas affected by the project and by the biodiversity offset, the effective participation of stakeholders should be ensured in decision-making about biodiversity offsets, including their evaluation, selection, design, implementation, and monitoring.
7. **Equity:** A biodiversity offset should be designed and implemented in an equitable manner, which means the sharing among stakeholders of the rights and responsibilities, risks and rewards associated with a project and offset in a fair and balanced way, respecting legal and customary arrangements. Special consideration should be given to respecting both internationally and nationally recognized rights of indigenous peoples and local communities.
8. **Long-term outcomes:** The design and implementation of a biodiversity offset should be based on an adaptive management approach, incorporating monitoring and evaluation, with the objective of securing outcomes that last at least as long as the project's impacts and preferably in perpetuity.
9. **Transparency:** The design and implementation of a biodiversity offset, and communication of its results to the public, should be undertaken in a transparent and timely manner.
10. **Science and traditional knowledge:** The design and implementation of a biodiversity offset should be a documented process informed by sound science, including an appropriate consideration of traditional knowledge.

Source: The website of the Business and Biodiversity Offset Program

2) Environmental labeling (forest certification, fishery certification, etc.)

- i. Details of the practice
 - "Environmental labeling" is a mechanism in which public entities and business associations issue certifications to businesses that provide environmentally friendly products and services and implement such efforts in order to expand their shares.
 - Certified business can motivate selective purchasing among environmentally conscious consumers by claiming the certified status in their product labeling and advertisements.
 - Environmental labeling include things that are deeply involved with the sustainable use and management of secondary nature. Examples include forest certifications (e.g. FSC Certification) which certify sustainable forests and forestry businesses and fishery certifications (e.g. MSC Fisheries Certification) which certify sustainable fisheries.
- ii. Range of application
 - This practice is widely applicable in areas where agricultural, forestry, or fishery products that are the targets of certification are produced.
- iii. Implementing bodies
 - Certified farmers, foresters, or fishermen receive payment which include the added value of the environmental benefits from companies and consumers. These certified workers implement the sustainable use and management of the secondary nature from which they produce.

[Case]

Around the world No.19: Forest management through Community-based Forest Enterprises in Ixtlán de Juárez, Oaxaca, Mexico

3) Mechanism of fund raising linked with CSR activities

- i. Details of the practice
 - Environmental activities account for a major part of a variety of activities to satisfy corporate social responsibilities (CSR) and have been rapidly expanding in recent years. CSR activities in environmental fields mostly include activities in the main operations of a company (e.g. purchasing sustainable natural resources) and social contribution activities outside of main operations (e.g. the participation of employees in environmental conservation activities and the sponsoring of such activities).
 - Of these, social contribution activities in environmental fields often face difficulties in finding new partners that are different from the stakeholders of the main operation, despite the increasing motivation among companies.
 - In recent years, as a new measure to promote such activities, there are increasing number of cases where public entities establish a system to match companies that wish to conduct social contribution activities with new partners and give incentives to companies as a compensation for corporate sponsorship (e.g. accreditation of CO₂ absorption through forest conservation activities).
- ii. Range of application
 - Such mechanism may be applicable in a variety of areas.
- iii. Implementing bodies
 - Public entities operate mechanisms to which companies that wish to implement social contribution activities, along with environmental conservation entities that wish to receive corporate support (e.g. environmental protection organizations and owners of agricultural, forestry, and fishery businesses) participate.

[Case]

In Japan No.15: Forest management by various involved parties in Nishiyama area of Nagaokakyo City, Kyoto Prefecture, Japan

2. Effects obtained from these Cases regarding the sustainable use and management of natural resources

Implementation of the practices in this category is associated with the following effects in the sustainable use and management of natural resources and the maintenance of a healthy secondary nature.

(1) Effects on the sustainable use and management of natural resources (socioeconomic effects)

- Landowners who are involved in ecosystem conservation, regeneration, or production, or who are motivated to participate in such activities, are expected to receive new funding and labor from companies by utilizing biodiversity offsets, mitigation banking, environmental labeling, or a fundraising system linked with CSR activities.
- Companies can expect to satisfy social responsibilities and continue their business by supplying investment or their labor force to the conservation, regeneration, or production of ecosystems through these mechanisms.

(2) Effects on the health of the secondary nature (effects on ecosystem and biodiversity)

- The proper incorporation of regeneration or production of secondary nature in the mechanism of biodiversity offsets and mitigation banking is expected to contribute to biodiversity improvement and promote the regeneration of secondary forests, farmland, or grasslands that were deteriorated through market mechanisms.
- In the production sites certified through environmental labeling as well as farmland, forests, and oceanic areas supported by companies as CSR activities, improvement in the health of ecosystem and biodiversity can be expected from the sustainable use and management of natural resources that are in compliance with certification standards or requirements for support.

3. Toward the implementation of this practice : Points of planning and examples of action items based on the “Five Perspectives” of the SATOYAMA Initiative

This section describes important points and operation procedures when land owners or authorized users involved in the use and management of secondary nature (hereinafter referred to as “land owners”) plan on receiving funding or labor from companies or the market to improve the health of secondary nature through a mechanism of biodiversity conservation using market mechanisms.

This section does not include cases where companies as land owners independently utilize the system of biodiversity conservation within market mechanisms.

Table: Points of planning and action items based on the “Five Perspectives” of the *Satoyama* Initiatives

“Five Perspectives” of the Satoyama Initiative	Points of planning	Action items
(1) Resource use within the carrying capacity and resilience of the environment	<ul style="list-style-type: none"> When asking for companies to provide funding or labor, it is necessary to present the possibility that the other party can receive definite benefits using clear and sound evidence. In order to do so, it is necessary to clarify the value of biodiversity using scientific assessment methods and prepare plans to conserve, regenerate, or produce secondary nature. 	<ul style="list-style-type: none"> Identify the current conditions and problems of secondary nature (including quantitative evaluations). Plan for the conservation, regeneration, or production of secondary nature.
(2) Cyclic use of natural resources	<ul style="list-style-type: none"> It is effective to explore the possibilities of the cyclic use of natural resources of the new secondary nature to be produced. 	<ul style="list-style-type: none"> Examine cyclic use of natural resources.
(3) Recognition of the value and importance of local traditions and cultures	<ul style="list-style-type: none"> It is necessary to explore the applicability of traditional knowledge of the region. 	<ul style="list-style-type: none"> Verify applicability of traditional knowledge.
(4) Natural resource management by various participating and cooperating entities	<ul style="list-style-type: none"> It is necessary to clarify the allocations of benefits, risks, rights, responsibilities, and roles among land owners, companies, and other stakeholders. In order to secure a fair and equal relationship, it is necessary to incorporate measures such as information disclosure and third-party monitoring. 	<ul style="list-style-type: none"> Establish implementation systems. Conclude contracts.
(5) Contributions to local socio-economies	<ul style="list-style-type: none"> It is effective to make sure that these effects will spread by linking them with various entities and activities within the area. To promote autonomous management by local residents, it is important to provide education, human resources develop, and capacity building. 	<ul style="list-style-type: none"> Plan efforts to make sure to exhibit ripple effects within the area. Plan for education, human resources development, and capacity building.

(1) Resource use within the carrying capacity and resilience of the environment

Points of planning	<ul style="list-style-type: none"> • When asking for companies to provide funding or labor, it is necessary to present the possibility that the other party can receive definite benefits using clear and sound evidence. • In order to do so, it is necessary to clarify the value of biodiversity using scientific assessment methods and prepare plans to conserve, regenerate, or produce secondary nature.
Action items	<ul style="list-style-type: none"> • Identify the current conditions and problems of secondary nature (including quantitative evaluations). • Plan for the conservation, regeneration, or production of secondary nature.

When ecosystem services or biodiversity has deteriorated due to overexploitation or under-exploitation, or when such situations are expected to occur in the future in a given area, land owners and companies should form a relationship through a mechanism of biodiversity conservation using market mechanisms and introduce the funding and labor required for the conservation, regeneration, or production of secondary nature.

In order to do so, it is necessary to use clear evidence to demonstrate that the company or consumers who act as a partner can receive definite benefits. Examples of such evidence include credits (certification for improved ecosystem values) in biodiversity offsets and environmental labeling certifications.

An example of the procedure to introduce funding is as follows: first, land owners begin conserving, regenerating, or producing secondary nature in advance; second, they increase the benefits of biodiversity on their own land and obtain biodiversity offset credits or certifications; and finally, they seek funding from companies based on their credits and certificates. Another example is a procedure in which land owners seek funding from companies under the condition to provide benefits which will be generated in the future and jointly conserve, regenerate, or produce secondary nature with the companies.

Both procedures require clarification of the current values of biodiversity and target levels through scientific evaluations and preparation of plans to conserve, regenerate, or produce secondary nature to fill the gaps. It is necessary to incorporate continuous monitoring and improvement measures in the plans based on the uncertainties in the ecosystem and the necessity for continuous management to maintain the dynamic equilibrium of secondary nature.

Obviously, laws, principles, and standards internalized or related to the mechanism must be complied with when practicing these procedures.

(2) Cyclic use of natural resources

Points of planning	<ul style="list-style-type: none"> • It is effective to explore the possibilities of the cyclic use of natural resources of the new secondary nature to be produced.
Action items	<ul style="list-style-type: none"> • Examine cyclic use of natural resources.

Secondary nature is dependent on the balance between the artificial extraction of natural resources and regeneration ability of the nature. Thus, continuous management is necessary to maintain the health of secondary nature, but securing funding and labor for continuous management becomes a challenge.

Therefore, when conserving, regenerating, or producing secondary nature using the practices discussed in this section, it is effective to utilize them as places of agriculture, forestry, and fishery, or to utilize biomass generated in their maintenance and management (e.g. thinned woods and cut grasses) as fuels or materials in order to carry out both continuous management and a cyclic use of natural resources.

(3) Recognition of the value and importance of local traditions and cultures

Points of planning	<ul style="list-style-type: none">• It is necessary to explore the applicability of traditional knowledge of the region.
Action items	<ul style="list-style-type: none">• Verify applicability of traditional knowledge.

Local wisdom of traditional resource circulations and a knowledge of useful plants may include resources that can be utilized in many aspects of the planning and implementation of the conservation, regeneration, or production of secondary nature.

Thus, as a part of the preliminary research in this planning, it is necessary to organize the details and locations of traditional knowledge, identify their natural and social rationalities in scientific ways, and examine their applicability.

When utilizing traditional knowledge, it is essential to fairly and equally distribute benefits to the local society and residents who have inherited them.

(4) Natural resource management by various participating and cooperating entities

Points of planning	<ul style="list-style-type: none">• It is necessary to clarify the allocations of benefits, risks, rights, responsibilities, and roles among land owners, companies, and other stakeholders.• In order to secure a fair and equal relationship, it is necessary to incorporate measures such as information disclosure and third-party monitoring.
Action items	<ul style="list-style-type: none">• Establish implementation systems.• Conclude contracts.

When introducing a mechanism of biodiversity conservation using market mechanisms, and establishing a relationship between land owners and companies situated outside the target areas, it is necessary to deal with various economic and social risks based on the fact that the relationship is formed via highly uncertain item of biodiversity conservation, and that this is an unconventional relationship that goes beyond regions and entities.

Risks that originate in the uncertainty of biodiversity conservation include the benefits from conservation, regeneration, or production of ecosystem not reaching target levels, and participants not realizing initially expected benefits. In order to reduce this risk, it is important to conduct scientific evaluations and projections in the planning phase and work on continuous monitoring and improvement in the implementation phase. It is also important to determine risk allocations along with benefit distributions as contractual conditions in order to avoid conflict in case risks become apparent.

Possible risks that originate in the relationship that go beyond regions and entities include trouble due to discrepancies in the understanding of responsibility and role assignments, and impacts on third parties other than land owners and companies (e.g. the violation of the customary usage rights of local residents). In order to reduce these risks, it is important to carefully identify stakeholders who are not land owners and companies, conclude contracts under a system that includes them, and assign rights, responsibilities, and roles to individual stakeholders.

There are often disparities in funding, technology, and information among land owners, companies, and other stakeholders. Thus, a social monitoring system is necessary to maintain the fairness and equity of the distribution of the above benefits, risks, rights, responsibilities, and roles. The mechanism of biodiversity conservation using market mechanisms often includes measures of information disclosure and monitoring and a guarantee of rights by third parties. Thus, it is necessary to recheck their details and explore additional measures when necessary.

(5) Contributions to local socio-economies

Points of planning	<ul style="list-style-type: none"> • It is effective to make sure that these effects will spread by linking them with various entities and activities within the area. • To promote autonomous management by local residents, it is important to provide education, human resources develop, and capacity building.
Action items	<ul style="list-style-type: none"> • Plan efforts to make sure to exhibit ripple effects within the area. • Plan for education, human resources development, and capacity building.

The mechanism of biodiversity conservation using market mechanisms is associated with the potential to bring benefits to land owners and companies who are direct stakeholders of the efforts. In addition, it is expected to spread various effects by connecting various elements such as raw materials, products, services, and labor through supply chains.

When secondary nature are conserved, regenerated, or produced through the practice discussed in this section, it is important to exhibit the ripple effects to the local society and economy by connecting them with various local entities and activities. Specific examples of such efforts include the generation of employment for local residents, the development of new local businesses that utilize the secondary nature to be created, and integrated efforts through the cooperation of multiple land owners and stakeholders.

The incorporation of the methods described in this section requires broad expert knowledge and skills to properly implement conservation, regeneration, or production of ecosystem based on laws, principles, and standards. It also necessary to have the ability to negotiate with companies from the outside, and local residents may not have sufficient capabilities to do so from the beginning.

In such cases, it is effective for government organizations and NPO/NGOs to provide support for local residents in the planning phase while they provide education and human resources development and capacity building programmes to stakeholders (such as land owners) within the area and then shift to autonomous operation by local residents in the implementation phase.

Table: Examples of efforts to spread the effects to local society and economy

Category	Specific examples
Creation of employment for local residents	<ul style="list-style-type: none"> • Generate employment for local residents in the maintenance and management aspects of secondary nature. • Generate employment for local residents in local businesses as follow
Creation of new local businesses that utilize the secondary nature to be produced	<ul style="list-style-type: none"> • Compound agricultural and forestry operations based on multi-layered land use (Category No. 1) • Production of local industries using traditional cultures and skills (Category No. 4). • Biomass utilization (Category No. 5) • Ecotourism (Category No. 7)
Integrated efforts through the cooperation among multiple land owners and stakeholders	<ul style="list-style-type: none"> • Bank site operation through the cooperation of multiple land owners • Joint acquisition of production certificates by multiple farmers, foresters, and fishermen • Simultaneous acquisition of production certificates and processing/distribution certificates through the cooperation of relevant businesses located in the same area as the farmers, foresters, and fishermen