



BRIDGING BUSINESS AND BIODIVERSITY

INNOVATIVE APPROACHES



Research and analysis by

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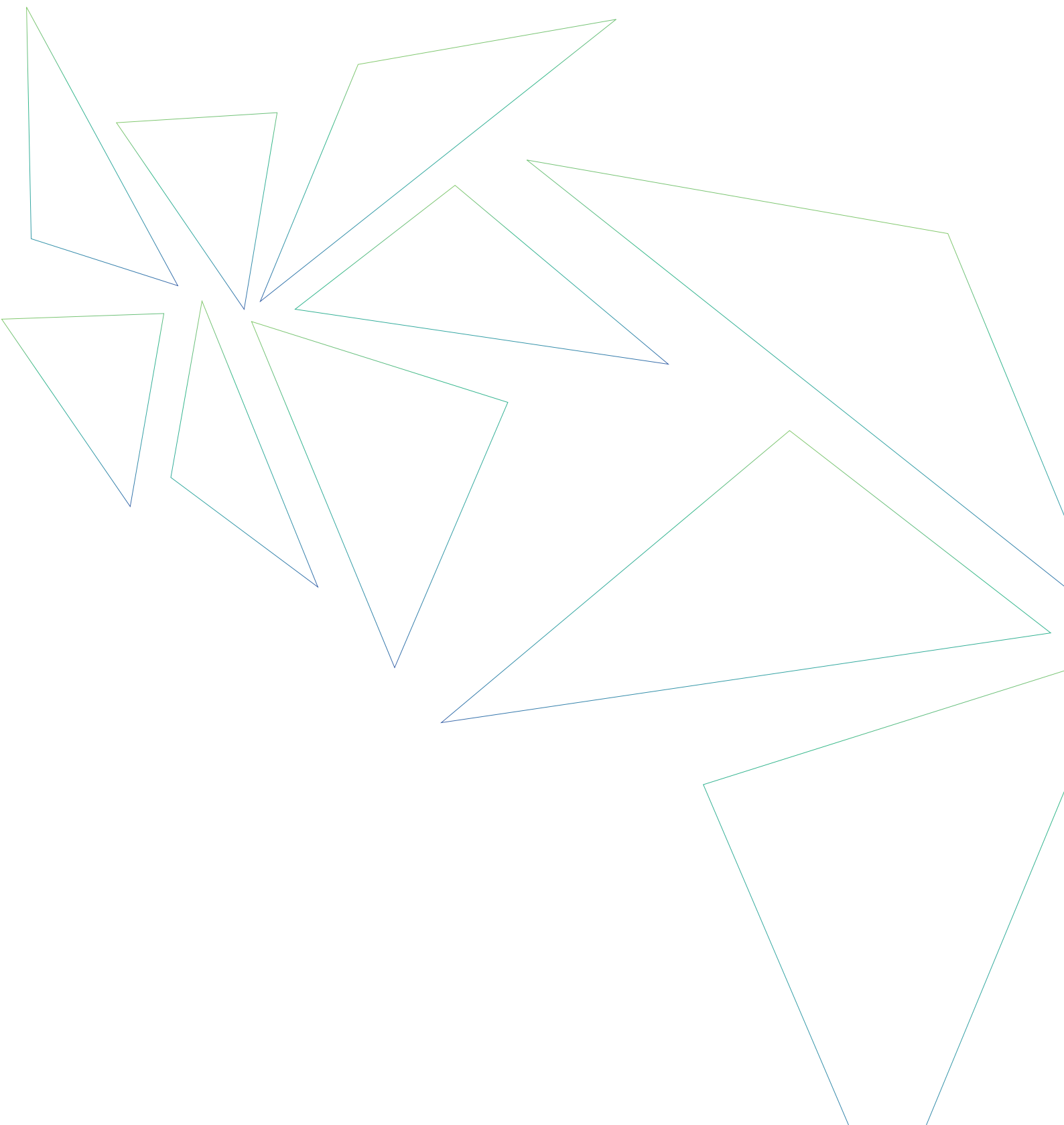
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FOREWORD



प्रकाश जावडेकर
Prakash Javadekar



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FOREWORD

India is one of the world's identified megadiverse countries rich in biodiversity. Biodiversity forms the cornerstones of ecosystem functions and services that support millions of livelihoods in the country. Protecting our biodiversity therefore is a national priority. Sustainable use of our biodiversity is equally important, as it has both ecological and economic value. As a vital asset in the economy, biodiversity is the foundation for sustainable development.

As a Party to the Convention on Biological Diversity (CBD), India has developed 12 National Biodiversity Targets using the Strategic Plan 2011-2020 and its Aichi targets as a framework.

Businesses being dependent on biodiversity and natural resources, are an important stakeholder that can play a vital role in achieving the National Biodiversity Targets. The India Business & Biodiversity Initiative (IBBI) has played a prodigious role in involving business and its stakeholders in mainstreaming conservation and sustainable use of biodiversity by Indian industry.

I am delighted to see the efforts of six pioneering companies showcased in this publication on "Bridging Business and Biodiversity: Innovative Approaches", alongside other developments that have taken place since the launch of IBBI. By highlighting the practices for scaling up biodiversity management by the private sector, the report, I hope would contribute to achievement of the National Biodiversity Targets.


(Prakash Javadekar)

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FOREWORD

Natural capital is an asset that provides a variety of renewable and non-renewable resources. It is estimated that as much as 40 per cent of the world's economy is based on biological products or processes. Imagine the pharmaceutical industry without genetic resources, agribusiness without pollination, pest control or tourism without nature's cultural services – these examples are just a few to exemplify the significance of biodiversity and ecosystem services.

The overuse of ecosystem services and resulting effects on biodiversity limit future business opportunities. For instance, failure to conserve natural capital is likely to diminish supply and raise the cost of key production inputs. The loss of biodiversity is therefore jeopardising the very basics of a healthy economy, posing certain threats for companies ranging from operational, regulatory and reputational risk to limited access to capital.

The economic value of nature is also changing, reflecting changes in people's preferences, demography, markets, technology and the environment itself. Companies are responding by developing and scaling up competitive business models that can conserve biodiversity and deliver ecosystem services while also meeting people's needs for better products and services.

As the Chairman of India Business & Biodiversity Initiative (IBBI), I am delighted that Indian industry has embarked on a journey to mainstream sustainable management of biodiversity into business. Evidently, IBBI is today a front-running business league in conservation and sustainable use of biodiversity, resonating with national goals and the action plan laid out by the Ministry of Environment, Forests and Climate Change (MoEFCC).

I am grateful to the six pioneering companies featured in this report for showing leadership in preserving biodiversity by sustainable management of natural capital. The showcased initiatives demonstrate the commitment of IBBI members towards safeguarding biodiversity and ecosystem services. These illustrations of how companies are working on integrating biodiversity, as an important aspect, in business decision making and benefitting the bottom line will definitely serve as an inspiration and benchmark for Indian industry.



R. Mukundan

Chairman, India Business & Biodiversity Initiative
Managing Director, Tata Chemicals Limited

FOREWORD

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), operating in more than 130 countries worldwide, implements sustainable development through international cooperation, on behalf of Germany and other partners. The Indo-German Biodiversity Programme, implemented by GIZ, supports IBBI under its project 'Incentives for Sustainable Management of Biodiversity and Ecosystem Services (ISBM)', commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ).

An increasing number of companies today see a business opportunity in integrating biodiversity into their operations. Integrating biodiversity in business decision helps in improving the bottom line with the benefits of greater resilience, security of supply and ultimately a sustainable business model. The India Business & Biodiversity Initiative (IBBI), which was set up in 2014, speaks for the leadership of Indian industry and the growing initiative it is taking to address biodiversity concerns. Through IBBI, not only is the industry taking proactive steps to effect positive impact but is also acting as a champions for biodiversity.

This publication essentially focusses on a step wise process of training and mentoring that would enable companies understand the business impacts on biodiversity (as a key part of a company's natural capital) and the need for incorporating biodiversity and ecosystem services management into their operations. In its endeavour to spread awareness and knowledge on biodiversity management by business, this IBBI publication showcases best practices on biodiversity conservation and sustainable use of biological resources by six IBBI forerunner companies. Through this publication, companies shall be able to understand the concept of Natural Capital, Biodiversity and Ecosystem Services and will know how IBBI can support them in integrating Biodiversity into their operations and value chain.

With this I would express sincere thanks to the Ministry of Environment, Forests and Climate Change and CII-ITC Centre of Excellence for Sustainable Development for hosting and supporting IBBI. I would also like to thank CREM and ARCADIS for working with IBBI and the participating forerunner companies and for providing invaluable technical inputs in preparing this publication.



(Edgar Endrukaitis)

Director, Indo-German
Biodiversity Programme

PREFACE



Hem Pande
Additional Secretary



भारत सरकार
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India with only 2.4% of the world's land area, accounts for 7.8% of the recorded species of the world, which includes over 45,600 species of plants and 91,000 species of animals, and a diversity of ecological habitats such as forests, grassland, wetlands, coastal and marine ecosystems, and desert ecosystems. Biodiversity is essential for sustainable development and human well-being.

Businesses are both affected by, and rely upon biodiversity and ecosystem services. Because of this reliance, loss of biodiversity and the related decline in ecosystem services are increasingly recognised as risks to businesses. These risks associated with biodiversity loss may be indirect, operating through supply chains or through market decisions on investment, production, distribution and marketing. Businesses are therefore finding out ways to identify, avoid and mitigate their biodiversity risks, using a range of management measures.

The India Business & Biodiversity Initiative (IBBI) in this report on "Bridging Business and Biodiversity: Innovative Approaches" has come up with the best practices by six companies to mitigate the biodiversity risk, create new business opportunities and meet changing consumer preferences, through implementation of innovative measures for conservation and sustainable use of biodiversity.

I am confident that sharing of this experience with other businesses will inspire others to come up with more innovative ideas in conserving our planet's biodiversity and achieving the National Biodiversity Targets.


(Hem Pande)



INTRODUCTION



On invitation by the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India, the CII-ITC Centre of Excellence for Sustainable Development (CII) is hosting the India Business & Biodiversity Initiative (IBBI) with the support of German Development Cooperation through GIZ. Launched on the occasion of International Day for Biological Diversity on 22nd May 2014 in New Delhi, the IBBI serves as a national platform of business and its stakeholders for dialogue, sharing and learning, ultimately leading to mainstreaming sustainable management of biological diversity into business.

The vision of IBBI is to sensitise, guide and mentor Indian business organisations in biodiversity conservation and sustainable use related to their operations, across their value chain and beyond towards conservation of India's biodiversity. Presently there are 20 signatories – companies that are the leaders and role models that have signed the IBBI Declaration. Besides these companies, several public and civil society organisations are part of IBBI as members of its governing body.

IBBI signatory companies acknowledge the objectives of the Convention on Biological Diversity (CBD) and demonstrate commitment to conservation and sustainable use of biodiversity. The 10-point declaration lays out certain areas of action ranging from mapping biodiversity interfaces with business to valuation of biodiversity and ecosystem services. Every two years signatories make a public disclosure on the progress made as per the declaration.

In its endeavour to guide and mentor Indian industry on managing natural capital, the IBBI aims to:

- build awareness and capacity among business and its stakeholders on biodiversity management;
- document, showcase and promote good business practices in India and globally; and
- advocate public policies at national and international level.

Evidently, IBBI is today a front-running business league in conservation and sustainable use of biodiversity, resonating with national goals and the action plan laid out by the MoEFCC. The commitment of signatory companies has granted IBBI a global recognition, with India presently taking charge as a member of the Executive Committee of Global Partnership for Business and Biodiversity.

In cooperation with partner organisations, IBBI offers an array of solutions in the area of managing natural capital, including policy advocacy, awareness and knowledge, capacity building and recognition.

Policy

Consistent with IBBI's objective on policy advocacy, IBBI Expert Group on Biodiversity Policy (EGBP) was constituted in 2015. The EGBP supports IBBI in its dialogue on public policy by engaging with governments and other key stakeholders.

The members of EGBP consist of industry members (companies or sectorial associations) in different sectors that are affected by biodiversity-related policies and upcoming regulations.

As a member of Global Partnership for Business and Biodiversity, IBBI engages in policy advocacy at the international level. The IBBI delegation attended in the Business Forum of the 12th meeting of the Conference of the Parties (COP) to the CBD in Pyeongchang, Republic of Korea in October 2014. IBBI Chairman Mr. Mukundan, Managing Director, Tata Chemicals Limited participated in a light-level business panel. The panel looked at practical methods for business to play a role in the overall objectives of the CBD and the Strategic Plan 2011-2020 – an overarching framework on biodiversity including five strategic goals and 20 specific targets (known as Aichi Biodiversity Targets).

Awareness and Knowledge

IBBI is documenting good business practices of Indian companies in biodiversity management. A report “Business and biodiversity in India: 20 Illustrations” was published by CII with support from GIZ in 2014. The case study publication features initiatives of 20 companies across diverse sectors – mining, construction, manufacturing, IT, finance, energy, chemicals and agri-business – in biodiversity management within their operations and through their Corporate Social Responsibility (CSR) activities.

Capacity Building

Training and consulting are the key areas for capacity building. Companies can participate in open programs run by IBBI or request a tailor-made in-house programme. Consulting is carried out both directly on a project basis and via the IBBI Helpdesk.

Tools developed by IBBI provide a step-by-step approach for business to:

- assess impacts and dependencies on biodiversity and ecosystem services across the entire value chain;
- identify risks and opportunities in managing natural capital; and
- create strategies in sustainable management of biodiversity.

Recognition

IBBI facilitates recognition of business excellence in biodiversity management via CII-ITC Sustainability Awards. Instituted in 2006, the CII-ITC Sustainability Awards recognise and reward excellence in businesses that are seeking ways to be more sustainable and inclusive in their activities. Winners of the awards are role models that inspire others to follow suit.

For more information and contact details, visit IBBI's website at www.businessbiodiversity.in.

IBBI Declaration

The members of the India Business & Biodiversity Initiative (IBBI) acknowledge the objectives of the Convention on Biological Diversity:

- Mapping biodiversity interfaces with business operations;
- Enhancing awareness on biodiversity within the organisation;
- Considering the impacts of business decisions on biodiversity;
- Setting objectives and targets for biodiversity management;
- Designating an individual within the organisation as a biodiversity champion;
- Assessing biodiversity risks and opportunities;
- Including the applicable biodiversity aspects in the environmental management systems;
- Encouraging relevant stakeholders to support better biodiversity management;
- Engaging in policy advocacy and dialogue with the government, NGOs and academia on biodiversity concerns; and
- Initiating the valuation of relevant biodiversity and eco-system services.

To demonstrate ongoing commitment, my organisation will every two years after becoming the signatory provide the IBBI with a public disclosure report to showcase the progress made on this declaration.

MANAGING NATURAL CAPITAL



Natural capital comprises earth's natural assets (soil, air, water, flora and fauna, geological resources). This stock underpins our economy and society by producing value for people, both directly and indirectly.

Definition of the Natural Capital Coalition

Biodiversity is the diversity within species (genetic diversity), between species and of ecosystems.

Definition derived from the definition of the Convention on Biological Diversity (CBD)

From Biodiversity to Natural Capital

In the last decade a shift has taken place in the perception of biodiversity from a focus on species, to the (societal and monetary) value of ecosystem services provided and supported by biodiversity, to biodiversity as a part of 'our' natural capital. As the definition

of the Natural Capital Coalition shows, natural capital comprises more than just biodiversity. It comprises all natural assets, including water and geological resources like oil, minerals and metals. The figure below provides an overview of the various parts of natural capital.



Focus of IBBI

IBBI focuses primarily on the biodiversity and ecosystem services (B&ES) part of natural capital.

The other parts of natural capital (water, minerals, metals) are relevant for as far as they are (positively or negatively) impacting on B&ES, e.g. through exploration, extraction and rehabilitation activities.

How do Biodiversity and Natural Capital Relate?

For business (and not just for business), the concepts of natural capital, B&ES can be confusing. How do biodiversity, ecosystem services and natural capital relate?

This is what one should remember:

- Ecosystems consist of a living or biotic part (biodiversity) and a non-living or a-biotic part (geology, soil, air, water).
- Ecosystems provide ecosystem services: provisioning services (e.g. crops, fresh water, wood), regulating services (e.g. pollination, water purification, pest control), cultural services (e.g. recreation, tourism) and supporting services (natural processes underpinning all other services).
- Society depends highly on these ecosystem services.
- Biodiversity is important for the sustainable functioning of ecosystems and the ability of ecosystems to provide ecosystem services. When biodiversity is lost, services may also be lost.

- At the same time, biodiversity also depends on the quality of ecosystems, including the non-living part of these systems (no fish without water, no forests without soil).

What does Managing Your Natural Capital Mean?

Managing natural capital means that a company is aware of its relations with natural capital, be it dependencies or impacts, and that it adequately manages these relations. Managing these relations also means that:

- Both direct impacts and dependencies (linked to the company's own operations) and indirect impacts and dependencies (in other parts of the value chain) are taken into account.
- Natural capital trade-offs are considered. For example, a focus on the use of biomass to reduce greenhouse gas emissions and the depletion of fossil fuels could lead to a loss of biodiversity when this other part of natural capital is overlooked.
- The stakes of other stakeholders are taken into account in decision making. For example, local communities may value ecosystem services which are impacted by the company.

Why is Management of Natural Capital Important?

All companies directly or indirectly depend on and impact on natural capital. Due to the continuing loss of non-renewable resources (like fossil fuels, metals) and the

loss of biodiversity and ecosystem services, resources are increasingly becoming scarce. Although this process has been going on for decades, the effects are only now becoming increasingly apparent. Costs of raw materials are increasing and services previously provided by nature (for free) need to be replaced by technical solutions (at a cost). This will affect economic sectors in the years to come and this is increasingly being recognised by governments and business globally. Two global initiatives need to be mentioned in this respect:

The Natural Capital Coalition and Natural Capital Protocol



The development of the Natural Capital Protocol (NCP) is an initiative of the Natural Capital Coalition (NCC). The aim of the NCC is to achieve a shift in corporate behaviour to preserve and enhance, rather than deplete the earth's natural capital. The NCC is made up of early adopters from the business, policy, accounting and NGO communities. The NCP aims to provide a standardised framework for business to measure and value their direct and indirect impacts and dependencies on natural capital. Companies will be able to use the NCP for a range of applications, incl. risk management, exploring new revenue streams, improving products and value chain innovation, as well as preparing for future reporting and disclosure.

CII-ITC Centre of Excellence for Sustainable Development, a coalition member of NCC, is supporting the development of methods for natural capital valuation.

The Natural Capital Declaration



The Natural Capital Declaration (NCD) is a finance sector initiative, endorsed at CEO-level, to integrate natural capital considerations into loans, equity, fixed income and insurance products, as well as in accounting, disclosure and reporting frameworks. The reason for financial institutions to integrate natural capital considerations into their business models is clear: the loss of natural capital is an important risk factor from the viewpoint of a return on investment, while investing in businesses that manage to develop innovative solutions may become increasingly attractive from an investment point of view.

Support by IBBI

By means of the IBBI webinars, workshops and baseline assessment, IBBI supports companies in meeting the challenge of managing their natural capital.

IBBI Approach

A key objective of IBBI is to mainstream biodiversity management into business.

To contribute to this objective, IBBI has developed the following tools:

- *IBBI Quick Scan*: a first screening of the extent to which natural capital (with a specific focus on biodiversity and ecosystem services), is already managed

by a company. While the IBBI Quick Scan 1.0 still required a significant amount of data, the IBBI Quick Scan 2.0 is a self-assessment, resulting in a company score on different areas of action.

- **IBBI Baseline Assessment:** a more detailed assessment on a management level of the current position of a company on the natural capital areas of action, with a focus on the value chain as a whole (see below). The IBBI Baseline Assessment results in a Natural Capital Profile (NCP) and a Natural Capital Action Plan (NCAP).

Steps

The 8-month IBBI company engagement approach included the following steps:

- A needs assessment with the IBBI member companies
- A webinar on natural capital, biodiversity and ecosystem services
- Completion of the IBBI Quick Scan
- A webinar on impact assessment and results of the IBBI Quick Scan
- Completion of the IBBI Baseline Assessment questionnaire

- Site visits to discuss results and to finalise company's Natural Capital Profile (NCP)
- Development of the Natural Capital Action Plan (NCAP)
- Discussion of the plan with companies

Natural Capital Areas of Action

To translate the concept of natural capital and biodiversity and ecosystem services into a language companies can relate to, IBBI distinguishes the following natural capital areas of action:

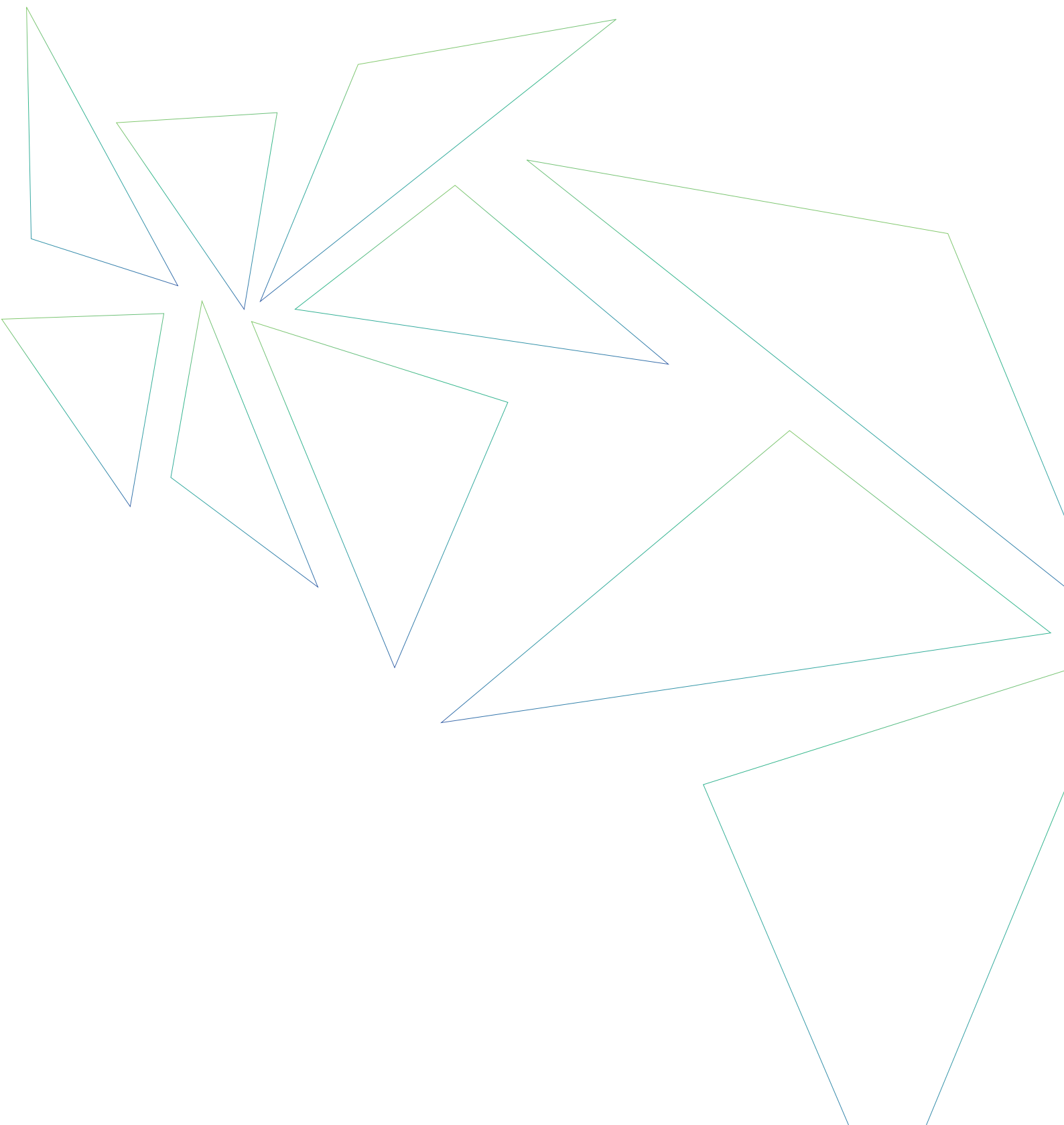
Each area shows where companies can take action. Within the company's production site (the top three areas in the dotted line box), within the surrounding area ('green area'; green box below) and within other parts of the value chain (blue boxes). The IBBI Baseline Assessment questionnaire covers each of these areas.



Areas of action on biodiversity & ecosystem services



MAIN RESULTS OF IBBI BASELINE ASSESSMENT

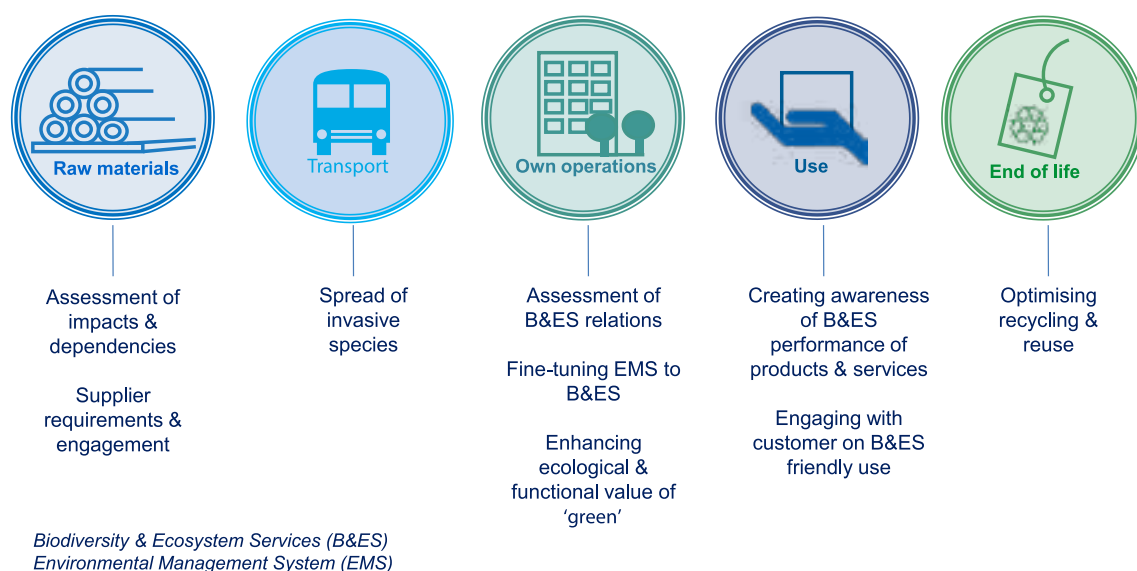


The IBBI Baseline Assessment serves to assess the extent to which companies already manage their relations with natural capital throughout the value chain. In this program, the scope of the assessment has been limited to the companies' relations with biodiversity and ecosystem services (e.g. no focus on a company's dependency on minerals and metals, but on the impact on biodiversity when sourcing these).

All companies and production locations participating in the IBBI baseline assessment can be considered front runners on

sustainability. Each company has a sustainability policy in place, as well as (ISO 14001 certified) environmental management systems (EMS) of production locations. Additionally, most companies have already implemented measures to strengthen biodiversity; either or not as result of a legislative requirement to develop a green belt as part of production area.

Looking at the companies from a biodiversity and ecosystem services (B&ES) perspective, the following areas of improvement have been identified along the value chain:



In general, most companies will focus first on their own operations, (1) gathering data on B&ES in and around the production location (what biodiversity and ecosystem services are relevant to my operations/stakeholders?), (2) identifying the relations between B&ES and the sustainability policy, CSR policy and EMS (what are we already doing?) and (3) taking action to tailor existing practices to this knowledge. A focus on suppliers and customers is considered to be a second step (walk the talk before you address others).

Three areas of action are further elaborated below:

- Tailoring the EMS to (local) biodiversity and ecosystem services
- Optimising the ecological and functional value of 'green' measures taken on site and in the surrounding area
- Integrating a focus on natural capital in the company's sourcing strategy/supplier requirements

Fine Tuning of Environmental Management System

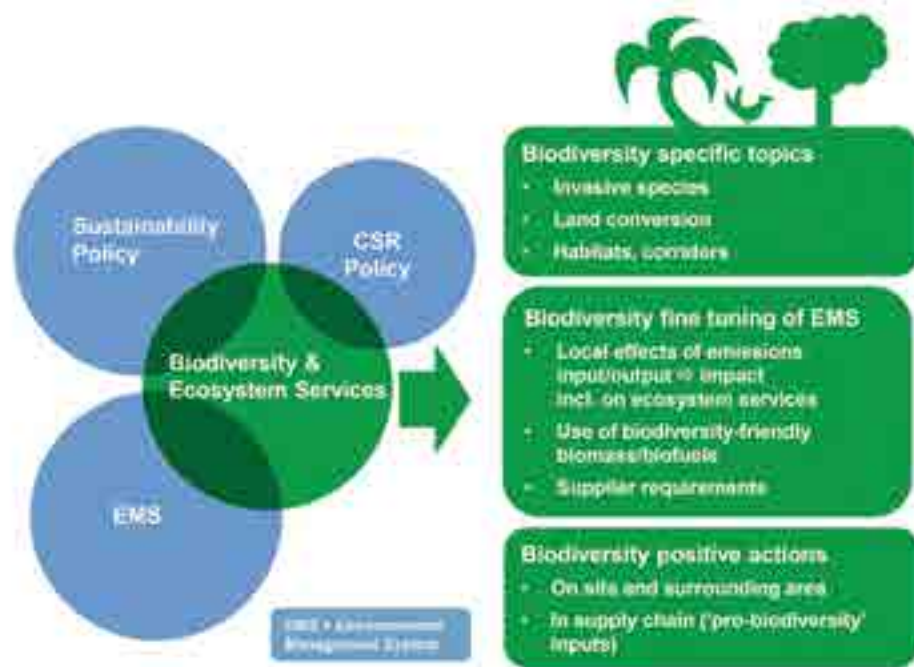
Many companies that start working on B&ES come across the following question:

- We have developed a sustainability policy on a corporate level;
- conducted an Environmental Impact Assessment (EIA) for my production location;

- having ISO 14001 certified EMS; and
- also developed a sustainable sourcing policy.

So what will a B&ES perspective change in what we are already doing?

The figure below illustrates why a focus on B&ES could still be relevant.



The figure shows that a large part of the topic of B&ES will indeed be managed through the sustainability policy of a company, company's EMS and its CSR policy. No company starts from scratch on B&ES! However, most companies do not yet know how existing policies and measures link to B&ES (what part is actually covered?). Moreover, from the B&ES perspective some topics may not yet be fully covered. This may include B&ES specific issues, like the spread of invasive

species (e.g. through transport) and the fragmentation of habitats (e.g. through the company's land use). It may also include a fine-tuning of the company's EMS to impacts on local biodiversity and ecosystem services. For example, if the surrounding vegetation is very sensitive to NO_x emissions, the reduction of NO_x may need extra attention in the EMS, especially if this vegetation is a source of income (an ecosystem service) for local communities.

Looking at the company's EMS from this perspective may result in a shift in priorities in EMS. It changes input/output thinking to impact thinking: what does the emission actually mean for biodiversity and local stakeholders? Not only may this lead to new insights, it may also result in a better 'story' for employees and other stakeholders. Only few people will understand why it is relevant to reduce NO_x emissions, unless the impact (to nature and people) is made clear.

Looking at company's operations from the B&ES perspective may also result in a better understanding of potential positive contributions, e.g.: how can a green belt be developed in such a way that it supports endangered species in the area? Or how to source products or materials that actually contribute to the conservation of biodiversity: 'pro-biodiversity' inputs; e.g. sustainable production of Forest Stewardship Council (FSC) certified wood may create value for a forest which might otherwise have been lost to agriculture.

Optimising Ecological and Functional Value of 'Green' on Site

Many companies already contribute to biodiversity by planting trees, shrubs and other types of vegetation. However, not all companies have considered developing these green areas in such a way that they effectively contribute to the local/regional ecological system, for example by choosing

native vegetation species or by creating a habitat or corridor for local fauna. Or to develop these green areas in such a way that ecosystem services are strengthened; services which may be valued by the company, its employees or local communities. For example, by planting vegetation that contributes to securing overburden (in the mining sector), to a reduction in temperature, to water retention, carbon sequestration or water purification. An assessment of local biodiversity and assessment of the ecosystem services provided at the production location and in the surrounding area (and valued by local stakeholders) provides a company with the information to make right decisions and get the most out of the company's 'green contributions'. An EIA may already provide part of this information, but probably not all.

Integrating Focus on Natural Capital in Company's Sourcing Strategy

Companies may depend and impact on B&ES directly, through company's own activities, or indirectly, through activities of company's suppliers or clients. In some sectors, like the mining and agricultural sectors, direct impacts are often predominant. In other sectors, like the furniture sector or food processing sector, indirect impacts in the supply chain may be at least as important as direct impacts on site. Managing these impacts may be very important from a reputation/brand point of view. Companies also often underestimate

their dependencies on B&ES. For example, when bee populations are in danger and yields of strawberry farmers are reduced every year, producer of strawberry jam will be confronted with a cost increase or even a lack of 'raw material'. Timely management of dependencies in supply chain may reduce operational risks and create an advantage over competitors. Managing these dependencies may also lead to innovations, like development of sustainable substitutes for high risk inputs. This may result in creation of new products and markets.

The IBBI Baseline Assessment shows that, although most companies have already developed a sustainable sourcing policy, for example by stating that supplies with a (partly) recycled content are preferred over supplies with no recycled content, most companies have not screened their supply chain on B&ES related impacts, let alone on B&ES dependencies.

Managing B&ES impacts and dependencies in supply chain will require different steps, for example:

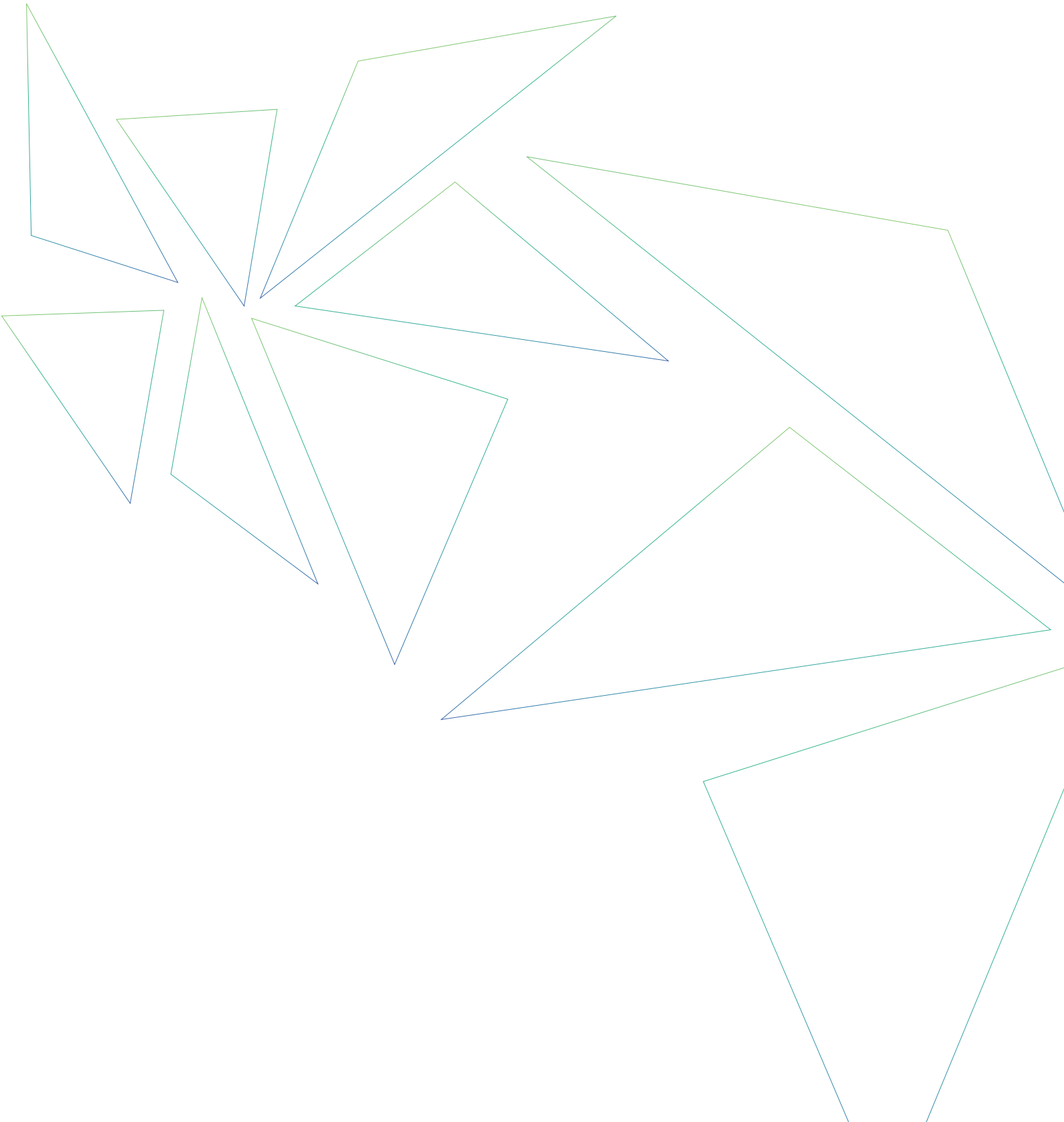
- Prioritisation of inputs based on general knowledge regarding B&ES impacts and dependencies of product groups.
- Taking into account the entire life cycle of product/material sourced; so including production of raw materials used to produce the product/material (tier 1, tier 2, tier 3, etc.).
- Assessment of reasons behind the B&ES impact and dependency risks, like characteristics of production process and production location.

- Identification of mitigating measures suppliers can take to manage the B&ES impacts and dependencies.
- Identification of suppliers supplying raw materials which were identified as 'B&ES relevant'.
- Assessment of influence the company has on these suppliers.
- Assessment of alternative actions if the company has no or little influence on these suppliers, e.g. changing supplier, sourcing certified products (guaranteeing a minimum B&ES performance level) or substituting one raw material by another.
- Integration of B&ES in supplier requirements and supplier engagement processes (based on knowledge gained in step 2 and 3).
- Integration of alternative actions in sourcing strategy (based on step 6).
- Monitoring and evaluating progress.

Some companies may be interested in taking this even one step further by focusing on 'pro-biodiversity' supply: sourcing products and materials which contribute to conservation of biodiversity.



COMPANY BEST PRACTICES





Ambuja Cements Limited

The cement industry is literally the building block of a nation. In that context Ambuja plays a key role in India's development and its blueprint for the future. Ambuja has always been a front runner when it comes down to environmental improvements and has established itself as one of the most efficient cement manufacturers in the world.

Ambuja is an active member of the Cement Sustainability Initiative (CSI), believing in a strong business case for the pursuit of sustainable development. Our target is to do business with Zero Harm. Ambuja as a whole is four times water positive.

The company, through the Ambuja Cement Foundation (ACF), invests in various types of community welfare initiatives adding to the lives of local people, natural capital and the company.

Production Location

The Rabriyawas site in Rajasthan was selected for the IBBI Baseline Assessment. The important constituents for cement manufacturing are limestone, clay, and gypsum. Limestone is extracted from the adjacent quarry and crushed to a very fine powder, then heated at 1,200 to 1,400°C to make clinker. This clinker is crushed to a fine

powder and blended with gypsum and flyash to produce cement.

With the average Indian home owner being our customer, Ambuja Cements Limited is committed to make high strength cement that would enable those customers to build strong and durable structures.



Management of our Natural Capital

Ambuja's vision is to be the most sustainable and competitive company in our industry. our mission is to create value for all: delighted customers, inspired employees, enlightened partners, energised society, loyal shareholders and a healthy environment. Biodiversity is directly covered in the latter value and indirectly in the others.

Several measures are implemented at the Rabriyawas site to improve the environmental

performance and health and safety issues. As a result, the site is 13 times water positive, minimising the water requirement from natural resources which directly supports biodiversity and ecosystem services. Another example of enhancing biodiversity and creating ecosystem services at the same time are trees that are planted on overburden at the mine sites, which not only helps in suppressing dust generation, but also provides shade for employees and resting and feeding grounds for fauna.

Further ways of strengthening the company's performance on natural capital will be to enhance the understanding of our (potential)

IBBI provides us with a platform to demonstrate our leadership position in biodiversity conservation, mitigating future risks and creating new business opportunities in green markets. Moreover, through IBBI, the sharing and learning on biodiversity is promoted, contributing to the mainstreaming of biodiversity management, which is a core value of Ambuja Cements.

contribution to the wider ecological system and to integrate natural capital considerations in our company's supplier requirements.

Our View on Managing Natural Capital

Since Ambuja Cements Limited has a direct relation to natural capital, the management of natural capital is considered to be a key part of our brand and values. Managing natural capital in the right way will maintain our license to produce, enhance our relationship with our customers and build our brand. Moreover, it reduces risks with regard to scarce resources, like water.

Best Practices on Biodiversity & Ecosystem Services

Increasing Water Availability and Reducing GHG Emissions

Description: Through the Ambuja Cement Foundation (ACF) our company invests in various types of community welfare initiatives improving the livelihoods of local people through (for example) building check dams to conserve water in the rainy season, which helps in recharging the groundwater table.

The benefits for biodiversity and/or ecosystem services: The increased availability of water in the water scarce region of Rajasthan enables local people to grow crops during a longer period of the year, increasing their livelihood incomes. The availability of water also contributes to the proliferation of biodiversity in the area.

The business case for the company: The company is using local agricultural fodder as a biomass for power generation which helps in the minimisation of Greenhouse gas emission, improving Ambuja's stand on 'zero harm' overall.



Green Belt Creation in and around the Plant

Description: Ambuja Cements has created a green belt in and around the plant and mines area. The total green belt cover is 225.20 hectares, including 2,74,634 trees. The company has achieved this after years of hard work which transformed the barren and dry land to lush greenery. The survival rates of the trees planted in the green belt hovers between 70-96 per cent, which could only be achieved after detailed scientific research.

52 hectares of land is kept to conserve local flora and fauna in the quarry area.

The benefits for biodiversity and/or ecosystem services: The green belt developed along the mining area not only provides a natural habitat for many species

of plants and animals, but also acts as a biological filter for dust and noise suppression and enhances soil conservation and carbon sequestration. Moreover, the natural aura and calm that the trees provide, combined with their function as a dust suppressant and biological filter, benefits the health of the employees.

The business case for the company: The green belt not only fulfils Ambuja's commitment to having a high percentage of green cover, but also reduces negative impacts of mining by reducing dust pollution and enhancing carbon sequestration. It helps Ambuja to build a name in the industry as a truly green company, while also building a good relation with local villagers.





Godrej & Boyce Mfg. Co. Ltd

Godrej & Boyce Mfg. Co. Ltd. has 15 diverse business divisions offering consumer, office, and industrial products and services of the highest quality to every corner of India and across the globe.

Godrej Interio's is a business unit of Godrej & Boyce Mfg. Co. Ltd. and India's largest furniture brand, present across India through 50 exclusive showrooms in 18 cities and through 800 dealer outlets. The Godrej Interio production location at Maharashtra was selected to be part of the IBBI process of conducting a IBBI Baseline Assessment.

Product

The product line included in the IBBI project on natural capital is the WISH range of modular workstations, produced at Godrej Interio, Maharashtra. WISH office furniture is a panel based system available in a range of sizes and configurations. The WISH product line has obtained BIFMA LEVEL certification, which includes aspects like efficient use of material and water efficiency.

The main materials of the WISH product line include aluminum, wood (MDF), paper, fabric, laminate, metal and glass, depending on the finish and configuration. The product is mainly sold in the business to business market.

Management of our Natural Capital

‘Environment’ is one of the core values of Godrej and the corporate environmental policy of Godrej includes a focus on ‘protection, conservation and enhancement of green cover and biodiversity’. Natural capital is therefore already integrated in the company’s values, which finds its way into Godrej’s policies and management systems.

Godrej Interio at Maharashtra has an ISO 14001 certified environmental management system in place and has developed a ‘Design for Environment’ approach to limit the environmental impact of the WISH office



IBBI provides support to integrate and mainstream sustainable management of natural capital and biological diversity into businesses by understanding the connection and thus translating the initiatives and achievements into a simple and understandable language of nature.

furniture the company produces. Impacts in the supply chain are being managed through a supplier policy. Through the WeCycle initiative, a recycling service for institutional products, Godrej is closing the loop and prevents the impact of products at the end of life phase. To enable communication of our environmental performance to our customers, we have developed 'Green Assurance Cards', summarising the environmental performance of our products. The company has positively contributed to biodiversity by planting of trees and plants, both on the production site and in residential areas. Moreover, by conserving and managing the Mumbai mangrove area, Godrej plays a vital role in conserving this ecosystem.

Our View on Managing Natural Capital

Our sustainability performance is considered to be a key part of our brand differentiation. Managing natural capital is a key part of our sustainability performance and essential from the viewpoint of our dependency on the natural resources we use for our products and processes. By showing how we contribute to the conservation of biodiversity and ecosystems we may be able to create an appealing story for our customers.

Best Practices on Biodiversity & Ecosystem Services

The Design for Environment Approach

Description: Godrej Interio recognises the fact that the overall environmental impact of a product over its entire life cycle is

determined early in the design phase of that product. Therefore, Godrej Interio is committed to using the principles and strategies of 'Design for Environment' (DfE) for all its new products. The objective is to evaluate and reduce the negative environmental footprint of its products and processes from a life-cycle perspective. It includes (amongst others) a consideration and increase of the use of renewable and recycled materials and an evaluation of all raw materials to improve their recyclability and biodegradability.

The benefits for biodiversity and/or ecosystem services: The Design for Environment approach results in a reduction of the pressures on biodiversity and ecosystem services, both in the supply chain and in the



use phase. For example, through the use of recycled materials the need to source materials like wood and metals is reduced. This also reduces the impacts on biodiversity and ecosystems service resulting from the production of these materials. And by banning the use of heavy metals from the materials we use, these hazardous substances will not end up in the environment when the product is disposed of at the end of its life. This will prevent flora and fauna from being affected by these hazardous substances and will contribute to safeguarding the availability of clean drinking water, an important ecosystem service.

The business case for the company:

Design for Environment not only benefits biodiversity, but also the company itself. Efficient material use results in direct cost reductions and banning heavy metals ensures that the products meet all related legislation.

Green Assurance Cards

Description: To create awareness among our customers about the environmental performance of our products, Godrej Interio has created 'Green Assurance Cards'. The Green Assurance Cards provide a Green Assurance Score for the different Godrej Interio products stating recycled content, certifications, recyclability, low emitting material, renewable materials, material content and green features of the product. The Green Assurance Cards are validated by TUV.

The benefits for biodiversity and/or ecosystem services: The benefits for biodiversity and ecosystem services will be indirect. By informing our customers about the environmental characteristics of our products,



the level of awareness of our customers will increase, eventually contributing to sustainable (buying) behaviour. The use of the Green Assurance Cards will also enable the company to tell the story on biodiversity and ecosystem services. For example, by explaining how recycled content or certified materials contribute to biodiversity (number of trees saved, support of specific species), the story may be much more appealing to the customer.

The business case for the company:

The business case for the company is clear: a customer that is aware of its influence on sustainability by choosing sustainable products may decide to choose WISH furniture. This is certainly true in the business market where customers may have a sustainable procurement policy in place.



Hindustan Zinc Limited

Hindustan Zinc is a Vedanta Group company in zinc, lead and silver business. We are one of the world's largest integrated producers of zinc and are among leading global lead and silver producers.

Our core business comprises of mining and smelting of zinc and lead along with captive power generation. Hindustan Zinc has a metal production capacity of over one million tonnes per annum from smelters for which concentrate is supplied as raw material from our key zinc-lead mines, one of them being Rampura Agucha in Rajasthan. We are focused on operational excellence and long-term sustainability on the back of our high-quality assets, long mine life of over 25 years and low cost base.

Production Location and Products



Our main products are refined zinc and lead metal. In addition, silver and cadmium are recovered as by-products along with Sulphuric acid in acid plants. Rampura Agucha Mine is piloted under the IBBI, which is the largest zinc mine globally. The operations include both open cast as well as underground mining.

At Rampura Agucha mine, zinc and lead concentrates are produced and transferred to our neighboring smelters located in Rajasthan. The tailings generated due to the beneficiation of ore are stored in a specially constructed tailing dam. The base of the tailing dam is sealed by application of an impervious soil layer at the bottom and the sides are covered with HDPE linings. After settling, water from the tailing dam gets recycled to the beneficiation plant to reuse in the same process, so as to bring fresh water consumption down.

Management of our Natural Capital

Hindustan Zinc Limited can be considered a front runner on sustainability and especially on biodiversity. The use of environmental friendly technologies, our environmental management plan and our focus on the conservation of natural resources are the natural capital related tenets on which our sustainability approach is founded.

The Rampura Agucha Mine is an ISO-9001:2008, ISO-14001:2004, OHSAS 18001:2007, SA-8000:2008 and 5-S certified mine. A Progressive Mine Closure Plan (PMCP) is in place and a shift from open cast to underground mine has been started with the vision of sustained operation through excellence in safety, environment and resource efficiency with best in class technology. The company contributes to biodiversity in several ways. One example, is the development of a high-tech nursery to maintain rare/threatened plant species and used to upgrade biodiversity in and around the mining site.

Our View on Managing Natural Capital

Our aim is to preserve the long-term health of the natural environment affected by our operations. We set and achieve targets that promote efficient use of resources and include the reduction and prevention of pollution. Through our sustainability policies focusing on HSE, water management, energy and carbon, and biodiversity we show our strong commitment towards the protection of natural capital protection and sustainable development.

Best Practices on Biodiversity & Ecosystem Services

Innovative Method for Overburden (OB) Dump Stabilisation & Rehabilitation

Description: The waste rocks generated in the mining activity are systematically stacked

The India Business & Biodiversity Initiative is an important platform to sensitise, guide and mentor our company on biodiversity conservation and sustainable resource utilisation related to our operations across the value chain and beyond.



at an earmarked place (i.e. OB dump). The main challenge of replanting the OB dump is the lack of a fertile soil on the overburden to support vegetation, and the dry climatic conditions of Rajasthan, with very little rainfall.

Hindustan Zinc uses innovative technologies for the stabilisation of the overburden area by applying geotextile mats combined with vetiver grass plantation, the first of its kind in Rajasthan state. Geotextiles are made from 100 per cent organic material - a naturally occurring fibre derived from a renewable resource, namely coconut (*Cocos nucifera*) husk. For the sapling of trees, the company has developed a state of the art nursery cultivating native, rare, endangered and threatened plant species of Rajasthan. To date 14 per cent overburden area is covered under the plantation. Over and above the plantation, proper terracing along with a garland drain network made the 100 m high overburden dump very safe and stable.

The benefits for biodiversity and/or ecosystem services: The development of the plantation and green area around the mining site and on the overburden dump helps in minimising the dust and noise attenuation and increases the aesthetic value. Moreover, the plantation of native trees along with grass and shrubs strengthens the ecological system in the area which eventually leads to the conservation of its ecosystem services.

The business case for the company: In addition to acting as a carbon sink, the development of green cover on overburden areas will minimise the dispersal of dust and noise in the local area which eventually helps in minimising health impacts on employees and local communities, resulting in cost reductions and an enhanced license to operate.

Water Management in Water Extraction Area

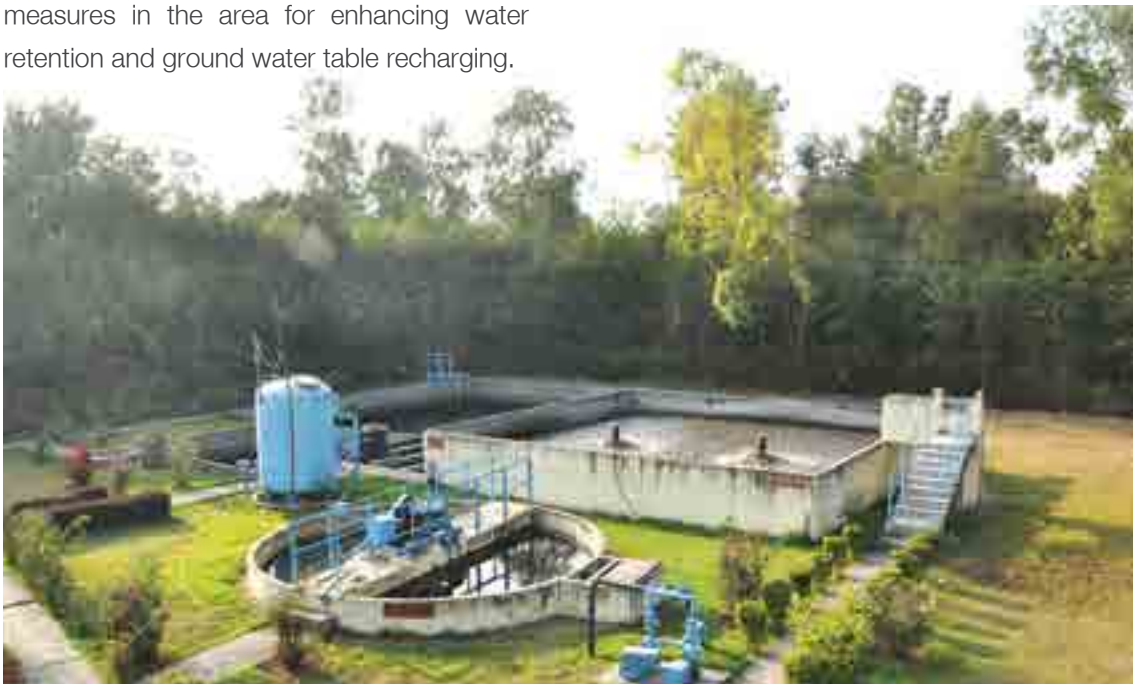
Description: The mining area is located in the semi-arid region in the state of Rajasthan having high temperature and low rain fall. For the water requirement the operation depends on the River Banas, which is 70 km away from the mining area. At present, the total water requirement for ore beneficiation is 0.5 m³/MT, compared to 1.98 m³/MT in 1991, along with an increase in production from 0.90 Mtpa to 6.50 Mtpa. The minimisation of water consumption is a result of the implementation of some state of the art water conservation measures during ore beneficiation. The company also implemented water conservation measures in the operations by constructing sumps, a storm water collection pond, a reclaim water reservoir, garland drains, siltation ponds and a sewage treatment plant. Moreover, the company has constructed 3 anicuts in Paroli, Kanti and Birdhol in River Kotri and implemented watershed conservation measures in the area for enhancing water retention and ground water table recharging.

The benefits for biodiversity and/or ecosystem services:

- Through implementing water management and conservation measures at both the water extracting point and plant site, the company has minimised its impacts on natural resources, thereby benefiting biodiversity and ecosystem services provided by the area.
- By reducing water consumption of its operations, the impact on downstream water use is reduced, thereby fulfilling HZL's community care mission.

The business case for the company:

By reducing the water consumption, dependency risks are reduced, as well as the cost of purchasing water. Moreover, by reducing potential impacts on water use by local communities, the license to operate it strengthened.





JSW Steel Limited

JSW Steel Ltd. is India's largest private sector, integrated iron and steel manufacturing company (by capacity). The Vijayanagar works is India's largest single location steel manufacturing facility, with a capacity of 10 MTPA. The first hot strip mill at Vijayanagar was commissioned in 1997. Since then it has grown exponentially, and now has an installed capacity of 12 MTPA of steel. The fully integrated steel plant is located at a remote village named Toranagallu in an under-developed part of Bellary district in the state of Karnataka.

Production Site and Product

For the IBBI baseline assessment, JSW Steel's Vijayanagar works was identified, with a focus on the production of hot rolled coils [HRCs], which constitutes the largest product by value for JSW Steel Ltd.



In April 2015, the plant received the coveted Prime Minister's Trophy for being the best integrated iron and steel plant in India for 2012-13. The company serves both domestic and international markets.

HRCs are an intermediate product and it is further processed by customers, as per their respective specific requirements. Key inputs in the production of the HRCs are iron ore, coal, coke and limestone.

Management of our Natural Capital

The vision of the JSW Group states 'Global recognition for quality and efficiency while nurturing nature and society'. Through this vision, biodiversity is part of the company's focus on sustainable production. The company has a sustainability policy on environment, which highlights commitment to address environmental issues through efficient

use of natural resources, promoting use of renewable energy, minimisation of wastes, water management, protecting the biodiversity and reducing the carbon footprint.

The Vijayanagar works has implemented a wide range of innovative and pioneering energy saving measures, thereby contributing to a significant reduction of CO₂ emissions and related impacts on the environment - including biodiversity - through climate change. Moreover, a lot of attention is being paid to the reuse of wastes, as well as transport of raw materials and products through rail.

The company has directly contributed to biodiversity in various ways, both on the site and in the surrounding area. In the choice of plant species, ecological considerations like the use of endemic plants species have already been taken into account. These contributions have changed a previously barren land into a green production area. The management of natural resources has been taken up with local communities, local government and Non-governmental Organisations (NGOs). Moreover, nature-based solutions have been implemented in the form of a root zone based treatment of all the sewage from the township, providing water purification services.

Our View on Managing Natural Capital

Management of natural capital is considered part of the company's efforts to plan, act and manage natural resources effectively

As a pioneering member of IBBI, JSW Steel looks forward to learning from peers and experts about protecting biological diversity, demonstrating our commitment to stakeholders, and sharing our experiences for a sustainable future.

to ensure resource security while meeting future business requirements. As a result, the company recognises biodiversity-related matters near the operations, and undertakes initiatives to not only minimise negative impacts on the environment, but rather looks for ways to make the impacts positive.

Best Practices on Biodiversity & Ecosystem Services

Pioneering Energy Saving Measures

Description: The Vijayanagar works is regarded as the world's Corex showpiece; it was the first greenfield project in India and among the first in the world to have successfully used this technology to produce 'green steel'.

Although the company directly contributes to biodiversity in ways such as planting of trees, the pioneering energy saving measures at Vijayanagar works could be regarded as the most important (indirect) contribution to conservation of biodiversity. Nearly all off-gases from the blast furnaces, Corex furnaces and coke ovens are used to generate 230 MW of power. Further, 76 MW power is generated from the coke dry quenching operations in the non-recovery ovens. Finally, another 25 MW power is generated from top gas recovery turbines (TRTs) in the blast furnaces.



The benefits for biodiversity and/or ecosystem services: Cumulatively, the power generated as described above is equivalent to renewable energy, and avoids impacts arising out of transport and combustion of fossil fuels. These measures limit the company's contribution to climate change due to avoided emissions, one of the most important drivers of loss of biodiversity. Apart from low specific energy consumption, the specific GHG emissions are as low as 2.45 tCO₂e per ton of crude steel.

The business case for the company:

The business case is clear: cost savings. Considering the increasing costs of non-renewable energy resources like coal and oil, this potentially offers a competitive advantage. Moreover, as a front-runner on energy saving in steel production, this strengthens the company's brand.



Integrated Watershed Management in Bellary District

Description: The Vijayanagar Works of JSW Steel Ltd. has initiated a five-year project in five villages across 7,000 hectares for natural resource management in partnership with the state government and other institutions. The work involves participation by villagers, and is contributing to reduced (operational) risks resulting from water security in dry seasons and increased livelihoods. This model site of learning has been noticed by neighbouring communities who want to emulate and replicate the success.

The benefits for biodiversity and/or ecosystem services:

The integrated approach has enhanced water availability by preserving the ability of the ecosystem to provide nearly 50,000 m³

of additional water, an important ecosystem service. Apart from the obvious benefits for the people managing 7,000 plantations and increasing crop yield by about 30 per cent, this has will also benefit the overall flora and fauna in the area.

The business case for the company:

Natural resources management and water management in the district benefits the company by strengthening the company's license to operate and by potentially reducing the costs of having to provide local communities with drinking water. Once again, there will be reputational gains and building of the JSW brand.



Mahindra Lifespace Developers Ltd.

Mahindra Lifespace Developers Ltd. (MLDL) has been at the forefront of transforming urban landscapes by creating sustainable communities and is India's first green homes developer. With this philosophy deeply engrained, we espouse green design and healthy living as the foundations of all our projects. One of the first companies to receive the platinum rated green homes pre-certifications/certifications from Indian Green Building Council (IGBC), today all our residential projects are pre-certified/certified green buildings by IGBC.

Mahindra Lifespaces Developers operates in three distinct business areas with presence in focused but diverse geographies within each business – Mahindra Lifespaces for premium residential housing, Mahindra World Cities for integrated cities and Happinest for affordable housing .

Mahindra World Cities (MWCs) designed to create a balance between life, living and livelihood are integrated urban centers located near existing metros and comprise SEZs, industrial parks, retail and social infrastructure

Location and Services Provided

For the IBBI Baseline Assessment, the concept of Mahindra World Cities was selected, with Mahindra World City, Chennai as a pilot location. Mahindra World City, Chennai, situated at NH 45, 35 kms from Chennai Airport extends across 1550 acres and houses more than 60 corporates (BMW, BASF, Infosys, TVS, Pentair, Wipro, etc) in its SEZ and DTA set-up. The social infrastructure includes Mahindra World School, hospitals, clubs, entertainment zone, hotels, etc. Residential facilities range from luxurious lake-view villas to affordable housing blocks. Master planned for 6,000 families, currently 2,500 homes are under development / handover and over 400 families currently live within its precincts.



The core purpose of MWCs is to enable people to rise economically and socially, while being responsible environmentally. The business model gives opportunity for the company to serve business by providing infrastructure which is based on efficient resource utilisation, industrial ecology, waste minimisation and energy efficiency. Pioneering the concept of sustainable urban communities, MWC Chennai is India's first IGBC Gold certified green township.

Management of our Natural Capital

Mahindra Lifespace's mission is to transform urban landscapes by creating sustainable communities. Towards this, we espouse green design and healthy living as the foundations of all our projects. Be it green buildings or world cities or affordable housing projects, all are designed to address the three bottom lines of sustainability - economic, environment and social. The aspect of biodiversity is covered through this mission. Moreover, biodiversity has been identified as a material issue for our aspiration to maintain the pioneer / innovator status in the integrated cities / industrial clusters space.

Mahindra Lifespace Developers can be considered a front runner in sustainability. The company focuses on green design of buildings within their integrated business cities, on waste management, energy management and water management, including the contributions residents within the city can provide in these areas.

Mahindra World City, Chennai has developed sustainability requirements for its suppliers and has a policy of local sourcing. The planting of trees and plants within Mahindra World City, Chennai not only resulted in an attractive living and working environment, but also in an increase in biodiversity and a reduction in temperature. As part of the company's stakeholder engagement, biodiversity has been identified as long term aspect for the business.

IBBI has been a great partner on our biodiversity journey. MWC Chennai as an integrated city offers Livelihood, Living and Life to its residents, with green design and healthy living forming the foundation of the sustainable community. We see biodiversity as critical to the long term success of the integrated cities.

Our View on Managing Natural Capital

Management of natural capital is considered to be a key part of the Mahindra Lifespaces brand and values. Managing natural capital in the right way will enhance the trust and loyalty from customers, will benefit brand differentiation and will attract investors and lenders. Moreover, the management of Natural capital will postpone or avoid cost increases due to resource scarcity, like water.

Best Practices on Biodiversity & Ecosystem Services

Green Building Manuals for Residents

Description: As part of its sustainability policy and Mahindra World City concept, residents of the Mahindra World City, Chennai are provided with manuals on water saving, energy saving and waste management at the household level.

The benefits for biodiversity and/or ecosystem services: The reduced water use resulting from the green building manuals will contribute to the conservation of biodiversity through reduced water scarcity in the area, which can be an important

driver of the loss of flora and fauna. Energy saving will contribute to reduced emissions of greenhouse gases resulting from energy production. Greenhouse gases contribute to climate change, one of the most important drivers for the loss of biodiversity worldwide. Improved waste management by residents, enhancing separate collection and processing will contribute to recycling opportunities, saving on raw materials and the impacts on biodiversity that go along with production of raw materials. Moreover, more recycling means less landfill and reduced land use, leaving more space for nature.

The business case for the company: Better waste management results in cost savings for the company through sales of recyclable materials and reduced costs for waste processing. Moreover, awareness of residents regarding waste management will reduce the amount of litter at Mahindra World City, Chennai creating a more attractive environment for its customers.

Turning Waste into Value District

Description: In Mahindra World City, Chennai, organic waste is converted to compost through the mechanical compost facility developed on the site. The compost so produced is utilised within the Mahindra World City.



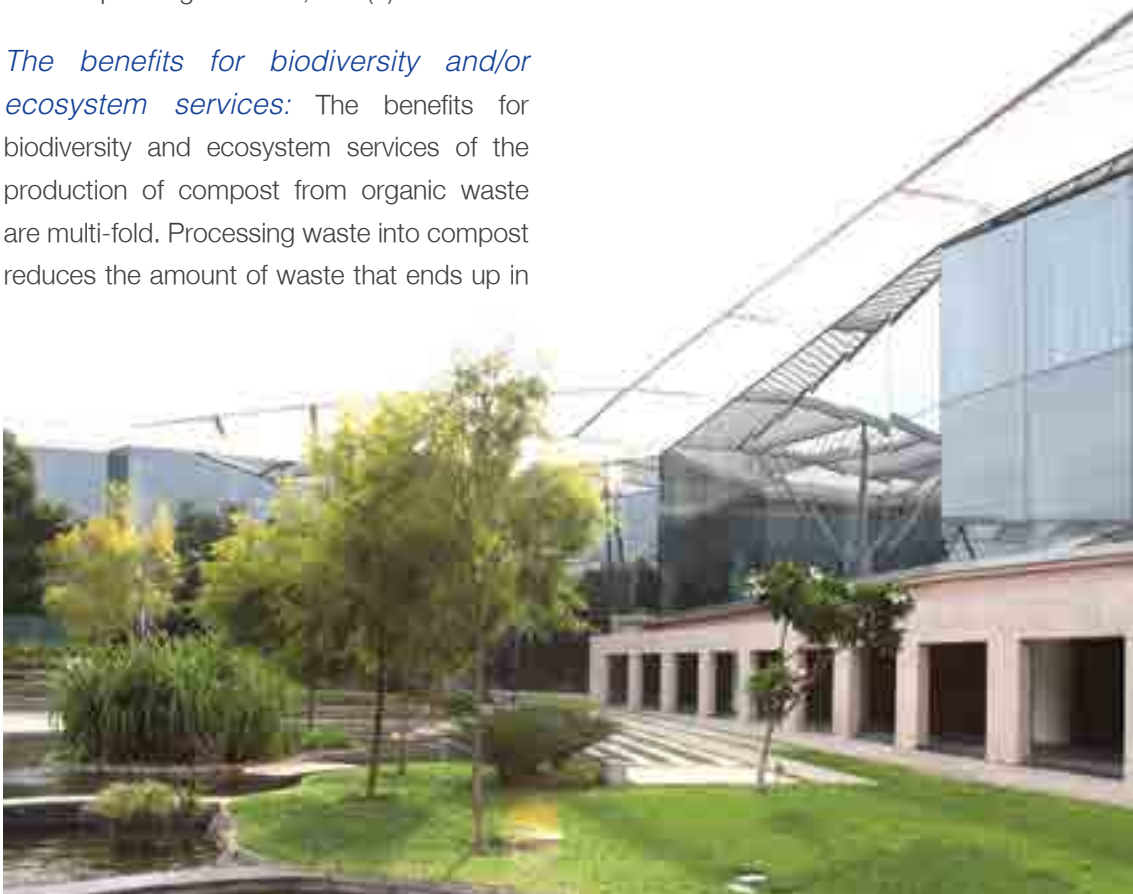
The company is always on the lookout for better technologies. One example is the production of biogas from waste. Waste-to-biogas is being currently explored at a pilot stage, where wet waste will be collected, sent to a biogas treatment plant and then processed for output which will be utilised to (a) meet energy requirements (used as vehicle fuel and power generators, and (b) as manure.

The benefits for biodiversity and/or ecosystem services: The benefits for biodiversity and ecosystem services of the production of compost from organic waste are multi-fold. Processing waste into compost reduces the amount of waste that ends up in

a landfill, thereby limiting land use, one of the main drivers of biodiversity loss. Moreover, the use of the compost enhances ecosystem services provided by the soil, like water retention and soil fertility, improving plant production and yields. The production and use of biogas replaces the use of fossil fuels which impact the environment through their exploration and contribution to greenhouse gas emissions.

The business case for the company:

By turning waste into valuable products like compost and biogas, Mahindra World City, Chennai saves costs and contributes to its brand image as a pioneer in integrated business cities.





Tata Chemicals Limited

Tata Chemicals Limited is a global company with interests in businesses that focus on LIFE: Living, Industry and Farm Essentials.

Through our living essentials portfolio we have positively impacted the lives of millions of Indians. Tata Chemicals is the pioneer and market leader in India's branded iodised salt segment. Tata Chemicals is the world's second largest producer of soda ash. With our Farm Essentials portfolio we have carved a niche in India as a crop nutrients provider. We are a leading manufacturer of urea and phosphate based fertilisers and, through our subsidiary, Rallis, have a strong position in the crop protection business.

Production Location and Products

For the IBBI Baseline Assessment Tata Chemicals Limited's Haldia and Babrala sites were selected. On the Haldia site, phosphate based fertiliser and the filter cartridge of the water purifier TATA Swatch are produced, the latter one providing affordable, safe drinking water to the masses. On the Babrala site, urea is being produced which constitutes 12 per cent of India's urea production by the private sector.



and building social capital. Respect for the local environment and ecology has led our company to invest considerable resources in conserving local habitats, preserving groundwater sources, developing useful by-products out of waste etc.

Tata Chemicals Limited's Haldia and Babrala sites can be considered front runners in environmental management, setting the standard at a national level. The sites are ISO14001 / RC 14001 certified, have water management plans in place, focus on reuse and recycling of (treated) waste and wastewater and on energy management at the factory and at the township. Additionally Tata Chemicals Limited contributes to biodiversity by planting trees and shrubs in the factory area, township areas and surrounding areas and by applying nature based solutions. The latter is a good example of shared value creation.

Our View on Managing Natural Capital

Our sustainability commitment entails a fully recognised responsibility for sensibly managing natural capital. We do realise we need to commit to a balanced relation with natural capital to maintain a license to produce, continue to have access to our natural resources, build a healthy relationship with our local stakeholders and attract investors. This has led into several investments leading to reducing and managing risks accordingly.

Management of our Natural Capital

The Tata Chemicals mission is serving society through science. Our company's corporate philosophy is deeply rooted in the principles of sustainability which implies a commitment to environmental stewardship while adding economic value, promoting human rights

It's long due initiatives which IBBI has started in India to drive natural capital and biodiversity in collaboration with Indian industries. Indian industries are already quite active in the area of sustainability, but IBBI helping them to approach it from a natural capital and biodiversity point of view is a value addition.

Best Practices on Biodiversity & Ecosystem Services

Babrala: Rain Water Harvesting & Natural Recharging

Description: TCL holds about 1,500 acres of land at Babrala, out of which more than 35 per cent land is under green cover. The annual rainfall in the area is approx. 600 - 650 mm. During heavy rainfall most of water flows down as run-off from the site to the nearby river. To further utilise the open land area and conserve the rain water through rain water harvesting, it was decided to identify some areas where the flowing water can be diverted during heavy rainfall.

A topographical survey of the site was conducted and three areas were identified which could be used as proposed catchment areas for rainwater harvesting. The three areas identified were the natural low lying areas out of which two were further modified for use as natural recharge ponds and one as a collection pond. The entire catchment area was marked as protected area for rain water harvesting so that no contamination of rain water takes place in that area. The excess water from all the plant and township area was



diverted to the collection pond. The rainwater from the catchment areas flows down to the low lying area (natural ponds) and is left for natural ground water recharging. The water collected in the collection pond is used for irrigation to make up for water scarcity during lean seasons.

The benefits for biodiversity and/or ecosystem services: The natural ponds contribute to natural ground water recharging and the rate of ground water depletion is found to be lower than the surrounding areas of the company. Furthermore, the natural recharge ponds are found to attract lots of local bird species. To further enhance the biodiversity value of these ponds, the natural recharge ponds will be improved by providing breeding areas for birds.

The business case for the company:

The water from the collection pond is used to irrigate the green belt developed in the plant and township. This has reduced fresh water consumption (and thus costs) for irrigation purposes.

Haldia: Converting Waste to Wealth

Description: Tata Chemicals Haldia used to import its total requirement of sulphur as raw materials for our sulphuric acid plant. Since the last couple of years we have established a system by which we are purchasing molten sulphur from nearby industry, which is a waste product for them. We are now gradually increasing the use of molten sulphur for feeding our sulphuric acid plant, replacing the import of solid sulphur.

The benefits for biodiversity and/or ecosystem services: The benefits of using molten sulphur are:

- Ship emissions to the atmosphere due to the import of sulphur are eliminated.
- Additional use of heat energy (steam) for melting solid sulphur is eliminated, thereby reducing contributions to climate change, a major driver of the loss of biodiversity.
- A reduction of transport loss (of sulphur), enhancing resource efficiency and reducing environmental pollution (pollution is a key driver of the loss of biodiversity).

The business case for the company:

Sulphur is a hazardous substance, disposal of which is very critical as a waste. By using molten sulphur from industry, we are converting waste to wealth. Moreover, the company is saving energy (and thus costs) required to melt the solid sulphur.





Confederation of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering industry, government, and civil society, through advisory and consultative processes. CII is a non-government, not -for-profit, industry-led and industry - managed organisation, playing a proactive role in India's development process.

www.cii.in



**CII-ITC Centre of Excellence
for Sustainable Development**

A pioneering effort by CII, the CII-ITC Centre of Excellence for Sustainable Development creates a conducive, enabling environment for Indian businesses to pursue sustainability goals. It creates awareness, promotes thought leadership, and builds capacity to achieve sustainability across a broad spectrum of issues.

www.sustainabledevelopment.in



Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is an enterprise owned by the German government. GIZ implements sustainable development through international cooperation, on behalf of Germany and other partners. With a global footprint in over 130 countries, GIZ leverages its regional and technical expertise for local innovation.

To address India's need for sustainable and inclusive growth, in partnership with stakeholders, GIZ's key focal areas are:

- Energy
- Environment
- Sustainable economic development

www.giz.de

www.indo-germanbiodiversity.com

