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raising the Sustainability Quotient



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Editorial

India Inc. and the Imperative of Biodiversity

India's remarkable industrial growth during the past decades has come at a cost – that of nature and natural resources. Industrial activities and development projects, whether initiated by business or by the public sector, always involve an impact on natural ecosystems and flora and fauna – together termed as biodiversity. This impact is disproportionately high for 1) businesses that directly depend on biodiversity i.e. pharmaceuticals, tourism, forestry-based industries (timber, paper etc.) 2) businesses that operate in biodiversity-rich areas i.e. mining, oil & gas extraction, infrastructure.

The global community has started recognizing impacts and dependencies of business on biodiversity. Efforts are being made to measure the value of natural resources that businesses harness for their activities – dubbed as 'Natural Capital' this concept has had a greater resonance with businesses because it talks to them in the language they best understand. The issues of business impact on biodiversity, the economics of biodiversity and ecosystem services, 'no net loss' of biodiversity, and natural capital are being widely discussed internationally. A number of

international initiatives have been trying to investigate questions such as: Why should businesses be concerned with biodiversity? What risks and opportunities does biodiversity present for businesses? Is there a business case for biodiversity conservation that goes beyond compliance?

It is high time, India Inc. took steps to understand its impacts and dependencies on biodiversity, the risks it faces if it fails to manage its biodiversity impact and opportunities it can tap by taking steps to conserve biodiversity. In fact, two recent initiatives – India Business and Biodiversity Initiative (IBBI) and Leaders for Nature (Lfn) have created platforms for Indian businesses to come together to discuss, debate, share and learn with the objective of mainstreaming biodiversity in business strategy, operations and decision-making. However, the discourse of business and biodiversity in India remains at best nascent.

This issue of 'Raising the Sustainability Quotient' focuses on this crucial topic, exploring the international discourse in this area and more importantly looking for the implications for India Inc.

- Prasad Modak



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Do you think about nature before making decisions? If not, you soon will.

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"We use nature because it is valuable. We lose nature because it is free."

- Pavan Sukhdev, Gist Advisory, Mumbai

Every one of us spends money and saves money. This is the root of the economic system that shapes our world. As individuals, families, businesses and governments, we all seek to minimize risk and maximize opportunities, using whatever information we have about our financial environment.

But financial capital is only one part of a much bigger picture. Economic activity also depends on our natural environment; whether we directly consume things like timber, fish or minerals, or whether we benefit indirectly from services such as water regulation, nutrient cycling or pollination (WBCSD, April 2011).

This wealth of natural resources is termed as 'natural capital' (see Box 1). It is a stock that we can spend, manipulate and save in the same way as our financial assets.

Box 1. Natural Capital

Natural capital can be defined as the stock of natural resources: ecosystems, species, air, water, land, soil etc., from which people can derive benefits.

This article discusses the need for better understanding and integration of natural capital in business decision making. It introduces a current project of the Natural Capital Coalition, The Natural Capital Protocol.

Due for release in 2016, the Natural Capital Protocol aims to provide an international, standardized framework that business can use to measure and value its relationship with natural capital.

How much do we already know?

We know that our natural capital overspend has already begun. Research suggests the global economy has already surpassed its safe operating boundaries (Will Steffen et al., January 2015). Natural capital is being reduced at an annual rate of 50 percent, higher than the Earth can replenish, and this rate of depletion is accelerating (WWF, 2014).

Losing natural capital like this is costly. One study estimates that primary economic activities generate \$7.3 trillion in external environmental costs every

year, equivalent to 13% of global GDP (TEEB, April 2013). Conservative estimates suggest this could further increase to \$28 trillion by 2050 (UNEP-FI&PRI, 2010). In 2012, a KPMG report calculated that companies would lose 41 cents for every \$1 earned if they had to pay for these environmental bills (KPMG, 2012).

As the cost of depleting our natural capital grows, companies could begin to experience increased supply chain disruptions and be forced to find costly substitutes for depleted resources. There may be new regulatory and legal risks to consider, as well as inflated resource prices (WBCSD, April 2011) and (UNEP-FI&PRI, 2010).

Box 2. Natural Capital in India

The idea of natural Capital is growing in India. Organizations such as Leaders for Nature India and the India Business and Biodiversity Initiative are already working in this area. The India Water Tool launched this year emphasizes the link between water resources and business risk.

Better understanding of natural capital in business is therefore critical for mitigating risks, identifying business opportunities, strengthening decision making and improving a company's reputation (Accounting for Sustainability CFO Leadership Network, March 2015). Those companies that factor in their environmental externalities may also become more favorable to investors worried about the strength of future dividends (KPMG, August 2012).

Nevertheless, this is a complex and evolving field. Measurement is better developed in some areas, such as carbon and water, than it is in others (TEEB, January 2012). Relationships with natural capital may also vary significantly depending on the sector, the position in the supply chain and operational geography (WBCSD, October 2009). As a result, there are a growing number of activities and approaches to measuring and valuing natural capital, but these are fragmented. In order for natural capital measurement and valuation to be practical it needs to be harmonized and scaled up.

What is the role of the Natural Capital Protocol?

The Natural Capital Protocol (NCP) will provide an internationally standardized framework for businesses to measure and value their direct and indirect impacts and dependencies on natural capital. It aims to bring consistency and comparability to the complex field of natural capital measurement and valuation, and enable it to become a mainstream practice.

The Natural Capital Coalition is a global, multi-stakeholder, open source platform for supporting the development of methods for natural and social capital valuation in business. The Confederation of Indian Industry is one of the organizations involved in the Coalition's work.

The Natural Capital Coalition has brought together the world's leading institutions from business, accountancy, consultancy, financial institutions and NGOs. The Natural Capital Coalition website provides further information on the partners (Natural Capital Coalition, January 2014). The development of the Protocol itself is being led by the World Business Council for Sustainable Development (WBCSD) with support from The B Team, Conservation International and a broad Technical Group of experts, such as Accenture, Deloitte Haskins & Sells LLP, Arcadis NV, Environmental Resources Management (ERM), Imperial College London and PricewaterhouseCoopers Pvt. Ltd. etc.

It is a priority to ensure that the Protocol will work across multiple business contexts, geographies and applications. It will be further supported by additional guidance for sector-specific complexities and issues. Sector guides are currently being developed for the Food and Beverage and Apparel industries, by Trucost on behalf of the Natural Capital Coalition. Additional sector guides may be considered in the future.

The Protocol will make the measurement and valuation of natural capital more accessible for business. It will set out clear steps and guidance on the technical process, on the way the outputs can be

used, as well as suggestions about how to embed natural capital measurement and valuation into core business culture.

The focus of the Protocol is primarily to improve internal decision-making by business (Table 1), but it has the potential to be used in other ways such as for external reporting.

How is the Protocol being developed?

The Protocol intends to build on those methods that already exist and fill any gaps along the way. A number of proprietary and public methodologies have already been considered and leveraged. For more information on this process, please visit the Natural Capital Coalition website.

Business will remain heavily engaged throughout the development process to ensure the final framework is relevant, accessible and practical. This includes regular opportunities for engagement and feedback, plus opportunities to pilot test the framework as it evolves. Business engagement activities are led by the Cambridge Institute for Sustainability Leadership (CISL, 2015)

Thinking points

The Natural Capital Protocol aims to standardize a growing number of fragmented natural capital initiatives, and produce a framework that is practical and valuable to business. In doing so, a number of complex, difficult questions are being considered.

- Will the NCP focus specifically on monetary valuation?

No, valuation includes any expression of importance or worth; this may be monetary or non-monetary. Monetization offers a common unit with which natural capital becomes more easily comparable and transferrable into economic decisions. However, there are still challenges around the scientific credibility of valuation techniques, which could affect whether results are fit for decision-making purposes. In many cases, monetization may not be the most appropriate option, for example

Table 1: Content adapted from (Natural Capital Coalition, 2014)

How Natural Capital assessment could improve internal decision making	
Reduce Risks	<ul style="list-style-type: none"> - Reduce threats to business continuity and harm to supply chains - Anticipate and comply with impending regulatory changes - Avoid fines, lawsuits and other liabilities due to over exploitation or contamination of natural systems - Preserve the license to operate
Cut costs	<ul style="list-style-type: none"> - Increase resource productivity and efficiency by reducing ecosystem impacts - Save money by reducing and reusing waste that could harm ecosystems - Save money on 'natural infrastructure' that is often cheaper and more effective in the long term than manmade alternatives - Explore natural solutions to costly processes, e.g. water purification, storm water management and air quality management - Invest in sustainable sourcing practices to avoid costly shortages
Generate revenue	<ul style="list-style-type: none"> - Meet consumer demand for environmentally responsible products - Create new revenue opportunities from new markets in environmentally innovative products and services - Leverage emerging natural capital markets (e.g. water quality trading, wetland banking, threatened species banking, and natural carbon sequestration)
Enhance reputation	<ul style="list-style-type: none"> - Win trust and loyalty from customers who value sustainability leadership - Differentiate your brand for competitors - Attract and retain top talent who share values - Attract investors who increasingly consider environmental performance

when considering the existence value of a species or the cultural value of a landscape. The NCP will offer guidance on how to pursue monetization if desired, but will also cover other methods of valuation.

- Will the NCP be a new natural capital accounting framework?

Natural capital accounting is the process of systematically recording a business' natural capital impacts and dependencies, assets and liabilities in a consistent and comparable way, much like a financial balance sheet. Accounting for nature in this way is still an advanced science, and beyond the current scope of the NCP. The immediate purpose for the NCP is to help businesses build a foundation of understanding, to measure and even value their natural capital, for which natural capital accounting may be one application. The NCP is a step along the path towards more integrated accounting but will not prematurely push companies towards this end.

- How can the NCP address the demand for comparability?

It is often cited that comparability should be an important principle of the NCP. However it is important to clarify whether this should be comparability of the *process* a company uses or comparability of the *assessment results*. Is there a trade-off between a

comparable Protocol, and one that can be flexible to different contexts and needs? Answering these questions requires engagement and input from the businesses who will one day use the Protocol.

- Will the NCP be a reporting standard?

No, the NCP focuses primarily on improving business' internal decision-making. However, it will provide a standardized way for companies to measure and value their impacts and dependencies on natural capital, which may be used for reporting purposes if desired by the company. It is anticipated that the NCP could influence and inform future standards.

The Natural Capital Protocol is unprecedented and ambitious. For the first time a number of specialists in this competitive science, have been brought together to collaborate on a harmonized, universally-accepted approach. The Natural Capital Protocol has the potential to completely transform the way that we view our relationship with nature, shifting behavior towards conserving and enhancing the capital that defines true value for businesses tomorrow.

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What is the Business Case for Biodiversity Offsets?

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A broad consensus exists among scientists, politicians, businesses and civil society that biodiversity loss is one of the biggest challenges that we are facing. Therefore, actions need to be taken to halt this global loss urgently and immediately. In this regard the use of new and innovative instruments and strategies to achieve 'no net loss' of biodiversity and ecosystem services is being explored. One such tool, Biodiversity Offsets – a mechanism that allows for compensation of impact on biodiversity – is gaining wide acceptance around the world (Darbi, 2014).

Biodiversity offsets are defined as:

"measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity" (BBOP, 2009).

To put it simply, the negative impacts of business operations on biological diversity need to be compensated or counterbalanced by conservation or restoration measures in order to ensure there is 'No Net Loss' of biodiversity. ('No Net Loss' has become internationally-accepted as a principle of biodiversity impact mitigation).

Biodiversity Offsets were promoted for the first time on a global scale by the Business and Biodiversity Offset Program

(BBOP) of the international non-profit Forest Trends Association. The BBOP platform has been in place since 2004 and it has engaged business, NGOs, administration and academia, through its community of practice, for evolving a standard and implementation toolkit for biodiversity offsets – these are being tested through biodiversity offset pilots with business partners around the world. Some of BBOP's pilot offset projects include Ambatovy Project (nickel mine) in Madagascar, Newmont Ghana (gold mine) in Ghana, and Anglo American (platinum mine) in South Africa.

An important question that has become a cornerstone of the discourse on biodiversity offsets is – Is there a business case for biodiversity offsets i.e. does it make good business sense for companies to offset their biodiversity impact, does it boost their bottomlines? When looking at the 'business case' for biodiversity offsets, BBOP asks:

"Why should businesses voluntarily 'go the extra mile' and take on biodiversity offsets? What's in it for them?" (BBOP, 2015)

A study by PricewaterhouseCoopers LLP notes a gradual increase in the number of organizations and initiatives that are beginning to recognize the business benefits of biodiversity offsets, i.e. understanding potential advantages for companies, and working to integrate biodiversity considerations into business and commercial activities (PricewaterhouseCoopers, L. L. P., 2010).

ten Kate, Bishop & Bayon, 2004 cite a number of opportunities offered by voluntary biodiversity offsets for companies and developers. Businesses can benefit from the implementation of compensation measures e.g. in terms of reputation and better acceptance of their projects. Figure 1 shows benefits that make biodiversity offsets worthwhile from the business perspective.

In general terms, there are two types of motivations for business to adopt biodiversity offsets, which align with the values assigned to biodiversity by humans:

1. Ethical value: altruistic motivation for the implementation of biodiversity offsets.

The business case for Biodiversity Offsets	
<i>License to operate</i>	<i>access to land and resources, speeding up approval process and avoiding costly delays, political influence</i>
<i>Reputation</i>	<i>good PR, improved relationship with the local population and decision-makers, status of a "preferred partner"</i>
<i>Access to capital</i>	<i>Increased demands and standards of international financial institutions and donors</i>
<i>Efficiency</i>	<i>Management of risks and liability obligations</i>
<i>New markets</i>	<i>First Mover advantage</i>

Figure 1: Benefits of biodiversity offsets for business (after ten Kate, 2005 and Howard 2007)

2. Value of benefit: improvement in business and enhancement of profit

The most obvious case for such benefit is when biodiversity is the prerequisite for the business activities (e.g. tourism).

"The business case for biodiversity conservation is most easily made when the business in question depends directly on biodiversity to operate and survive [...] For many other businesses the case for investing in biodiversity conservation is less clear. Understanding what biodiversity means and how it affects business value is not always straightforward." (Bishop, 2006)

In the public, however, a rather negative view of biodiversity offsets (and in particular of related business activities initiatives) dominates, with businesses being accused of promoting biodiversity offsets purely for marketing and PR reasons. Some even call it 'Greenwashing'.

"The single greatest challenge for biodiversity offsetting comes from opposition at local level. Grassroots and NGO-led campaigns have successfully managed to communicate their negative opinions about biodiversity offsetting through on-the-ground and online campaigns, and have in the process been noticed by the mainstream media (Ferreira, 2014)."

In fact, on the contrary, few companies are actually choosing offsets as a way to manage their image and to show consumers that they are environmentally responsible:

"While many companies acknowledge the potential of offsetting as a mechanism for assuring regulatory goodwill and securing social license to operate, there is very little evidence that it is being used as a mechanism for managing corporate reputations or corporate social responsibility (Ferreira, 2015)."

Despite this observation, corporate (social and environmental) responsibility

is possibly the strongest driver and particularly suited to examine or explain the motivation for the implementation of voluntary biodiversity offsets by business, as it combines both moral and ethical responsibilities towards the various stakeholders of a company and the added value or benefit it may gain from doing so.

From the above discussion, it appears that the 'business case' of biodiversity offsets is based merely on the weighing of costs and benefits that they offer to businesses. However this view of the business case could be an oversimplification - it does not provide room for the various possible types of involvement of other stakeholders such as government, investors, industry sector as a whole. To further explore the nuances of the business case, let us ask the following questions:

- Besides the 'business case' for biodiversity offsets, what other 'cases' exist i.e. apart from offering benefits to business, what could be the other motivations for undertaking biodiversity offsets?
- Does the 'business case' imply that biodiversity offsets should be voluntary?

BBOP has identified two broad type of biodiversity offsets a) voluntary biodiversity offsets, which a developer undertakes in circumstances where there is no legal requirement to do so but there is a business advantage to be had, or b) regulatory biodiversity offsets, which are required by law (BBOP Secretariat, 2010).

ten Kate, Bishop and Bayon (2004) have identified "a modest, but growing number of corporate initiatives to offset unavoidable harm to biodiversity on a voluntary basis." They note that most activities are conducted on *ad hoc* basis and driven by the personal enthusiasm of particular leaders within companies.

The distinction into two types is rather simplistic and does not represent the actual practice. Instead, biodiversity offsets can be understood as a

continuum – there is a whole range of biodiversity offsets between two extremes: a high degree of regulation on the one side and a high voluntary engagement on the other. In 2004 ten Kate, Bishop and Bayon described a 'conservation case', a 'regulatory case' and a 'business case' for biodiversity offsets. Figure 2 further expands this reasoning and offers a cascade of six consecutive questions leading to a set of six biodiversity offset cases or categories.

Can biodiversity offsets become a business?

This certainly touches upon one of the most debated aspects of biodiversity offsets. Opponents argue that biodiversity offsets should be targeted at achieving the best possible nature conservation outcomes and should not be measured in terms of profitability. Nevertheless, commercial offset providers already exist in some countries and markets for biodiversity offsets have also emerged - Wetland Mitigation Banking in the US is a case in point:

"In the US, legislation requiring offsets for damage to wetlands and to endangered species has led to the creation of a number of new businesses. Some of these create wetland or species mitigation banks, some broker deals, some provide scientific advice and some do all of the above. The largest of these businesses have now become multi-million dollar service providers. (Ten Kate, Bishop, & Bayon, 2004)"

Conclusion

So finally, what is the 'business case for biodiversity offsets'? For some, this means that implementing biodiversity offsets (voluntarily) simply makes good business sense. For others, biodiversity offsets open up a profitable business field (i.e. habitat banks like wetland mitigation banking). These, however can be motivated by a variety of reasons (e.g. implemented in the scope of their Corporate Social Responsibility, Environmental Management and Reporting).

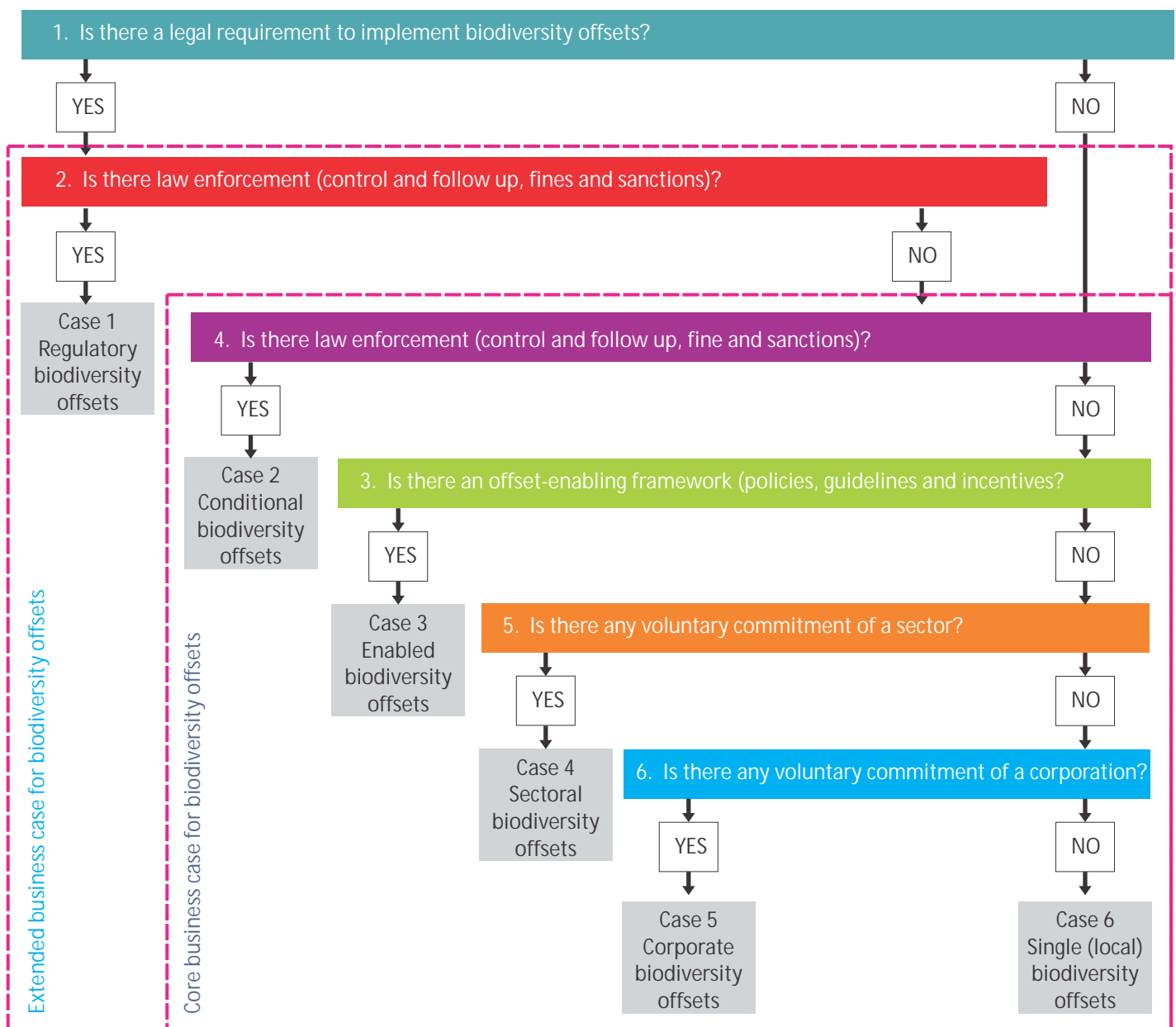


Figure 2: Cascade of biodiversity offsets (author's own)

We might conclude that the 'business case' is not one 'case' with strictly defined conditions and particularities but instead covers a whole variety of different cases or types of biodiversity offsets.

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Importance of Cumulative Impact Assessment in Industrial Development

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A number of industrial and infrastructural development projects such as airports and power plants are coming up on grasslands or barren lands that have been categorized as wastelands by Government of India.

The Bombay Natural History Society (BNHS) has carried out impact assessment studies of a number of such projects. Some examples include:

- Avifaunal study of Navi Mumbai International Airport.
- Survey of critically endangered bird Great Indian Bustard (*Ardotis nigriceps*) at Chandrapur area recommended by Ministry of Environment and Forest and Climate Change (MoEFCC) and funded by Karnataka Emta Coal Mine Ltd.
- Study of flora and fauna for preparation of Wildlife Conservation and Monitoring Plan for the National Thermal Power Corporation (NTPC), Power Plant at Solapur, Maharashtra.

One reason why the Environmental Impact Assessment (EIA) process in India is considered inadequate is the absence of effective assessments of cumulative impacts of various projects at a landscape level. At the same time, there is a lack of guidelines for adopting mitigative measures at a landscape level at both spatial and temporal scale. Therefore, there is an urgent need for a proper strategy and regulation for cumulative impact assessment and mitigation.

Impact of Development Projects on Landscape Species: Some Examples

1. During the last few years BNHS has surveyed about 14 grassland patches of about more than 200 ha

area each, in the South-Western region of Deccan plateau, Maharashtra. It was found that except patches of protected areas, all the grasslands are under tremendous pressure from developmental projects that are slated to come up over the next five years. Landscape species are particularly vulnerable to habitat disturbances. According to Sanderson et al., (2002) "their use of large, ecologically diverse areas and their impacts on the structure and function of natural ecosystems, their requirements in time and space make them particularly susceptible to human alteration and use of wild landscapes." Landscape species such as Great Indian Bustard (*Ardotis nigriceps*), Indian Blackbuck (*Antelope cervicapra*), Chinkara (*Gazella bennettii*), Indian Grey Wolf (*Canis lupus pallipes* or *Canis indica*), etc. have been found to be affected by the rampant development coming up in Deccan Plateau of Maharashtra.

2. More than 15 different major developmental projects have been

proposed around the known habitat of the Great Indian Bustard and Lesser Florican (*Sypheotides indicus*) at Chandrapur area. The impact of each one of these projects is being assessed and accounted for separately during EIA studies.

3. Widening of roads has restricted the movement of landscape species such as Chinkara and Indian Blackbuck in some pockets in human-dominated landscape of Deccan Plateau of Maharashtra.

Impact of developmental activities on landscape species

1. General impact of development on landscape species - The displacement of wildlife may occur due to visual intrusion and disturbance during both construction and operational phases. The scale and degree of disturbance vary according to site and species. Project proponents and even the clearance granting authorities fail to take into account the Indian Wildlife Protection Act



Great Indian Bustard in front of a Power Plant in Warora, Chandrapur, Maharashtra.
Credit: Sujit Narwade

(WPA) and IUCN categories of threatened species during the clearance process to ensure that impacts to wildlife are minimized and/or mitigated. Species with low productivity and slow maturation rates and rare species are the worst affected.

2. Loss of grassland habitat - The present landscape of grasslands is a mosaic of grassland and traditional croplands. The displacement of birds from areas within and surrounding project areas due to visual intrusion and disturbance can amount to habitat loss. Road construction and the presence of roads often reduce native biodiversity.
3. Impact of wind mills and solar panels - Mortality of landscape species of birds due to hitting with wind turbines and burn solar panels of huge renewable energy power plant areas is a major concern. All dry, arid regions, slopes of the undulating mountains are potential areas for wind energy plants which coincide with the high biodiversity regions.
4. Electrocutation - An expanding network of power lines is resulting in more or more cases of deaths of birds due to electrocution.
5. Heavy vehicular traffic - During construction as well as operational phases, large scale movement of vehicles and heavy machines reduce habitat utilization in areas by animals.
6. Impact of thermal power plants - Impact of fly ash and residues from thermal power plants on biodiversity has been studied inadequately. There are multiple factors that need to be considered during impact assessment such as effect of gaseous emissions, particulate pollution, light pollution, curtailment of traditional and potential habitat. Low availability of insects in soil

contaminated by heavy metals may disrupt enzymatic levels lowering reproductive success in birds and disrupt photosynthesis and flowering process. This may alter the community structure of the flora and impact subsequently the foraging niche of herbivores such as Blackbucks. The entire ecosystem dependent on pollination, seed dispersal and pest control activities of these birds may get affected. Impact of associated industries such as cement factories also needs to be assessed.

7. Water pollution - Accidental leakage from industrial areas may result in contamination of ground water, canal water and even nearby waters of River. For example slurry and molasses released from Sugar factories can reach water bodies and affect aquatic biodiversity.

The Need for Cumulative Impact Assessment

Individual development projects alone may have minor impacts on the environment, but collectively a large number of projects may pose significant impact, may be even greater than the sum of the all the projects in any landscape. European Union and UK legislation requires Cumulative Impact Assessment (CIA) as part of Strategic Impact Assessment (SIA) studies. It has been suggested that when the capability and the resources for assessing cumulative impacts are limited, a greater proportion of effort should be assigned to minimise the impacts of every single actions (MacDonald, 2000). The recommended shift in policy would see Cumulative Impact Assessment integrated into strategic planning, making available the resources of developers for minimising the impacts of single actions through impact assessments (Masden *et al.*, 2009). However, in a competitive sector like power, acquiring information from other developers about potential actions,

sufficient to conduct a thorough cumulative assessment is difficult. Therefore, it becomes important to make it mandatory that all necessary information be made available by companies as well as government bodies.

Mitigation of Impact of Development Activities

1. Cumulative Impact Assessment should consider incremental impacts of various development activities combined with the impacts of other land use changes.
2. Cumulative Impact Assessment should follow the four stages of International Monitoring protocol proposed by Jenkins *et al.* in 2011 :
 - i. Desktop assessment – a brief site visit followed by desktop assessment for possible impacts on wildlife and the design of a site-specific survey.
 - ii. Baseline monitoring – At least one year of study should be devoted for documentation of baseline data of wildlife and possible impact of particular project
 - iii. Post-construction monitoring – Reassessment of the baseline for developing a complete before and after picture of impacts, and refining the mitigation effort
 - iv. If required, more detailed and intensive research on affected threatened species should be carried out.
3. It should be ensured that key areas of conservation importance and sensitivity are avoided during the siting of development projects, especially ranges of threatened birds, especially Critically Endangered, Endangered and Vulnerable species in particularly sensitive locations such as Protected Areas (PAs), Important Bird Areas (IBAs), World Natural Heritage Sites,

Eco-sensitive Zones while conducting an on-site ecological study during construction.

4. Where possible, installing transmission cables underground (subject to habitat sensitivities and in accordance with existing best practice guidelines for underground cable installation) should be carried out. Marking overhead cables using deflectors and avoiding areas frequented by flying animals for species vulnerable to collision, is also an important strategy.
5. Timing of construction should be modified according to migratory seasons of animals to the site, for specific purpose.

6. Biodiversity offsets should be developed off site for project such as airport to protect the biodiversity at project, for example, creating a biodiversity offsets contiguous with in airport side can create bird hit problem.

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Business and Biodiversity: The Relationships

Business activities impact upon biodiversity

...through ecosystem disruption
...through the expansion of business operations which often depends on the use of abandoned and degraded land or on the conversion of natural and semi-natural habitats

Business activities are vulnerable as they rely upon biodiversity

...for genetic diversity to provide system resilience to pest and climatic events
...for enhanced ecosystem services from species diversity and abundance
...for high quantity and quality crop harvests delivered by wild pollination

External forces and putting pressure on biodiversity resources

...as competing user demands and interests increase
...as human populations rise and consumption trends change
...as the consequences of climate change increase pressures on biodiversity stocks

Source: Natural Capital Leaders Platform
<http://www.cisl.cam.ac.uk/business-action/natural-resource-security/natural-capital-leaders-platform/projects/doing-business-with-nature/pdfs/business-and-biodiversity.pdf>

IUCN Knowledge Products: Guiding Business Towards Sustainability

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Abstract: We all agree that nature is priceless and immensely valuable. Until now, however, businesses have not been fully accounting for the value of nature. It is only in the last few years that knowledge institutions have started highlighting biodiversity-related risks and the value of Natural Capital and some front-runner companies have begun looking at how they can integrate Natural Capital in their management accounting and strategic planning. IUCN, the International Union for Conservation for Nature, has been working with businesses for a number of years to help them understand their risks and mitigate their impacts on the environment in order to become truly sustainable. IUCN has developed several knowledge products that can play an important role in providing businesses with the data and information they need to do this effectively. The way in which these knowledge products can support business are highlighted in a recent manual developed by IUCN in partnership with the World Business Council for Sustainable Development (WBCSD), with several excerpts from that manual presented here.

Background: A recent UN report has estimated that the global annual value of the ecosystem goods and services provided by the planet is USD 72 trillion. However, our collective mismanagement of these goods and services in the form of - contamination of water resources, loss of fertile land due to soil erosion, floods and droughts, or supply chain disruption due to deforestation and species extinction, comes at a high cost.

In 2008, the global loss due to this mismanagement was estimated at USD

6.6 trillion, with the risk of it increasing to USD 28 trillion by 2050 if we continue with business as usual (UNEP-PRI, 2010). An analysis conducted by the World Bank in 2013 suggests that the ongoing environmental and natural capital degradation being experienced in India is

costing the country around USD 80 billion a year, equivalent to about 5.7 percent of its GDP (World Bank, 2013).

IUCN Knowledge Products: In order to understand and manage the risks and opportunities associated with

Box1: Why should companies worry about biodiversity and natural capital conservation?

- A. Biodiversity has economic value: The value of trees and forests as carbon sinks is estimated to be around USD 3.7 trillion annually, with the benefits from insect pollination estimated to be worth USD 189 billion annually and those from coral reefs to be worth USD 172 billion (CBD Factsheet, 2015). The sustainability of all these dimensions of nature is important not just to support lives but also for the stability of economies.
- B. Reputational, regulatory and operational risks: As per the United Nations' Principles for Responsible Investment, the top 3,000 listed companies globally are estimated to be responsible for environmental externalities worth at least USD 2.2 trillion per year (UNEP-PRI, 2010). Environmental externalities refer to the uncompensated environmental effects of production and consumption not accounted for in market mechanisms. Undermining the impact of externalities invites various types of risks for the companies.
- C. Future market opportunities: A new market for sustainable products is clearly emerging. According to the Union for Ethical BioTrade's Biodiversity Barometer Survey (2011), a high proportion of consumers (84%) are ready to stop buying products from companies that disregard ethical biodiversity sourcing practices. There are also many opportunities for companies in new technologies related to biodiversity. A McKinsey survey shows 59% of business executives see biodiversity as more of an opportunity than a risk for their companies (McKinsey, 2010).
- D. Access to capital: More than 75 financial institutions worldwide have adopted the Equator Principles, which commit them to applying consistently high standards of environmental and social assessment to their investments. Out of the eight Performance Standards defined by the International Finance Corporation (IFC), three relate to the environment; Performance Standard 6 deals specifically with biodiversity. Similarly, there are numerous banking and financial institutions which have signed on to the UN Principles for Responsible Investment, the UNEP Finance Initiative Principles for Sustainable Insurance and other such declarations that require companies to account for their impacts on biodiversity. This means that responsible environmental behavior has now become an important prerequisite for accessing project finance.

biodiversity, companies need access to a wide range of ecological data, including geo-referenced biodiversity datasets combined with site surveys. Knowledge products, delivered through IUCN, play an important role by providing authoritative biodiversity information supported by standards, guidelines, geo-referenced data, and tools. IUCN's work is based on empirical scientific research and is mobilized through its network of Members, Commissions, Secretariat and partners, it provides a wide range of knowledge products, to inform businesses, governments and society at large, on how to value and conserve nature equitably.

Out of the many tools (Box 2), developed by IUCN and its associates, three knowledge products are particularly relevant for businesses viz. The IUCN Red List of Threatened Species™, which assesses the risk of species extinction; Protected Planet – IUCN's interactive database for protected areas worldwide; and the Integrated Biodiversity Assessment Tool (IBAT), which is designed to provide businesses with a coherent, consistent picture of important biodiversity data on a single online portal. Information from these three sources can help businesses to manage the risks and opportunities associated with their impact on biodiversity.

Though these tools are very useful, in most cases -- especially at site level, knowledge products alone can't provide all the answers; they need to be combined either with additional ecological data (physical survey) and tools or with other knowledge products.

The IUCN Red List of Threatened Species™

The IUCN Red List of Threatened Species™ is the organization's best-known Knowledge Product, used by organizations and governments all over the world to help guide conservation decision making. The Red List facilitates the assessment of species extinction risk, in order to inform and catalyze action for biodiversity conservation. The risk of extinction of a particular species is

Box 2: Various Tools developed by IUCN and its Associates

- IBAT (Integrated Biodiversity Assessment Tool): A tool developed by IUCN with Bird Life International, Conservation International, UNEP's World Conservation Monitoring Centre, IBAT facilitates access to information on high priority sites for conservation - namely protected areas and key biodiversity areas - for implementation of corporate biodiversity policies and enhance environmental management systems. Data are presented in spatial and tabular formats, and with simple mapping functionality. (<https://www.ibatforbusiness.org/>)
- IUCN WANI toolkit. The IUCN Water and Nature Initiative (WANI) together with 80+ partner organizations has developed a toolkit which includes a guide on the use of valuation. It provides guidance for water management at the local and national levels. (www.iucn.org/water_toolkits/)
- Protected Planet. A joint initiative of IUCN and UNEP, Protected Planet is an interactive database for protected areas worldwide, reconciling governmental, expert and general public opinions on protected areas. (<http://www.protectedplanet.net/>)
- Protect Planet Ocean: A partnership between IUCN and UNEP, this interactive tool allows users to explore the world's Marine Protected Areas directly in Google Earth, learn about marine issues and conservation tools. (www.protectplanetoccean.org)
- ECOLEX: a gateway to global environmental law: Combining the environmental law information holdings of FAO, IUCN and UNEP, Ecollex includes information on treaties, international soft-law, technical guidance documents, national legislation, judicial decisions, and law and policy literature. (www.ecolex.org)
- IUCN Red List of Threatened Species™: Far more than a list of species and their threat status, the IUCN Red List is a powerful tool to inform and catalyze action for biodiversity conservation and policy change and is critical to protecting the natural resources we need to survive. It provides information on population size and trends, geographic range and habitat needs of species. (www.iucnredlist.org/)
- Integrated Wetland Assessment Toolkit: a guide to best practice for wetlands conservation. (www.iucn.org/species/IWAToolkit)
- Biodiversity for Business: This manual for using knowledge products delivered through IUCN was developed in partnership with the World Business Council for Sustainable Development. It contains more detail on the knowledge products outlined in this article and the ways in which they can be used by business (https://www.iucn.org/about/work/programmes/business/key_res/about_business_and_biodiversity.cfm?uPubsID=4979)

assessed through the application of a standardized risk assessment methodology in order to assign them to one of eight Red List categories - 1) Extinct 2) Extinct in the Wild 3) Critically Endangered 4) Endangered 5) Vulnerable 6) Lower Risk 7) Data Deficient 8) Not Evaluated.

Assessments are undertaken by a wide network of experts and scientists around the world, convened through the IUCN's Species Survival Commission or engaged through IUCN's partner organizations, who compile the best available information to assess the extinction risk of a species. The key outputs from any

IUCN Red List assessment are an assigned Red List Category, a geo-referenced map of the distribution of the species, and supporting information on the species population, ecology, threats and conservation actions that need to be adopted to reduce the risk of extinction (IUCN, 2014).

The IUCN Red List of Threatened Species™ can help businesses in:

- Identifying sensitive areas during project inception and planning phase;
- Strategizing ways to mitigate their impact according to the mitigation hierarchy;
- Complying with environmental standards, certification schemes, biodiversity safeguard policies and finance standards such as the IFC Performance Standard 6;
- Reporting a company's environmental footprint. The Global Reporting Initiative biodiversity indicator G4-EN14 is based on The IUCN Red List of Threatened Species™

The IUCN Red List of Threatened Species is used by a large number of businesses as individual reference and also as a subset of information merged with other biodiversity related information, provided by IBAT and other similar tools. Leading companies and organizations relying on the tool to support their sustainability strategies include Shell, Rio Tinto, Tata Group, BP, the Asian Development Bank and the International Finance Corporation, among others (IUCN, 2014).

Protected Planet: Protected Planet, a joint initiative of IUCN and UNEP, is managed by the UNEP World Conservation Monitoring Centre (UNEP-WCMC) documents the status, extent, diversity and quality of the world's protected areas. Protected Planet is powered by the World Database on Protected Areas (WDPA), which is the only global inventory of protected areas. Governments collect and submit information to WDPA managers to maintain the accuracy of the UN List of Protected Areas dataset.

Protected Planet includes areas protected nationally (e.g. national parks) and regionally (e.g. Natura 2000 sites), as well as areas designated by countries under international conventions and agreements such as UNESCO World Heritage Natural sites and Ramsar Wetlands of International Importance. Protected Planet provides access to a tool for displaying, mapping and contributing information on protected areas. It presents spatial data and descriptive information from the WDPA, images and information overlays from other external sources as well as status and global trends of protected areas (IUCN, 2014).

How business can use the tool:

- Identifying sensitive areas during screening processes and baseline surveys;
- Designing biodiversity offsets after other steps in the mitigation hierarchy have been exhausted;
- Complying with environmental standards, certification schemes and biodiversity safeguard policies;
- Valuing ecosystem services;
- Reporting on biodiversity impacts and opportunities.

IBAT for Business: The Integrated Biodiversity Assessment Tool (IBAT) is designed to provide businesses with a coherent, consistent picture of important biodiversity data in a single online portal.

Developed through a partnership among four highly respected environmental organizations, IBAT compiles relevant biodiversity data in an easy-to-use online decision-support and mapping tool. Companies can identify risks based on a consistent view of biodiversity, with data from the best available global data sets – including Key Biodiversity Areas and legally protected areas. Exportable reports make it easy to share biodiversity assessment results, and businesses can use downloadable data to conduct in-house analyses.

How businesses can use the tool: IBAT helps businesses incorporate biodiversity considerations into key project planning and management decisions, including:

- Screening potential investments;
- Developing action plans to manage biodiversity impacts;
- Assessing risks associated with potential sourcing regions;
- Reporting on corporate biodiversity performance.

By helping streamline the project screening process, IBAT makes it easier to consider alternatives early on, before changes become costly. Later in the project life cycle, IBAT can also inform the research and baseline studies needed to avoid, minimize and offset potential negative impacts. By using IBAT, companies also contribute significantly to the maintenance of data that are critical to global conservation efforts.

More than 35 companies from a diversity of sectors, including mining, oil & gas, finance and agri-business, have subscribed to IBAT. Past and present subscribers include: Anglo-American, Barrick, Banco Bradesco, BASFSE, BHP Billiton, BP, Chevron, Credit Suisse, ExxonMobil, General Motors, GrupoBimbo, Holcim, International Finance Corporation, JPMorgan Chase, Lafarge, Newmont, Rio Tinto, Shell, Standard Chartered Bank, Statoil, Total, Tullow Oil and Votorantim Cimentos.

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A New Course on Managing the Biodiversity Impact of Business

Mumbai-based non-profit Ekonnnect Knowledge Foundation has partnered with the Bombay Natural History Society (BNHS) to launch a blended learning (e-learning + fieldwork) course on Biodiversity Impact Assessment and Management. Designed for practicing as well as aspiring impact assessment professionals who wish to specialize in

Biodiversity-inclusive impact assessment, the 8-week course combines e-learning with fieldwork at actual project sites of BNHS.

The e-learning course is delivered through Ekonnnect's virtual classroom that is equipped with a range of multimedia and collaborative features such as discussion forums, live chats, videos etc.

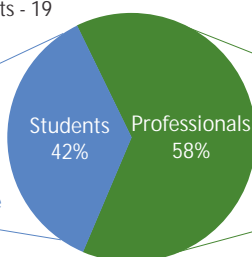
BNHS brings to the table its unparalleled expertise and experience in carrying out EIAs of high-biodiversity-footprint development projects throughout India.

A first batch of 19 students has already undergone the course and the first fieldtrip at Gulf of Kutch has been successfully completed. Following is a snapshot of the first batch:

First Batch Snapshot

- Launched - 7th Nov. 2014
- Number of Participants - 19
- 7 participants completed 1st fieldtrip in Gulf of Kutch
- Next fieldtrip in Pench Tiger Reserve in April

- M.Sc. Environment Science, Mumbai University
- M.Sc. Environment Science, Pune University
- B.Tech. Bioinformatics, D.Y. Patil University, Mumbai
- B.Sc. Environmental Science, Fergusson College, Pune



64% Senior Management
36% Middle Management and Entry-level

- Tata Assets Management Ltd.
- Municipal Corporation of Greater Mumbai
- Yokogawa Pvt. Ltd.
- Exact Importers Pvt. Ltd.
- Troupe & Consultants Pvt. Ltd.
- Indradhanushya Environment Centre, Pune Municipal Corporation

"The curriculum and faculty are excellent and I found it inspiring to be surrounded by academically strong minds. The professors and advising staff have been very accessible and enthusiastic and you can clearly see this in their comments and recommendations when they correct your answer sheets."

Subodh Narayan Juwarkar
Assistant Vice President-Human Resources, Tata Asset Management Ltd.

20 Illustrations of 'Business and Biodiversity in India' Launched

India Business & Biodiversity Initiative (IBBI), a national platform for Indian businesses launched by CII-ITC Centre of Excellence for Sustainable Development, on invitation from MoEF&CC and support from GIZ, released a report titled "Business and Biodiversity in India: 20 Illustrations" during the 12th Conference of the Parties (COP 12) to the Convention on Biological Diversity (CBD) held in Pyeongchang, Republic of Korea in October 2014. The compilation of case studies highlights the biodiversity conservation and management initiatives of 20 companies across sectors - mining, construction, manufacturing, IT, finance, energy, chemicals, and agri-business.

The report was launched by Mr. Hem Pande, Additional Secretary, MoEF&CC. "It is a pleasure to have business spearheading this initiative as biodiversity and natural resources are essential for all businesses. This report is a valuable attempt to showcase the work being done by Indian businesses on biodiversity", noted Mr. Pande.

Aditya Birla Group announces Industry-Leading Forest Policy

One of India's largest MNCs, Aditya Birla Group is the world's leading manufacturer of Viscose, contributing 20 percent of the global supply. The Group has announced a commitment to eliminate any sourcing from the world's ancient and endangered forests for all of its viscose fibres - made from wood pulp and used for clothing and textiles. Aditya Birla Group worked closely with Canadian environment NGO Canopy to draft its forest policy.

"We're committed to avoiding any endangered forest fiber in our products and are excited to help drive innovation in the development of fabrics made from new fibers that reduce the pressure on the world's natural forests," said Kumar Mangalam Birla, Chairman of the Aditya Birla Group. "We and many of our customers in the fashion industry are equally committed to developing sustainable business solutions that help conserve forests and species."

This game-changing move comes in response to similar commitments made by more than 25 global fashion brands including H&M, Zara/Inditex, Levi Strauss & Co, Marks & Spencer and designers such as Stella McCartney, who have joined Canopy's Fashion Loved by Forests campaign.

The Update section has been compiled by Divya Narain, Senior Associate, Prasad Modak & Associates, Mumbai.

Sustainability Committee Activities



Civic Awards & Good Corporate Citizen Awards

2014-15

The Bombay Chamber is pleased to invite nominations for its annual Civic Awards and Good Corporate Citizen Awards. The awards have given to publicly acknowledge and honour conspicuous achievement by corporate organization to improve environmental, social and cultural metrics in by way of service to the community, in addition to outstanding operational performance. It also recognizes businesses that have shown innovation, creativity and sustained commitment to corporate responsibility.

Civic Awards

Civic Awards were instituted in 1984 and are presented every year in the Annual General Meeting of the Chamber in the month of June.

Objectives

- To promote an active social, environmental and civic conscience among member companies.
- To recognise and reward best practices in these areas and other related aspects.
- To present replicable models of these projects, enabling best practice sharing with other companies.

Categories

- A. Sustainable Environmental Initiatives
- B. Social Development
- C. Art, Culture and Heritage

Participation Fees per application

- Members - Rs.3,000/- (inclusive of taxes)
- Non Members - Rs.3,500/- (inclusive of taxes)

Good Corporate Citizen Awards

Good Corporate Citizen Awards were instituted in 1994 and are presented every year on Foundation Day of the Chamber in the month of September.

Objective

To recognize and honour conspicuous achievement by corporate organizations by way of service to the civic community, in addition to outstanding business performance.

Categories

- A. Large Corporate (Above Rs.2,000/- Cr. Turnover in previous year)
- B. Medium Corporate (Above Rs.500/- to 1,999/- Cr. Turnover)
- C. Small and Micro Companies (Below Rs.500/- Cr. Turnover)
- D. Banks & Financial Institutions

Participation Fees (inclusive of taxes)

Category	Members	Non Members
A	Rs.3,000/-	Rs.3,500/-
B & D	Rs.2,000/-	Rs.2,500/-
C	No fees	No fees

Please download the application form from: <http://bombaychamber.com/about?awards.html>

ELIGIBILITY FOR THE AWARDS

1. Any organisation can apply for more than one category in Civic Awards.
2. Past winners of the Civic Awards are not eligible to apply for the same category but can apply for a different category. However, those who have won an award more than three years also can apply again for any category.
3. Activities undertaken in partnership with civil society organizations can also apply. However, the activities should not be a part of the normal business activities of the company.

PROCESS FOR NOMINATION

1. Applicants are requested to fill up the application form for the relevant category.
2. Please attach testimonials, photographs and supporting documents as annexure wherever necessary.
3. Kindly attach a note on impact of the programme and future sustenance plans of activities undertaken by the applicant with the application form (not more than 500 words). The guidelines for preparation of the note are - Clearly define vision and goal of the activity, strongly develop business case, indicate senior level commitment.

SELECTION PROCEDURE

Selection of the award winners will be done by a panel of independent judges drawn amongst eminent persons from industry, judiciary, academia, government and media.

*Last date for submission
August 4, 2015*

Sustainability Committee Activities

USAID LEAD (Low Emissions Asian Development) Program

Bombay Chamber in collaboration with USAID has organized a two-day programme on "Pharma & Agro-chemical Industries in Environmental Management" and Session on "Online Emission and Effluent Monitoring System" on June 25-26, 2015 at the Bombay Chamber Board Room, The Ruby, Dadar.

Key Takeaways

Participants will gain an understanding of:

- Recent order on the *online monitoring of emissions* prescribed by the Pollution Control Board
- The *technological innovative measures in treating the effluent* from drug and agro-chemical manufacturing and formulation
- "*Zero discharge*" terminology applicable to pharma and agro-chemical industry and how to achieve this stage.
- Effective management of *hazardous and non-hazardous waste*
- Identify and apply *best practices* adopted by the global pharma and agro-chemical sector to manage environment

SPEAKERS:

1. Mr. Tapan Wagle, ESH Consultant
2. Mr. Girish Wakharia, Assistant Commissioner, FDA
3. Mr. Vijay Bukkavar, Ex - Joint Director, DISH
2. Mr. Rahul Datar, Sr. VP, Environment Management Center
3. Mr. Hemant Rane, Consultant, Environment Protection & Waste Management

Guest Speakers:

1. Mr. J. S. Kamyotra, Scientist-F & Incharge, CPCB
2. Mr. Alok Chandra, Corporate Head-EHS (Sustainability), Rallis India Ltd.
3. Dr. Rajan Sharma, Head-Corporate EHS, Glenmark Pharmaceuticals etc.

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