

**SUSTAINABILITY THROUGH CLIMATE ACTION- ROLE OF ECOSIA IN INDIA**

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**Abstract**

The climate of the Earth is changing and affecting our daily lives and the health of plants, animals, and humans. Greenhouse gases emitted from human activities are driving this change. The average temperature of the world is rising and melting the glaciers causing the sea levels to rise if we do not act now, there will be serious changes in the environment of the Earth which will be irreversible. To counter this UN has proposed Sustainable Development Goals which every country should achieve by the year 2030. One of these goals is Climate Action (Goal – 13). Ecosia is an organisation headquartered in Berlin, Germany. Eighty percent of revenue is contributed towards tree plantation, it is transferred to local tree

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planting organisations that work towards reforestation worldwide. Ecosia is a carbon negative organisation, which means it removes more carbon from the environment than it produces from all of its operations, it also pledges towards user privacy and financial transparency. The firm claims to have planted more than 14.5 million trees worldwide since its start as of December 2021. Ecosia is implanting trees in India since 2019 and has planted 12.6 lakh trees restoring 392 hectares of land focusing on regenerating soil, restoring wildlife routes, and creating livelihoods. Ecosia believes climate change has the greatest impact on those who are least responsible for it. Searches are empowering rural agricultural communities with efficient and sustainable agroforestry models that aid in climate change adaptation. Trees in Singbhum connect forest sections that restore elephant and tiger migratory pathways. Fruit trees planted in rural regions in West Bengal benefit women by providing new business and livelihood alternatives. In this research, we observe the work of Ecosia supporting India in achieving the climate action goal (SDG 13).

**Keywords:** Ecosia, Goal 13 – Climate Change, India, Non-Profit Organization, Search Engine, Sustainable Development Goals (SDG).

## **INTRODUCTION**

Climate change is affecting every country on the planet right now. It impacts people's lives, upsets the national economy, and spends wealth on individuals, towns, and nations today and tomorrow. Climate change is having substantial effects on people, such as changes in the weather pattern, rise in sea level and weather extremities. The increase of greenhouse gases in the environment is driving this change in climate and it is expected to worsen over time. If there is no action towards rising global average temperature, scientific forecasts are pointing towards a 3 degrees celsius increase in global temperature before the 22<sup>nd</sup> century. There might be serious results of temperature rise in some regions of the world.

Countries worldwide are expected to switch to cleaner fuel and green economic practices and technologies which can be scaled inexpensively. The adaptability of renewable energy sources and actions to reduce emissions are rising but global warming and climate change is are huge problem that the world is facing, we need to drop our differences and work together

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as one. This problem requires coordination from every country to transition to a low-carbon economy.

The climate change conference of the United Nations (also known as COP21) was held on 12<sup>th</sup> December 2015 in Paris, 195 countries that are part of the UN came together to an agreement known as Paris Agreement to fight climate change. All the countries decided to act and control the global temperature under 2 degrees Celsius. There must be an action on this agreement to meet the goal to cut greenhouse gas emissions by 2030.

## **OBJECTIVES**

- To understand the key initiatives by Ecosia across the globe
- To study the initiatives conducted by Ecosia in India in terms of climate change
- To evaluate the impact of the initiatives of the Ecosia

## **Research Methodology**

Our unit of study is Ecosia. We studied the activities of Ecosia from December 2019 till the present date, this research paper has been developed through secondary sources of data from daily articles, blogs, the company's official data sites, government sources, and other research journals.

## **LITERATURE REVIEW**

The word 'Digital' has become an inseparable part of our lives as much as 4.99 billion people are connected to the internet as per statistics from January 2021. One of the ways people access the internet is by searching for news, topics, articles and many more things on search engines. According to SEOTribunal.com on average Google handles 5.6 billion searches per

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day. Ecosia is the world's largest environment-conscious search engine as it provides at least 80% of its income for global tree plantations (Zehendner, 2021).

Ecosia is a non-profit organization using a search engine to display sponsored advertisements, which are known as SEM (Search Engine Marketing) and are used to generate income. When a sponsored advertisement or sponsored link to a website is clicked, it generates revenue. That makes sponsored results the most important source of revenue for all the search engines. Ecosia is using this income for planting trees, establishing clean energy plants, and trying to attain sustainability through climate action as a goal of the 2030 agenda for the whole world (Pedro Palos-Sanchez, 2018).

Ecosia is making action against climate change accessible for its users as they don't have to go out of their way to plant a tree and take care of it while it grows instead just using Ecosia for their searches is making involvement in climate action activities easier. Using Bing Search (Search Engine by Microsoft) servers to carry out searches and sharing the profit with Bing makes it easier for Ecosia to focus on climate action activities instead of focusing on maintaining web servers and search algorithms (Mager, 2013).

While planting trees Ecosia also focuses on user privacy by not sending the user data to third parties. Ecosia has switched to only using renewable energy for its office operations as they are investing some of the income into solar panel projects. Ecosia also focuses on the corporate culture of sustainability while supporting its core values of "user focus", "empowering people to do good" and "protecting the needs of their users and acting in their best interests" (Ivanov, 2019).

Ecosia plants trees to reduce CO<sub>2</sub> from the environment which helps reduce the greenhouse effect and help to regenerate the soil, they plant trees to help fight poverty by providing agroforestry as a means of income as well as provide better living conditions for the animals and birds. Trees planted by ecosia are beneficial in maintaining biodiversity and helping the endangered species of both flora and fauna. Ecosia is planting trees in more than 20 countries, only native trees are planted as they are easier to grow in natural environmental conditions. (Pieter, 2019).

In July 2020 Ecosia reached a milestone of planting 100 million trees (Joshi, 2020).

## Hypothesis

Based on research we propose the following Hypothesis

Ho: There is no association between the activities of Ecosia and Environmental related benefits.

H1: There is an association between the activities of Ecosia and Environmental related benefits.

## Analysis

This section discusses the evolution of Ecosia, its initiatives at the Global and Indian Level

### Ecosia.org: The Tree-Planting Search Engine

Search engines generate income by showing sponsored ads known as SEM (Search Engine Marketing). For most users, search engines are the first resource for info. If a sponsored result is clicked by a user, the search engine gets a commission from the advertisement publisher. Eco links are the company's term for these promoted outcomes.

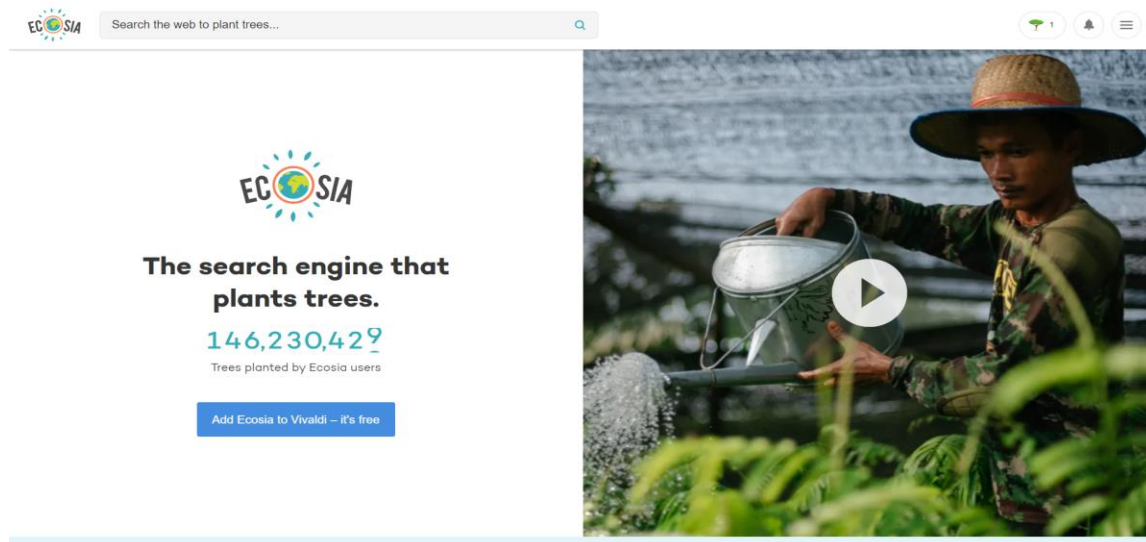


Figure 1. Homepage of Ecosia Search Engine

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If a user clicks on a sponsored advertisement that is put on the results page by Ecosia, a certain amount of revenue is generated. Eighty percent of the revenue generated is provided to tree plantation partners of Ecosia. The remaining 20% is utilized to cover required expenses. Salary, servers, domains, and marketing are a few examples. The table below provides an overview of the company

**Table 1.** Overview of the company

<b>Ecosia</b>	<b>Description</b>
Foundation	2009
Headquarters	Wittenberg/Germany
Industry	Social Business, Internet
Products and Services	Internet Search Services
Partners	WWF (Worldwide Fund for Nature), Bing and Yahoo
URL	Ecosia.org
Revenue (estimated 2021)	28 Million €
Employees	40 employees

Ecosia is able to maintain its finances because it is not a standalone search engine, instead uses the IT infrastructure of Bing search engine to process the search results and that is why there is no expenditure for web servers and search algorithms. Ecosia thinks of its search engine as a contribution to society and the environment instead of a business with a goal for profitability, it is being promoted as a social cause.

The programs that Ecosia funds are mostly for tree planting on the African and Brazilian continents, thus we can say that Ecosia is an example of a social business model in the search for sustainability.

The following factors influenced the selection of tree-planting projects. Trees help to keep the environment cool by absorbing CO<sub>2</sub>, one of the primary drivers of climate change. Similarly, huge forests may produce clouds, which reflect sunlight and cool our planet, helping to offset the consequences of global warming. The forests generated by the trees also boost

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biodiversity because they offer varied, sustainable wildlife systems for plants and animals to dwell in.

Trees aid in the protection of land and soil from erosion, as well as the creation of productive and fruitful land. Furthermore, trees produce clean air and give us the oxygen we require. Trees also help to purify the air by absorbing polluted gases and filtering out hazardous particles. Trees may also be used to produce nutritious meals and other items that can be gathered sustainably. These items support the livelihoods of 1.6 billion people worldwide. Finally, woods promote water security by regulating water cycles, preventing floods, creating humid microclimates, and increasing groundwater levels.

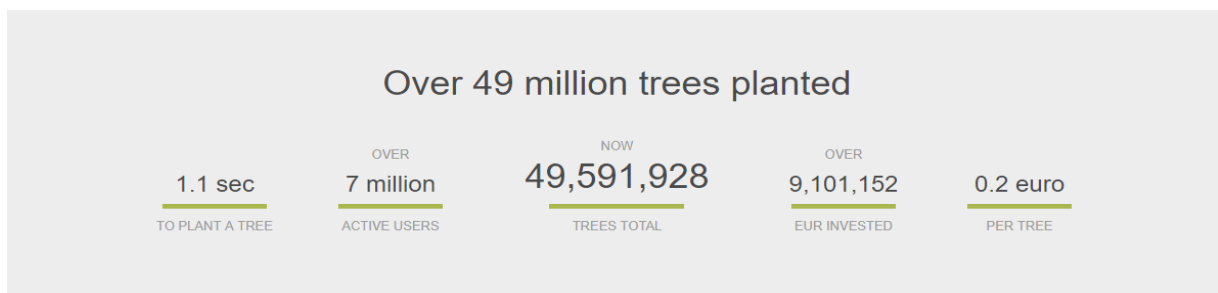


Figure 2. The number of trees planted by Ecosia

These are the justifications given by the Ecosia search engine for its tree-planting business strategy. Furthermore, it is critical to identify the regions of the globe where these plantation operations are taking place to assess their biodiversity. To do this, the search engine delivers the following information on projects being conducted in various parts of the world. Figure 3 depicts the geographical areas containing Ecosia initiatives.



Figure 3. Geographical areas of activities Ecosia's tree planting.

Ecosia sponsors approximately 20 tree-planting programs in 16 countries throughout the world, including Madagascar, Peru, Tanzania, Brazil, Nicaragua, Colombia, Spain, Senegal, Morocco, Ghana, Burkina Faso, Haiti, Uganda, Ethiopia, Kenya, Indonesia and India. To implement the tree plantation projects, Ecosia collaborates with local tree planting organisations that can plant and maintain the trees locally.

### **Global Initiatives of Ecosia**

#### **1. Country - India**

**Projects** - Soil regeneration, wildlife corridor restoration, and livelihood creation

**Partners for the project** - Sustainable Green Initiative, Grow-Trees, SOCEO

Changing climate has the biggest influence on people who are least to blame. In Uttar Pradesh, researchers are equipping traditional farming populations with effective and sustainable agroforestry methods that help in climate change adaptation. Your trees in Singbhum link forest parts that help restore elephants and tiger migration routes. Fruit



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trees are grown in West Bengal's rural areas assist women by giving new business and economic opportunities.

## **2. Country - Madagascar**

**Projects** - Tropical Rainforest Recuperation

**Partners for the project** - Eden Reforestation Projects

To rehabilitate the woodlands, therefore assisting the restoration of animals and halting soil erosion. Most of the new trees are mangroves, which thrive in saltwater and provide an ideal habitat for fish reproduction. Mangroves are also extremely effective in absorbing carbon out of the atmosphere. This region is a biodiversity hotspot that has already lost 90 percent of its woods.

## **3. Country - Isla de Borneo, Indonesia**

**Projects** - Palm Oil Alternatives

**Partners for the project** - Gunung Saran Lester, Masarang

Ecosia adds to the success story of a neighbouring community, wherein environmentalist Willie Smits and his Respondents tend foundation improved farmers' lives by planting 10 unique varieties of productive plants, along with the vegetation sugar palm.

## **4. Country - Usambara, Tanzania**

**Projects** - Mountain Reforestation

**Partners for the project** - Friends of the Usambara Society

It strives to maintain this fragile environment by an inventive blend of agroforestry, ecotourism, and tropical forest regeneration, as it is one of planet earth's most natural 36 important spots of biodiversity.

## **5. Country - Nicaraguan Pacific, Zona of León, Nicaragua**

**Projects** - Volcano slopes Reforestation

**Partners for the project** - Día Foundation

The goal is to repair these volcanic slopes in order to prevent additional soil erosion. This project will use a gardening technique to assist conserve the environment, replenish water sources, and give farms a much more sustainable alternative income model.

## **6. Country - San Martín, Perú**

**Projects** - Geographic Reforestation

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## **Partners for the project - Pur Project**

Collaborate with local coffee and cocoa cooperatives to reforest the area and develop new revenue streams. Small farmers are therefore schooled in organic agriculture, agroforestry, and organic agriculture while planting trees. In the 1980s, this region was substantially deforested.

## **7. Country - Sahel Region, Burkina Faso**

### **Projects - Burkina Faso desert**

#### **Partners for the project - OZG (Entrepreneurs Without Borders)**

Trees are now being planted to limit the desert's spread and restore the land's fertility. Water basins are dug in the dry earth using tractors. The countrymen later filled the basin with seedlings, which grow during the rainy season. These trees grow robust and eventually restore the region's prospects for health and the economy.

## **ECOSIA IN INDIA**



Figure 3. Ecosia tree plantation in India

The trees planted by Ecosia in India are 1,267,794 and harvested over 392 hectares

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Our searches in Uttar Pradesh are empowering rural agricultural communities with efficient and sustainable agroforestry models that aid in climate change adaptation. Your trees in Singbhum connect forest sections that restore elephant and tiger migratory pathways. Fruit trees planted in rural regions in West Bengal benefit women by providing new business and livelihood alternatives.

Partners - Sustainable Green Initiative, Grow-Trees, SOCEO

Started in India - 2019

Planting Methods - Tree nurseries, agroforestry

Planting season - January-February, April-December

Main Threats - Unsustainable agriculture, soil salination, climate change

Wildlife Protected – Tigers, Forest Elephants

Challenges – Infrastructure

- Species of trees planted in India
  - *Auadirachta indica* - Neem, nim tree or Indian lilac
  - *Syzygium cumini* - Jamun or jambolan
  - *Moringa oleifera* - Drumstick tree
  - *Punica granatum* - Pomegranate
  - *Artocarpus heterophyllus* - Jack tree
  - *Phyllanthus Emblica* - Indian gooseberry,

## FINDINGS

Ecosia is genuinely helping the world to restore its ancient or say healthy biosphere and is having a great positive impact in achieving sustainability through climate change not only in India but in the entire world. The few works done by Ecosia around the world is

Dec-19	€ 18,406.00
Mar-20	€ 128,253.00

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Oct-20	€ 45,230.00
Nov-20	€ 100,000.00
Dec-20	€ 114,045.00
Jan-21	€ 22,023.00
Feb-21	€ 131,265.00
Apr-21	€ 55,746.00
Jul-21	€ 34,855.00
Sep-21	€ 461,159.00
Dec-21	€ 11,104.00
Jan-22	€ 2,208.00
<b>Total</b>	<b>€ 1,124,294.00</b>

The projects are being run in the states of Uttar Pradesh, West Bengal, & Jharkhand. So, there has been a periodic Fund transfer from December 2019 to January 2022 for the projects that are been run in India. We could say that Ecosia is transparent in its role in India.

There has been a positive impact in the botanical gardens and wildlife sanctuary due to reforestation, many tigers and forest elephants are being saved due to the availability of forest and avoiding contact with humans or nearby villages.

However, because Ecosia uses its profits to plant trees, every lookup using Ecosia reduces around one kilogramme of Carbon dioxide from the environment. This implies that if Ecosia grew to the scale of Google, this might absorb 15 percent of global Carbon dioxide emissions. Ecosia tree planting also has numerous additional environmental advantages, making it environmentally friendly.

Because Ecosia places high importance on tree planting. Ecosia does not plant sterile monocultures; rather, we develop diverse, mixed forests. Ecosia does not develop fast-growing or invasive alien species: Ecosia grows well-adapted (and quite often threatened) native species. Ecosia works closely with local communities to ensure that the plants survive and are not cut again. Ecosia is waiting for the right weather conditions. Ecosia exclusively collaborates with organisations that have a track record of success and the ability to monitor the trees throughout time. Only a few organisations in the world meet all of these criteria.

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Ecosia already collaborates with a number of them, and we are planning additional relationships in the United Kingdom, Tanzania, India, and Ethiopia. To summarise, Ecosia does not merely throw cash at every organisation that professes to be environmentally friendly.

Ecosia announced in October 2020 that it has purchased a 20% share in Tree Card, a debit card firm. In collaboration with Mastercard, it intended to develop a new debit card in 2021. Tree Card debit cards are constructed of British cherry wood rather than the usual polymers seen in most other debit cards, which take far longer to degrade when abandoned. Ecosia's global forestry initiatives will get 80 percent of the company's income, according to plans. So, the investments that Ecosia is doing to grow are also used for achieving sustainability.

### **CONCLUSION**

The study explored Ecosia's role in India in achieving sustainability through climate action. This study backs up the prevalent belief among Internet users that a search engine may assist in reducing climate change by tree plantation. The findings paint a rosy image of the fight against deforestation, and hence climate change, by proving consumer interest in responsible resource use. The scenario under discussion in this research study portrays a world wherein companies are held accountable for such environmental repercussions, and customers may choose how much they are prepared to contribute to global degeneration through service selection. As a result, rather than simply nations and governments, environmental management will become a shared responsibility for all of us.

The study's findings underline the need to raise awareness and encourage deforestation. This means that the findings of the study may be used to enhance user awareness of concerns such as forest loss, global warming, etc. Forestry is the study of tree cultivation, and woodland and forest management. These research findings can assist in increasing knowledge of this science and highlight its relevance for planet preservation, climate change mitigation, and pollution control, and, most significantly, they can raise awareness of vast tree falling and the difficulties it causes the globe.

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The findings of the study might be utilized to encourage foundations and non-governmental organizations to sponsor these efforts, as well as to recommend that firms that supply technical services employ Ecosia's green business strategy.

The use of programs to promote sustainable development increases customer happiness, implying that the choice to use is influenced more by the added value provided by these types of firm activities in the long run. To assist in environmental progress and have effective green marketing, businesses must include such efforts into their aims. Businesses need to make sure that the eco-friendly items and services they provide become engrained in the brains of their customers. To achieve more accurate results, future researchers should enhance the impact and period of their investigation with a diverse clientele in different parts of the world. So, based on the data, we can infer that Ecosia has had a beneficial environmental impact and has aided India in its pursuit of sustainability.

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