Vardhman Textiles

Biodiversity Risk Assessment Report

Using Integrated Biodiversity Assessment Tool (IBAT)

Biodiversity Risk Assessment

Biodiversity risk assessment is a systematic evaluation of the potential threats and vulnerabilities faced by a species, ecosystem, or habitat. This assessment involves analyzing factors such as species population decline, habitat degradation, and the level of extinction risk to the species.

Vardhman is committed to the conservation and restoration of biodiversity, with a goal to achieve a **net-positive impact on biodiversity by 2050 and eliminate gross deforestation by 2045**. This commitment spans both our operations and our suppliers.

In line with this, Vardhman has undertaken several initiatives to protect biodiversity and ensure that its manufacturing and processing units are not located in protected areas, globally or nationally important sites, or eco-sensitive zones. The company adheres to local and national regulations, complies with ISO 14001:2015 and ISO 45001:2018 standards, and follows the guidelines set forth by the Air, Water, Environment, and Biodiversity Acts to minimize risks to biodiversity, ultimately aligning with our ESG principles.

For more information, please refer to our: Biodiversity Policy

Biodiversity Risk Assessment

Vardhman is committed to assessing its impact on biodiversity from both impact and dependency perspectives. We have conducted biodiversity risk assessments using the IBAT (Integrated Biodiversity Assessment Tool) for our 13 operating facilities, covering both operational areas and the upstream supply chain. The assessment includes:

Scope of the Assessment

- Biodiversity risk assessment across all 13 operating sites, including adjacent core and buffer zones, and upstream activities
- The goal is to establish a baseline for biodiversity and evaluate risks related to the company's operations and upstream activities.

Objectives of the Biodiversity Risk Assessment

- Identifying biodiversity-related risks and opportunities.
- Mitigating the negative effects of operations on biodiversity.
- Encouraging responsible sourcing of raw materials and ecosystem management.
- Strengthening pollution control measures and promoting sustainable practices.

Methodology & Framework

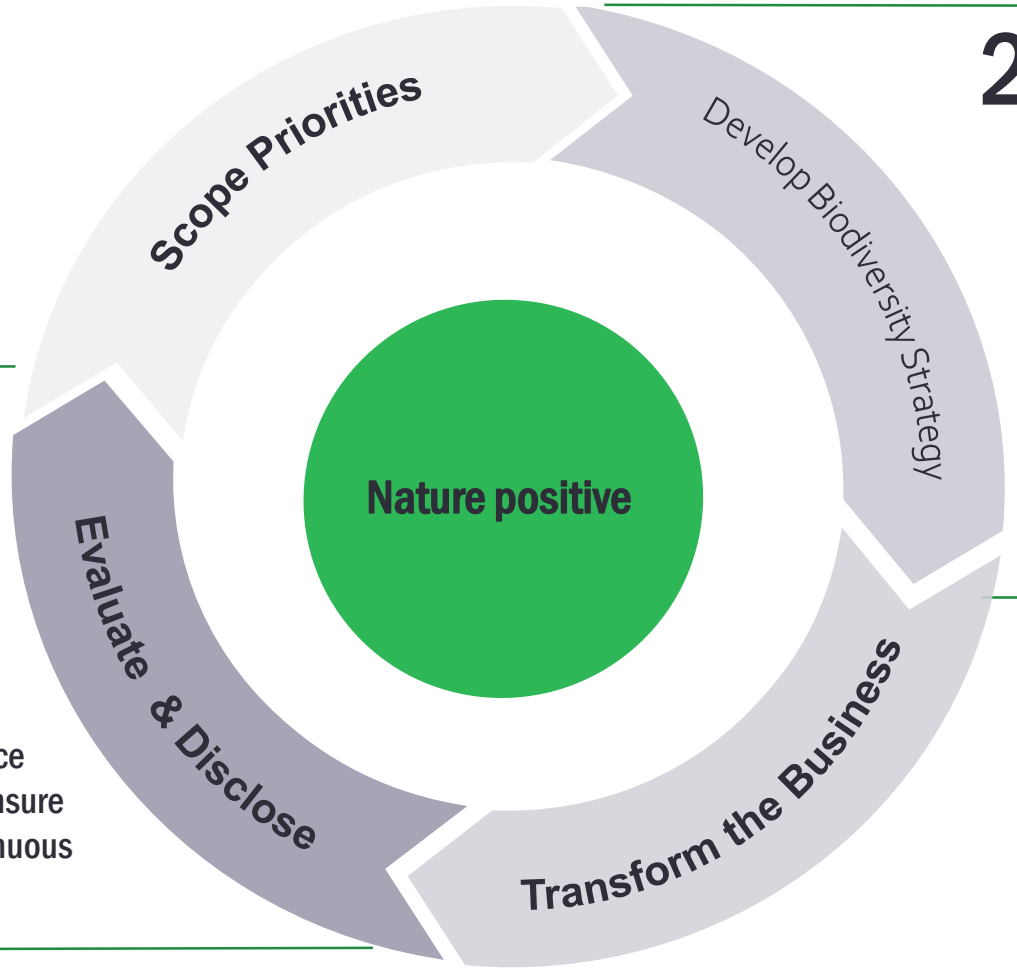
- IBAT Tool & TNFD Framework: Vardhman has utilized IBAT for assessing biodiversity risks at operational sites and aligned the process with the TNFD LEAP framework.
- GRI 304 Standards for Biodiversity Risk:
  - *GRI 304-1*: Establishing baseline data for operational units based on location and proximity to Key Biodiversity Areas (KBAs).
  - *GRI 304-2*: Evaluating operational impacts on air, water, and land, and their potential effects on species and ecosystems.

Vardhman's Approach in conserving Biodiversity

Committed to Nature Positive by 2050

1 Understand and priorities impacts and dependencies and opportunities for restoration

2 Develop a biodiversity strategy and set targets to respond to biodiversity related risks and opportunities



3 Implement your biodiversity strategy throughout your operations and supply chain to transform the business model

4 Evaluate your performance against the strategy to ensure accountability and continuous performance

Biodiversity Risk Assessment & Disclosure – TNFD Framework & LEAP Approach

The Taskforce on Nature-related Financial Disclosure (TNFD) is a global initiative to develop a framework for businesses and financial institutions to assess and disclose their dependencies and impacts on nature, and to identify nature-related risks and opportunities.

TNFD's Disclosure Recommendations

Disclose the organisation's governance around nature-related dependencies, impacts, risks and opportunities.	Disclose the actual and potential impacts of nature-related dependencies, impacts, risks and opportunities on the organisation's businesses, strategy and financial planning where such information is material.	Disclose how the organisation identifies, assesses and manages nature-related dependencies, impacts, risks and opportunities.	Disclose the metrics and targets used to assess and manage relevant nature-related dependencies, impacts, risks and opportunities where such
Recommended Disclosures			
A. Describe the board's oversight of nature-related dependencies, impacts, risks and opportunities. B. Describe management's role in assessing and managing nature-related dependencies, impacts, risks and opportunities.	A. Describe the nature-related dependencies, impacts, risks and opportunities the organisation has identified over the short, medium, and long term. B. Describe the effect nature-related risks and opportunities have had and may have on the organisation's businesses, strategy, and financial planning. C. Describe the resilience of the organisation's strategy to nature-related risks and opportunities, taking into consideration different scenarios. D. Disclose the locations where there are assets and/or activities in the organisation's direct operations, and upstream and/or downstream and/or financed where relevant, that are in priority areas.	A. (i) Describe the organisation's processes for identifying and assessing nature-related dependencies, impacts, risks and opportunities in its direct operations. (ii) Describe the organisation's approach to identifying nature-related dependencies, impacts, risks and opportunities in its upstream and downstream value chain(s) and financed activities and assets. B. Describe the organisation's processes for managing nature-related dependencies, impacts, risks and opportunities and actions taken considering these processes. C. Describe how processes for identifying, assessing and managing nature-related risks are integrated into the organisation's overall risk management. D. Describe how affected stakeholders are engaged by the organisation in its assessment of, and response to, nature-related dependencies, impacts, risks and opportunities. E. Describe how affected stakeholders are engaged by the organisation in its assessment of, and response to, nature-related dependencies, impacts, risks and opportunities.	A. Disclose the metrics used by the organisation to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process. B. Disclose the metrics used by the organisation to assess and manage dependencies and impacts on nature. C. Describe the targets and goals used by the organisation to manage nature-related dependencies, impacts, risks and opportunities and its performance against these.

Our Risk Assessment Approach

Impact-based Approach

- This assessment evaluates the direct and indirect impacts of Vardhman's operations on biodiversity and ecosystems, focusing on land, air, water, and soil quality. Key impact indicators include dust and noise pollution, industrial waste effects, impacts on water resources, and the loss of forested areas.
- Vardhman is committed to compliance with CPCB, SPCB, and ZDHC standards to minimize adverse impacts on biodiversity. In FY 2024, approximately 29% of raw materials were sustainably sourced.
- **Desktop-Based Assessment**: A baseline biodiversity health assessment was conducted using IBAT within a 50 km radius from operating sites. This assessment includes ecological areas of importance such as protected zones and biodiversity hotspots.
- **Location-Specific Approach**: A more detailed, location-specific biodiversity risk assessment is planned for FY 2025-26. This assessment will combine field data and desktop research to evaluate biodiversity impacts and dependencies, focusing on ecosystem services such as water, soil, and climate regulation. Tools used will include satellite imagery, IBAT, and the National Wildlife Database of MoEFCC. Third-party certified agencies will verify the study.

Dependency-based Approach

Vardhman recognizes its dependency on biodiversity, particularly for sourcing raw materials, water, energy, and ecosystem services:

- **Raw Materials Sourcing**: Vardhman depends on cotton (Better Cotton, Organic Cotton, regen agri) and forest-based fibers, with a focus on sustainable sourcing. In FY 2024, approximately 31% of cotton and 29% of total raw materials were sustainably sourced, supporting biodiversity conservation in agricultural and forest areas.
- **Packaging Materials**: Vardhman procured 91% of packaging materials from sustainable sources, primarily using recycled paper.
- **Water Resources**: Vardhman's textile operations depend on water for dyeing, washing, and processing, and the availability of fresh water is linked to healthy freshwater ecosystems.
- **Ecosystem Services**:
    - **Pollination**: Vardhman's raw materials, such as cotton, depend on pollinators like bees.
    - **Soil Fertility**: Biodiversity is crucial for soil health and sustainable agriculture.
    - **Climate Regulation**: Forest ecosystems play a vital role in climate stability, impacting the availability of raw materials and reducing operational risks.

Relevant laws & legal frameworks adopted

Law	Objective
Wildlife Protection Act, 1972	Enacted for protection of plants and animal species
Air (prevention and control of pollution) Act, 1981	To combat and mitigate air pollution
Environment Protection Act, 1986	Protection and improvement of the human environment and the prevention of hazards to human beings, other living creatures, plants and property.
Biological Diversity Act, 2002	Preservation of biological diversity in India, and provides mechanism for equitable sharing of benefits arising out of the use of traditional biological resources and knowledge.
Forest Conservation Act, 1980	An Act to provide for the conservation of forests and for matters connected there with or ancillary or incidental thereto.
Water (Prevention and Control of Pollution) Act, 1974 (Water Act)	To provide for the prevention and control of water pollution, and for the maintaining or restoring of wholesomeness of water in the country
National Green Tribunal Act, 2010	Act of the Parliament of India which enables the creation of a special tribunal to handle the expeditious disposal of the cases pertaining to environmental issues.

Convention	Objective
United Nations Convention on Biological Diversity	To conserve biological diversity, sustainable use of its components
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	To ensure that international trade in specimens of wild animals and plants do not threaten survival of the species.
International Treaty on Plant Genetic Resources for Food and Agriculture	To conserve and sustainably use plant resources and fair and equitable sharing of benefits arising out of use.
Task Force on Nature-Related Financial Disclosures (TNFD) Framework	To accurately report and act on evolving nature related risks and opportunities
International Plant Protection Convention (IPPC)	To protect cultivated and wild plants by preventing the introduction and spread of pests
Global Reporting Initiative (GRI 304)	To enable and help organizations report on their economic, environmental and social impacts

General Priorities for Biodiversity Restoration and Enhancement

Potential for impacts of greater concern in regard to biodiversity conservation and risks to companion ecosystem services, were identified based on a review of the nature of operations. The findings of each operational site Biodiversity assessment and consideration of the operating units contribution to cumulative effects.

Priority concerns were as follows:

- Direct impact of loss of forest and non-forest land and associated biodiversity.
- Impact on water resources and wetland ecosystems.
- Impacts of industrial waste on terrestrial and aquatic habitats and associated species.
- Effects of dust and noise pollution on habitat quality and selected faunal groups.
- Accidental road mortality on selected faunal groups
- Impacts on species of high conservation significance (highly threatened species) existing within the habitats of project area.
- Impacts on wildlife corridor.
- Influence of operations on ecologically sensitive areas of state, national and international importance for conservation values of biological diversity

Biodiversity Conservation Initiatives

- Afforestation & Ecosystem Restoration
- Sustainable Material Sourcing
- Sustainable Textile Processing
- Clean Energy Consumption
- Waste Management
- Water Stewardship
- Community & Global Engagement

Vardhman's Biodiversity Conservation Initiatives (1/4)

Afforestation & Ecosystem Restoration

As part of our commitment to biodiversity conservation and ecosystem restoration, we have planned large-scale plantation activities to restore degraded land and enhance green cover. Key initiatives include:

1. **Degraded Land Restoration:** Plantation of approximately 7 lakh saplings across 1,200-1,500 hectares of degraded land, with an estimated density of 600 bamboo plants per hectare.
2. **Miyawaki Plantation on Government Land:** A scientifically designed afforestation technique to create dense, fast-growing forests. The species planted include:
   - Moringa (*Moringa oleifera*)
   - Harad (*Terminalia chebula*)
   - Baheda (*Terminalia bellerica*)
   - Arjun (*Terminalia arjuna*)
   - Neem (*Azadirachta indica*)
   - Amaltash (*Cassia fistula*)
   - Kachnar (*Bauhinia purpurea*)
3. Plantation in Madhya Pradesh Units: Over the past 10 years, approximately 2.5 lakh trees have been planted, covering a diverse range of native species, including:
   - Subabul (Leucaena leucocephala)
   - Bamboo
   - Eucalyptus
   - Babool (Vachellia nilotica)
   - Palash (Butea monosperma)
   - Ber (Ziziphus mauritiana)
   - Neem (Azadirachta indica)
   - Sagwan (Tectona grandis)

Vardhman's Biodiversity Conservation Initiatives (2/4)

Sustainable Material Sourcing

- We are actively working towards sustainable raw material procurement and responsible sourcing to minimize biodiversity loss and deforestation. Our key sustainable sourcing initiatives include:
- Eco-friendly Packaging: ~91% of the total packaging materials used are sustainable and made from recycled materials.
- Sustainable Fibre Procurement: ~29% of the total fibre procured (cotton + manmade fibres) comes from sustainable sources such as organic, GOTS, BCI, Fairtrade, Regen Agri and GRS-certified fibres, ensuring biodiversity conservation and zero deforestation.
- Certified Cellulosic and Plant-Based Products: ~9% of our non-cotton cellulosic and plant-based products are FSC-certified, supporting responsible forest management.

Sustainable Textile Processing

- We ensure that our manufacturing processes adhere to stringent environmental standards:
- GOTS-Certified Dyes & Chemicals: Vardhman Textile is committed to ZDHC (Zero Discharge of Hazardous Chemicals). All dyes and chemicals used at Vardhman are Global Organic Textile Standard (GOTS) certified, ensuring eco-friendly production.
- OEKO-TEX Class I Certified Products: Our finished products comply with OEKO-TEX Class I standards, confirming the absence of harmful substances and promoting safe and sustainable textile manufacturing.

Vardhman's Biodiversity Conservation Initiatives (3/4)

Clean Energy Consumption

- We are actively pursuing the use of clean and renewable energy sources within our operations. Key initiatives include:
- Current Solar Projects: Implementation of solar projects with a capacity of approximately 25-30 MWp for self-consumption.
- Future Renewable Energy Plans**:**
  - Installation of solar projects totalling ~70 MWp by FY 2025.
  - Execution of an 11.5 MW hybrid power project (wind + solar energy).
  - Evaluation of a 28 MW biomass-based boiler with an accompanying turbine to generate green power.
  - Achieve 40% green power generation within our group units, contributing to our total power consumption of 140 MWh by 2026.

Waste Management

- Renovo Facility: 100% pre-consumer textile waste used for yarn production.
- Biological Sludge Utilization: Aim to use 100% biological sludge from landfills for Boiler/kilns.
- Salt-less Dyeing: Enhancement of CPB (Cold Patch Batch) production over traditional pad dry-pad steam methods.
- ETP Sludge Management: Implementation of ETP sludge co-processing in cement through authorized third-party engagement, reducing landfill waste.
- STP Sludge Management – 100% of the STP sludge is used for horticultural purposes
- Plastic Recycling: More than 100% collection and processing of post-consumer plastic waste.

Vardhman's Biodiversity Conservation Initiatives (4/4)

Water Stewardship

- Vardhman has implemented comprehensive water efficiency programs across multiple facilities, focusing on both conservation and treatment:
- **Effluent Treatment Plants (ETPs):**
    - Three operational ETPs at VSGM, VFB Budhni, and Baddi, with a combined treatment capacity of 15,000 KLD.
    - Treated 3.05 million KL of water in FY 2023-24.
- **Sewage Treatment Plants (STPs):**
    - Nine STPs with a total capacity of 5,195 KLD.
    - Treated 0.93 million KL of domestic wastewater in FY 2023-24, with reuse in gardening, flushing, and civil works.
- **Zero Liquid Discharge (ZLD) Systems:**
    - Planned installation of a 2,500 KLD ZLD system at VSGM.
    - Planned installation of a 13,000 KLD ZLD system at Baddi, ensuring wastewater recycling instead of CETP disposal.
- **Water Efficiency Audits:** Third-party audits conducted to track usage trends, identify inefficiencies, and implement conservation strategies.

Community & Global Engagement

- **Women + Water Initiative:** A collaboration with GAP to provide rural women with sustainable water access.
- **Clean By Design Program:** Participation in a sustainability initiative by GAP, PVH, and Target to improve ETP operations and chemical management.
- **Global Sustainability Programs:** Active involvement in initiatives such as:
    - Inditex Care for Water Program (2022)
    - Carbon Leadership Program
    - CO2 Reduction Program with UNIQLO
    - CHEM-IQsm Program with VF Corporation

Key terms & definitions

Terms	Definitions
Protected Areas	Protected areas are those in which human occupation or at least the exploitation of resources is limited.
International Union for Conservation of Nature (IUCN) Red List Species	IUCN Red List is a critical indicator of the health of the world's biodiversity and inform and catalyze action for conservation.
Alliance for Zero Extinction (AZE)	AZE aims to prevent extinctions by promoting the identification and ensuring safeguard and effective conservation of key sites for Endangered or Critically Endangered Species.
Critically Endangered Species	Critically Endangered Species are those species that are facing an extremely high risk of extinction in the wild.
Endangered Species	Endangered Species is any species of animal or plant which is at risk of extinction.
Vulnerable Species	Vulnerable Species are the species being threatened with extinction unless circumstances that are threatening its survival and reproduction improve.
Near Threatened Species	Near Threatened Species are species that may be vulnerable to endangerment in the near future, but it does not currently qualify for the threatened status.
Least Concern Species	Least Concern Species is a species that are evaluated as not being a focus of species conservation because the specific species is still plentiful in the wild.


Thank you!