



INDIA

# Source to Sink

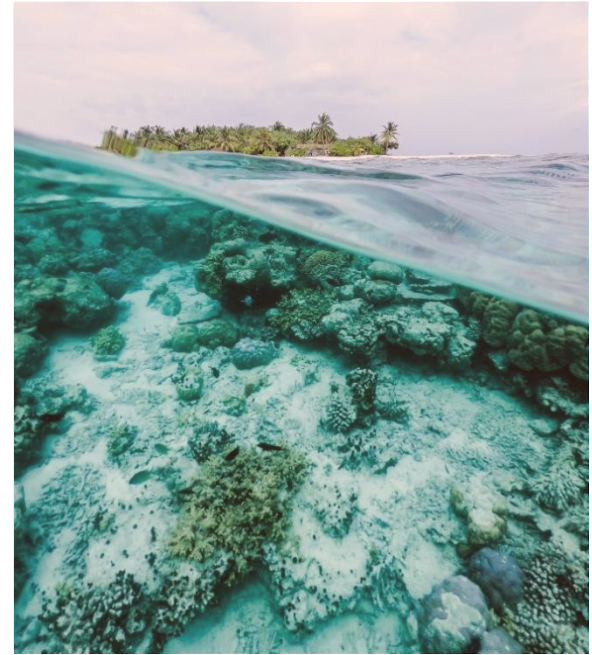
## Overview and challenges

Nature and ocean conservation play a critical role in our survival. Terrestrial and aquatic ecosystems provide us amongst others with food, drinking water, oxygen, energy, and medicines. They regulate our climate, provide pollination to our crops, and reduce the impact of natural hazards.

However, we are experiencing continuous deterioration of our natural habitats. Human activity has altered almost 75% of the earth's terrestrial surface, squeezing wildlife and nature into an ever-smaller corner of the planet. Ocean heat is at record levels and every year, up to 12 million metric tons of plastic enters the ocean, damaging ecosystems around the world.

## Challenges in India

India has a varied climate and terrain, with at least ten distinct bio-geographical regions. There has been an introduction of forest policies and regulatory protections to prevent biodiversity loss, however there is still more needed to be done to protect India's diverse ecosystem.



## Our Partner

**HCL Group** is a pioneer of modern computing and today the Group has business presence across sectors including technology and healthcare. It generates annual revenues of over US\$11.5 billion with more than 209,000 employees operating across 52 countries. HCL also takes pride in its many diversity, social responsibility, sustainability, and philanthropic initiatives; with a strong focus on driving innovations for the prosperity of the people and the planet.



## AQUATIC ECOSYSTEM CONSERVATION FROM SOURCE TO SINK



### FROM SOURCE (MOUNTAINS) TO SINK (OCEANS)

Preventing degradation, destruction, fragmentation, and overexploitation of aquatic ecosystems



### SAFEGUARDING THE SOURCE

Enhance sustainable development of aquatic ecosystems and their interlinkages with terrestrial ecosystems to safeguard essential ecosystem services.



### WASTE MANAGEMENT

Designing new mechanisms for waste disposal to reduce pollution ending up in and disturbing ecosystems such as oceans, rivers, and lakes.



### SUSTAINABLE AGRICULTURE

Promoting sustainable agricultural practices to increase biodiversity on land and reduce leaking of fertilizer and pesticides in ecosystems.



### RAINWATER STORAGE AND MANAGEMENT

Find innovative practices to store and gradually release precipitation to prevent flooding, washing away nutrients, and secure needed freshwater usage.



### ENDANGERED SPECIES PROTECTION

Identifying and logging habitats and vulnerabilities of endangered aquatic species (e.g., Ganges river dolphins, sharks, etc.) to push conservation efforts.



### NATURE-BASED SOLUTIONS

Minimize damage to ecosystems through use of nature-based solutions in the built environment by sustainable planning, design, and construction.

Additional thematic information and guidance:



**“Source to Sink’ - Aquatic ecosystem conservation from  
Source (Mountains) to Sink (Oceans)”**

Creating healthy, biodiverse terrestrial and aquatic ecosystems is critical to every SDG. The theme will allow for a focus on both **global and local issues**. For instance: Globally, you may be inspired by issues such as the link between the Indian Ocean dipole and Australian wildfires. Locally, you may want to focus on restoration practices to store water from discharges of heavy rainfalls in specific mountain geographies. Generally, a wealth of additional challenges within the theme are both urgent and important:

- Preventing human pollution of all kinds from the source.
- Preventing degradation, destruction, fragmentation, and overexploitation of aquatic and terrestrial habitats.
- Mitigating the causes of climate change which endanger the continued existence of terrestrial and aquatic species.
- Enhancing sustainable and interlinked use of terrestrial and aquatic ecosystems from mountains to oceans to safeguard their essential services to our planet.
- Identifying important and degrading forests in mountains and wetlands of the catchment areas and predict areas needing restoration thereby arresting erosion due to runoffs and areas vulnerable for landslides in the mountains due to runoff waters and erosion.
- Researching and estimating the (lost) value of nutrients, sediment, and freshwater loads into the oceans thereby increasing ocean’s productivity.
- Identifying critical pollution inlets in river systems and estimating the pollution load.
- Determining changes in rainfall patterns and their impact on and interactions with water availability and stream structures, thereby threatening amphibians’ breeding patterns, hill streams, migrating fish (spawning), and availability in forests for wild animals.
- Identifying most suitable habitats for endangered aquatic species (e.g. Ganges river dolphins and sharks, Gharial, Batagur, Indian Skimmer, Mahseer) and their vulnerabilities.
- Identifying and implementing restoration practices to store water from large discharge of heavy rainfalls in mountains and gradually releasing it to minimize ecosystem disturbances.
- Researching links between local ecosystem disturbances (such as shifting monsoon hotspots) and their effects on larger global ecosystems.