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Assessment of Environmental Degradation Caused By Industrialization and Economic Problems and Environmental Justice

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Abstract

This study aims to assess the impact of industrialization on the environment, focusing on the economic problems that have contributed to environmental degradation. (Singh, By examining the concept of environmental justice, we hope to shed light on how marginalized communities are disproportionately affected by these issues. Through a combination of quantitative analysis and case studies, we will explore potential solutions to address these complex challenges and promote sustainability in the face of rapid industrial growth. Concepts such as climate change and social justice can no longer be ignored, and it is imperative that we all make conscious choices in our daily lives to contribute to a better world. By reducing our carbon footprint, supporting fair trade products, and advocating for policies that protect the environment and human rights, we can make a significant impact.

We can all work together to bring about positive change and create a society that is more equitable and sustainable. Different locations in Korba and JanjgirChampa were used to gather water samples. A few parametersThermometers and pocket pH and TDS meters are used to measure temp-erature, pH, and TDS on different site and after samplingTemperature, pH, TDS, DO, COD, BOD and other parameters are examples of physicochemicals parameter.

Key Words: Industrialization, Temperature. pH, TDS, DO, COD, BOD etc.

Introduction

The process through which an economy shifts from being dominated by manual labour and agriculture to one that is dominated by industry and mechanised production is known as industrialization. This shift typically involves the adoption of new technologies, increased urbanization, and the development of specialized industries. Industrialization has had a profound impact on societies around the world, transforming economies, shaping social structures, and influencing cultural practices. One of the major downsides of industrialization is the environmental degradation it often causes. Increased manufacturing and mechanized production contribute to air and water pollution, deforestation, and the depletion of natural resources. The rapid urbanization that accompanies industrialization also leads to habitat destruction and loss of biodiversity. As a result, many regions that have undergone industrialization struggle with issues such as climate change, resource scarcity, and polluted ecosystems. Despite the undeniable benefits of industrialization, it is crucial for societies to address and mitigate its negative environmental impacts in order to ensure a sustainable future. Justice in the economy is essential in addressing the negative environmental impacts of industrialization. It is important to ensure that all individuals and communities, especially those most affected by pollution and resource depletion, have access to resources and opportunities for a healthy and sustainable future. Without economic justice, marginalized groups may bear the brunt of environmental degradation, further perpetuating inequalities and hindering progress towards a more sustainable society. By prioritizing justice in the economy, we can work towards creating a more equitable and environmentally conscious world for future generations. Industrialization has significantly contributed to air pollution through the release of harmful emissions from factories and vehicles. These chemicals have a negative impact on both the environment and human health in addition to lowering the quality of the air we breathe.

Without proper regulations and sustainable practices in place, industrialization can continue to exacerbate environmental degradation and

harm marginalized communities the most. It is crucial to address the impact of industrialization on air pollution and prioritize sustainable development to protect both people and the planet.

Effects of industrial waste on water and soil contamination can also be devastating. Improper disposal of industrial waste can lead to contamination of water sources, making them unsafe for consumption and harming aquatic life. Additionally, soil contamination can affect agricultural productivity and pose health risks to those living in close proximity to contaminated areas. Implementing stricter regulations on the disposal of industrial waste and promoting responsible waste management practices are essential in mitigating the negative effects of industrialization on water and soil quality. By prioritizing environmental sustainability, we can ensure a healthier future for both current and future generations. Singh, D.; [2014].

Destruction of natural habitats due to industrial expansion can also lead to loss of biodiversity and disruption of ecosystems. This can have far-reaching consequences for the delicate balance of the environment, impacting not only plant and animal species, but also human populations that rely on healthy ecosystems for resources. It is crucial for industries to consider the environmental impact of their actions and work towards minimizing harm to the natural world. Through conservation efforts and sustainable practices, we can preserve our planet for generations to come.

Income inequality and its relationship to environmental degradation is a key issue that must be addressed in order to achieve a more sustainable and just economy. The concentration of wealth in the hands of a few often leads to exploitative practices that harm both the environment and marginalized communities. Islam, M.S.; et al.; [2015] By promoting fair wages, labor rights, and equitable distribution of resources, we can create a more inclusive economy that prioritizes the well-being of all people and the planet. Only by addressing issues of justice in the economy can we truly achieve environmental sustainability and social equity.

Access to resources and how it affects environmental justice Access to resources plays a crucial role in determining environmental justice. When certain communities lack access to clean water, healthy food, or safe living conditions, they are disproportionately impacted by environmental degradation and pollution. By addressing disparities in resource distribution and ensuring that all communities have equal access to necessary resources, we can work towards a more just and sustainable economy. This requires not only addressing immediate needs, but also addressing systemic issues of power and privilege that perpetuate inequality. Only through a comprehensive approach that considers both economic and environmental justice can we create a more sustainable and equitable future for all.

Corporate responsibility and sustainable practices in the economy are crucial in achieving these goals. Companies must prioritize ethical practices that minimize harm to the environment and promote social justice. By holding corporations accountable for their impact on the planet and marginalized communities, we can begin to shift towards a more sustainable and equitable economy. It is imperative that businesses prioritize the well-being of people and the planet over profit in order to create a more just and sustainable future for all.

Implementation of stricter environmental regulations for industries and businesses is essential to ensure that they are operating in a way that is sustainable and environmentally responsible. Additionally, investing in renewable energy sources and sustainable practices can help reduce the carbon footprint of businesses and contribute to a healthier planet. By encouraging ethical labour practices and making certain that employees receive fair compensation and have secure working environments, companies can also help promote social justice within their own organizations and throughout their supply chains. Overall, prioritizing ethical practices and sustainability in business operations is crucial for creating a more just and equitable economy for all.

Promoting renewable energy sources and sustainable practices not only benefits the environment but also has a positive impact on society as a whole. Kumar, S.; et al.:- [2017] By taking steps to reduce their carbon footprint and promote fair labor practices, businesses can play a significant role in creating a more sustainable and ethical economy. This not only benefits the planet but also helps to create a more just and equitable world for future generations. It is essential for businesses to prioritize ethical practices and sustainability in order to ensure a better future for all.

Encouraging fair wages and equal access to resources for all individuals can help to reduce income inequality and promote social justice. By incorporating these values into their business models, companies can contribute to building a more inclusive and sustainable society. Ultimately, prioritizing ethical practices and sustainability not only benefits the bottom line but also has far-reaching positive impacts on both people and the planet. It is crucial for businesses to take a holistic approach to their operations in order to create a more equitable and thriving future for all.

Environmental policy will also be a key component of our research, as we seek to understand how government regulations can help mitigate the negative effects of industrialization on the environment. Upadhyay, M.; et al.: [2014]. By identifying best practices and lessons learned from past industrialization processes, we aim to provide valuable insights for policymakers and stakeholders to make informed decisions that prioritize environmental protection while still allowing for economic growth. Ultimately, our study seeks to contribute to the ongoing conversation about sustainable development and the need to balance economic progress with environmental conservation.

Materials and Method

Various locations where the upstream s^1, releases effluents s^2, downstream s^3, before confluence Mahanadi s^4, and after confluence Mahanadi s^5 are where waste water collects. Samples were collected using a clean plastic container that had been thoroughly cleaned with nonionic detergent, rinsed three times with tap water, and then washed with deionised water. The sampling sites were identified as s^1, s^2, s^3, s^4, and s^5. Before being used, samples were collected, transported to the lab, and stored to prevent contamination from any outside materials. A parameter After sampling, the water's physicochemical parameters—temperature, pH, TDS, DO, and COD—were examined in accordance with APHA (1995) and Trivedi and Goels (1986). Temperature, pH, and TDS are measured on-site using thermometers and pocket pH and TDS meters.[5]

Result and Discussion

Temperature: - In general, temperature has an impact on chemical reactions, reaction rates, aquatic life, and whether or not water is suitable for useful purposes. The temperature value observed were 29.7 ^{0}C at s^1 and 35.4 ^{0}C at $s^{2.0}$ and 36.6 ^{0}C at $s^{2.1}$and 35.3^{0}C at s^3 and 26.8^{0}C at s^4 and 26.6^{0}C at s^5.

Warm water from industrial processes is added to wastewater, which raises its temperature.

The species of fish, crabs, frogs, and other aquatic life may change as a result of rising temperatures, and the receiving body may experience heat shock. High Temperature Decreases DO level and increases COD level. In lab testing post sampling analysis we obtain the value in s^1 27.4^{0C}, $s^{2.0}$ 26.9 ^{0}C, $s^{2.1}$ 27.4^{0C}, s^3 26.6 ^{0C} 2, s^4 26.8^{0}C, s^5 26.6^{0}C.[6]

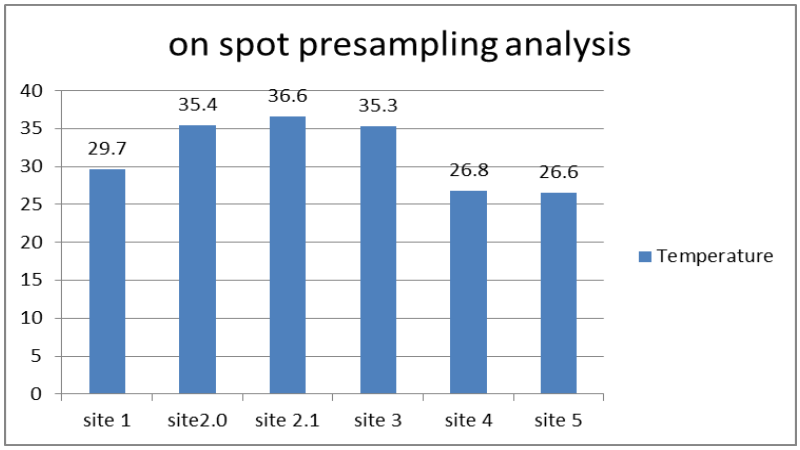

Figure 1.1

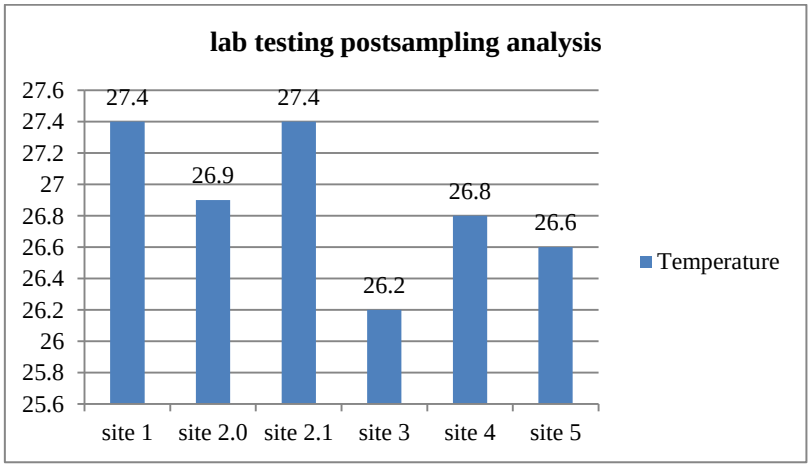

Figure 1.2

Acidity

The acidity effect of industrialization on the environment is a significant concern, as it can lead to acid rain, soil and water contamination, and harm to plant and animal life. This study will delve into how the increase in industrial activities has contributed to the rise in acidity levels in the environment, particularly in vulnerable communities.

pH:-

The concentration of hydrogen ions in water is measured by pH, which also quantifies the degree of acidity and alkalinity. Determining the pH is a crucial goal in waste treatment. The rate of biological reaction and the survival of different microorganisms can be impacted by variations in the pH values of effluent. pH values were recorded at s^1 7.2 however these values were recorded at $s^{2.0}$ 7.3 and $s^{2.1}$ 6.7 and S^3 6.7 and s^4 8.6 and s^5 7.6 these values are in permissible limits. It has been reported that high or low pH values in water can impact aquatic life and modify the toxicity of other pollutants in various ways (DWAF, 1996).

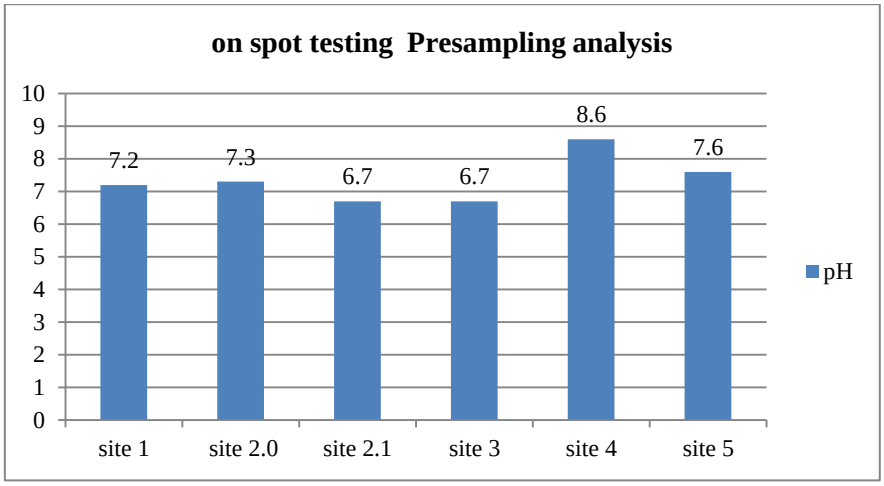

Figure 1.3

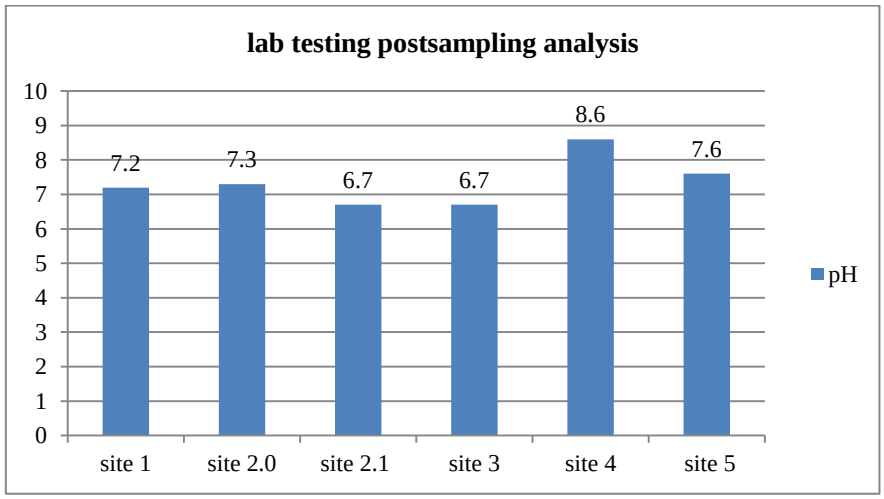

Figure 1.4

TDS: - The solids present in the filtrate that pass through a filter with a standard pore size of 2 micrometres are classified as dissolved solids. The size of colloidal particles in wastewater typically ranges from 0.01 to 1.0 micrometre, with an average total dissolved solids (TDS) value of 10,775 mg/l, exceeding permissible limits (Hosetti et al., 1993).

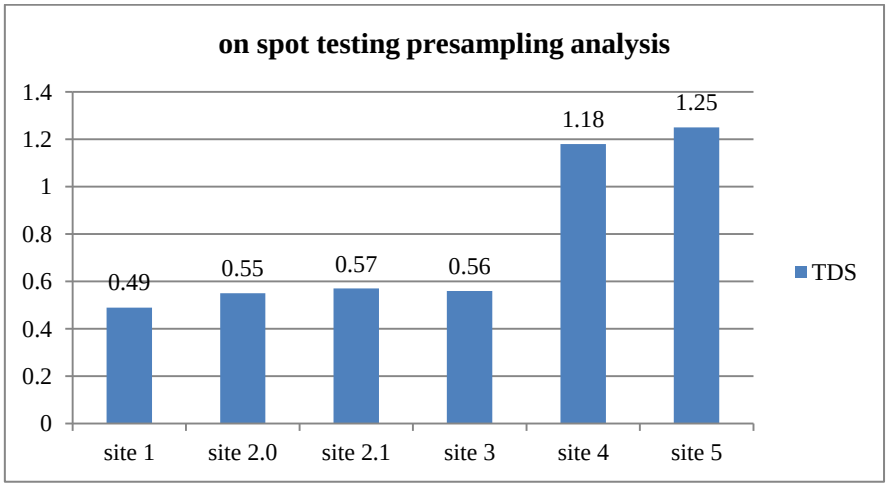

Figure 1.5

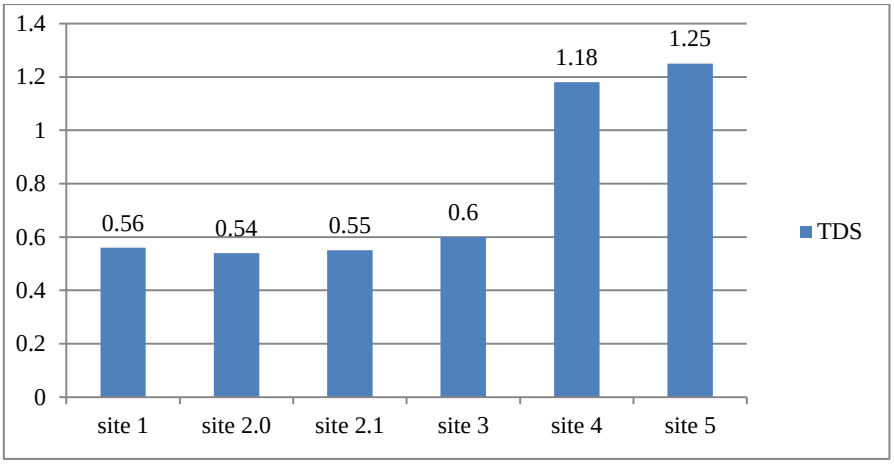

Figure 1.6

Dissolved Oxygen: -

The amount of oxygen in water is known as dissolved oxygen (DO). Water bodies get their oxygen from the atmosphere and from aquatic plants; high temperatures can kill aquatic plants and lower DO levels. In s^1, s^4 and s^5 DO Value is high and s^2, s^3,s^4 DO detected low value.

Chemical oxygen demand (COD): -

It is the quantity of oxygen that organic matter needs in order to be oxidised by a strong COD compound in water. One test for determining the level of contamination in household and commercial waste is the COD. The amount of oxygen needed for the oxidation of organic materials to produce CO2 and water is used to measure the waste.

Biochemical Oxygen Demnd (BOD):-

Biochemical oxygen demand is a measure of the amount of dissolved oxygen required by aerobic biological organisms to break down organic material in a body of water. High levels of biochemical oxygen demand can indicate poor water quality and can lead to negative impacts on aquatic life. It is often used as an indicator of organic pollution in water bodies, as higher levels of organic material result in higher levels of oxygen demand. Monitoring and managing biochemical oxygen demand is important for maintaining the health of aquatic ecosystems and ensuring the availability of oxygen for organisms living in the water.

Conclusion

It is clear that addressing environmental degradation and promoting social justice in the economy is essential for the well-being of both current and future generations. By prioritizing ethical practices and sustainability, businesses can play a crucial role in creating a more equitable and thriving future for all. It is imperative that companies continue to integrate these values into their operations in order to foster a more inclusive and sustainable society. Only through a holistic approach can we truly make a positive impact on both people and the planet. While industrialization has led to economic growth, it has also resulted in environmental degradation and social inequalities. By prioritizing profit over environmental and social concerns, industries often exploit marginalized communities and contribute to further economic disparities

This can be achieved through implementing policies that prioritize ethical practices and environmental sustainability, as well as supporting businesses that uphold these values. By working together towards a common goal, we can create a world where both people and the planet can thrive for generations to come. It is up to each and every one of us to make a difference and pave the way for a brighter and more equitable future. It is clear that communities of color and low-income communities are disproportionately affected by environmental issues, and it is imperative that we work towards solutions that promote equity and justice for all. By advocating for policy changes, engaging in activism, and involving communities in the decision-making process, we can create a more sustainable and just society for future generations. environmental justice is a critical issue that requires collective action and commitment to create a more equitable and healthy environment for all.

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Nil.

Conflicts of Interest

There are no conflicts of interest.

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