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Globalization, Green Economy and Environmental Challenges: State of the Art Review for Practical Implications

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Globalization has significantly influenced the economy, ecology, and society during the previous decade. Meanwhile, the green economy has emerged as a critical policy framework for growth and development in developed and developing countries. The current study is an attempt to provide a detailed review on globalization, green economy, and climate challenges to draw some implications. There are disagreements between competing green economic discourses and a variety of definitions, all of which have problems. Recognizing the environmental effects of natural resource depletion and the economic benefits of environmental management are common examples of green economy operationalization. The new study also examines climate change's impact on the green economy and infrastructure development. The study further considers the role of economic structure to mitigate environmental issues, increase production efficiency, enhance green economy and environmentally friendly technologies. The present study concluded that working toward a green economy helps reduce poverty in the four ways indicated in this study. It also shed a brief light to improves poor people's access to a healthy and safe environment while increasing human security by preventing or resolving conflicts over land, food, water, and other natural resources.

Keywords: globalization, green economy, environmental issues, resource efficiency, innovation

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INTRODUCTION

The Green Economic is a shift in thinking about development and growth that can enhance people's lives and the environment while also promoting environmental and economic sustainability. The green economy is a broad notion that has sparked debate among economists and environmentalists (Guo et al., 2021; Zhao et al., 2022a). The green economy uses energy resources regularly to improve environmental performance while lowering climate risk (Maclean and Plascencia, 2012). Due to climatic pressure and brain drain, posing long-term growth and economic stability challenges. The Green Economy is a strategy for attaining long-term development (World Bank, 2007). A green economic plan should encourage innovation and the use of cutting-edge technologies.

Globalization has had a huge impact on our way of life. It has increased communication, faster access to technology, and more innovation (Xia et al., 2022; Zhao et al., 2022b). It has ushered in a new age of economic prosperity, created massive development channels, and played an essential role in bringing people of different cultures together. On the other hand, globalization has given rise to

several issues, the most prominent of which is the effects on the environment (Song et al., 2020). Globalization has been a major subject in environmental discussions, with environmentalists highlighting its far-reaching consequences. However, as affluence rises, ecological consciousness rises with it, making it the primary rationale for lowering environmental damage in later phases of economic growth (Chen et al., 2020).

Due to globalization and industrialization, various chemicals have been put into the soil, resulting in many noxious weeds and plants. By messing with plants' genetic composition, this toxic waste has caused significant damage (Shahzad et al., 2022; Song et al., 2022a). This one has put a strain on the land and water resources that are easily available. In many places, mountains are being chiseled away to create room for a passing tunnel or motorway. Huge swaths of desolate land have been infringed upon to make new structures (Guo et al., 2021). These developments may attract individuals, even having harsh environmental consequences. Plastic, a non-biodegradable substance, has been identified as one of the most harmful pollutants in several studies (Sharma et al., 2021; Song et al., 2022b).

On the other hand, plastic is extremely useful for packing and preserving products for export. As a result, plastic usage has skyrocketed, resulting in widespread contamination. New gauges and measurements are welcome in this field, e.g., see the Can and Gozgor (2017) and Gozgor (2018) for economic complexity; Apergis et al. (2018) for economic growth; (Gozgor and Can 2016); for export diversification; Gozgor and Can (2017) and Fang et al. (2019) for export quality; Gozgor (2017) for trade. Researchers can't agree on the best way to quantify globalization and its influence on environmental deterioration in developing nations.

This study provides that managing climatic and environmental problems necessitates a deep understanding of science and technical skills in terms of the numerous technological solutions that may be used to minimize negative consequences (for example, carbon technologies). On the other hand, sustainable technological growth is a cultural, institutional, political, and economic endeavor that faces various non-technical problems. According to the so-called transitions literature, many domains, such as energy generation water supply, may be classed as socio-technical and innovative systems (Geels, 2004; Markard et al., 2012). A complex system consists of participants' relationships (persons, corporations, research centers, government bodies, etc.), their expertise, and the institutions that support them (legal rules, codes of conduct, etc.). To put it another way, the introduction of innovative carbon-free technologies, for example, may necessarily require the establishment of the new entire value chain that includes cast members who have never interacted before; this requires a comparatively lengthy process that can alter society in a range of methods, which include legislative changes, changing consumer preferences, possible implications, infrastructure improvement, and completely new business models. To put it differently, in addition to technological development, economic and societal changes are necessary to achieve long-term technical transformation.

Global warming and other environmental issues are becoming exceedingly valuable, and globalization and the rise of global consumer goods trade are exacerbating the situation. While the environmental difficulties have been more focused on reducing various forms of diffuse emissions from various places, including road, sea, aviation, and agriculture, diffuse pollution spreads over broad regions. On the other hand, it may not be a major source of pollution in and of itself, it can have a significant overall impact when combined with other diffuse sources dealing with these difficulties frequently necessitates international negotiations and burden-sharing agreements, both of which have proven difficult to achieve (Ciscar et al., 2013). This challenge is shown by the difficulty of obtaining a sufficiently rigorous global climate accordHumans cannot afford to overlook the repercussions of our actions since the future of the human species on this planet is so dependent on the environment. To maintain the ecological balance, humans must make certain efforts. In the present study, there is a lot of debate and discussion about this topic, and the most important thing is to have solid policies in place and put them into effect.

The following is how the rest of the article is organized: *Interconnected Literature Review* explores the interconnected literature review and relationship between globalization, climate change, and the green economy; *Historical Impacts of Globalization* examines the effects of globalization on various aspects of life; *Environmental Challenges and Environmental Reforms* assesses environmental challenges and reforms, and *Repercussions of Global Warming* concludes with a discussion of the ambiguous role of the green economy. Lastly, *Discussion* reports clear implications to address environmental issues.

INTERCONNECTED LITERATURE REVIEW

Globalization has resulted in the extinction of animal species. Animals live in forests, and when these forests are destroyed, the animals are displaced from their natural habitat, putting them in jeopardy. This frequently results in widespread mortality. There are numerous natural resources on the planet, ranging from coal and forests to oxygen and other gases. However, excessive use of fossil fuels, combined with other factors such as deforestation, adds to global warming or the Earth's warming (Farooq et al., 2019). The more pollution blasted into the atmosphere due to globalization has an irreversible influence on the Earth, significantly impacting the ecosystem. While globalization was formed in the name of trade to increase profits and unity across countries and ethnicities, it has harmed the environment in many ways. Deforestation is one way that globalization contributes to the degradation of forests. In the process, it contributes to the degradation of animal habitats. It has swiftly turned into a source of global warming (Waheed et al., 2019; Sarwar et al., 2019).

Environmental efficiency industrial and carbon transfer zones can impact the quality of the environment. This paper examines the relationship between green economy, environmental problems, the effect of globalization such as carbon transfer and industrial transfer demonstration zones. Environmental problems include extreme weather phenomena, unprecedented

TABLE 1 | Literature summary on economic growth, environmental issues, and energy consumption.

Authors	Period	Country	Methods	Results
Fang et al. (2021)	1978 to 2016	25 OECD countries	New growth models	Increasing technology advancement (i.e., more economic diversity) will reduce energy requirements in OECD nations
Rehman et al. (2021)	1980 to 2016	Asia	Theoretical and empirical analysis	Correlation between oil and natural gas usage at the industry level and economic expansion
Shang and Xu, (2021)		Ecotourism on scenic spots	Theoretical and database assessment	Proposed an improved approach for calculating the environmental effect of tourism
Payne and Apergis, (2021)	40 production activities	Developing economies, i.e., the low-income	Convergence of per capita carbon dioxide emissions in analyzing stochastic and club convergence	There is significant geographic proximity among many developing economies within the respective convergence clubs
Tarazkar et al. (2021)	1990 to 2014	Middle East countries	Children and working-age populations positively impact environmental pollution	Authorities in the Middle East should consider the population's age distribution while reducing carbon pollution and ensuring the sustainability of the green economy
Aslan and Altinoz, (2021)	1980 to 2018	Developing countries	Theoretical paper	The author investigates the connections between natural assets, economic growth, globalization, and wage activity
Li et al. (2019)	Theoretical analysis	Developed countries	Theoretical paper	Tourist industry development is a very important component of economic development
Teng et al. (2021)	2006–2017	China	Panel Vector Autoregressive Model's	The tourism sector, foreign tourism, economic growth, and Emissions of carbon dioxide have all impacted

global warming, and environmental disasters caused by increasing levels of CO_2 and other toxic emissions. To meet sustainable global development, there is a need to make clean environment policies and rapidly increase economic development and energy consumption. For example, China's amount of carbon transfer is growing year by year. Energy-intensive areas and heavy industry bases are transporting carbon from the eastern coastal regions (Akbar et al., 2021). In contrast,e other studies show that Brazil and Russia have the highest values of the Environmental Performance Index, which range between 67.44 and 60.70, respectively (Baloch et al., 2020). India has a minimum value of 30.57 of the environmental index (Anser et al., 2020). Another study result shows that the energy efficiency of Australia, China, Japan, Saudi Arabia, and Poland are the best performing countries. In contrast, Mexico, Indonesia, Russia, and Brazil are the least efficient among all 20 countries (Iqbal et al., 2019).

On the other hand, some researchers demonstrated that most countries exhibit higher performance in economic efficiency than environmental efficiency. For example, Russia's economic intensity has a maximum score while Poland has a minimum score (Iqbal et al., 2019). Additionally, in the case of CO_2 emission efficiency, Brazil, France, and Saudi Arabia are considered efficient while other countries' comes less (Iqbal et al., 2019). Another study's results reveal that Bhutan is a more secure country. Pakistan showed a decreasing trend, while Sri Lanka and India performed satisfactorily based on GDP productivity and energy self-sufficiency ratio (Hou et al., 2019). Through the Energy Development Index development, Norway was determined as the highest performing country among the top ten countries. This does not coincide with 2015's ETI, which regarded Switzerland as the best-performing country. Hence, the ranks are arguable. Further results reveal considerable differences in the values of indicators among all countries (Asbahi, 2019).

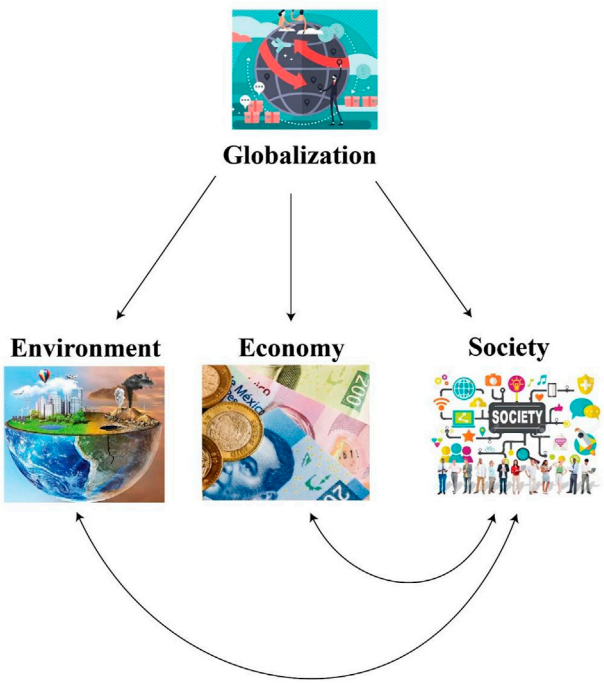

FIGURE 1 | The impact of globalization on the environment, economy, and society.

Due to growing global warming concerns, reducing carbon emissions has become one of the major tasks for developing countries to meet the national demand for energy policies. Does the current study mainly explore how the economic system has impacted climate change caused several health and environmental repercussions, e.g., ecological degradation?

Further, the study analyzes the role of the green economy to achieve sustainable development goals to combat and adapt to climate change and its myriad repercussions. This would imply a transition to a green economy from the existing unsustainable economic structures. **Table 1** shows the existing literature summary on economic growth and environmental problems.

Globalization, Climate Change, and the Green Economy

Globalization is the phrase used to describe the profit-driven merger of many cultures and nationalities of people from various countries and sections of the world (**Figure 1**). Globalization works by incorporating positive features of one culture into another, breaking down language and communication barriers, and allowing for commerce and cooperation between two very different areas. It opens the door to profit-driven international trade and business. While globalization has certain advantages, it has also had negative consequences for the environment (Xia et al., 2022). Globalization has aided deforestation and the huge consumption of non-renewable fossil fuels and natural resources. Globalization places a strong focus on commerce, including import and export. If the demand exceeds the supply, exporting might lead to deforestation. Wood, for example, is used all around the world for home furniture, construction, and paper, among other things. Everyone needs paper at some point in their lives, yet demand exceeds supply because of the time it takes for trees to develop. This adds to profiteering through deforestation (Waheed et al., 2019).

The green economy is essential for promoting inclusive environmental sustainability and global climate adaptation into our domestic and global economic structures while ensuring a good prospect for people and the environment (Guo et al., 2021). The green economy recognizes that long-term economic growth and development are dependent on the effective and responsible use and conservation of natural ecosystems to continue to provide the resources, services, environment, and climate essential to our well-being and economy. A green economy emits as few greenhouse gases as feasible, utilizes resources effectively, and reduces or eliminates waste; it is socially inclusive; it combats climate change while adjusting to existing and impending repercussions; and is based on green economic growth.

HISTORICAL IMPACTS OF GLOBALIZATION

Increased Transportation Cost

The influence of globalization on the environment, economy, and society is depicted in **Figure 1**. One of the initial effects of globalization is that it expands the number of markets where companies may sell their goods and source labor, raw materials, and products. Both of these facts imply that final items would then go further than it has ever been, possibly halfway around the globe. Throughout the past, products were much more likely to be produced, purchased, and usually consumed. Increased commodity transportation can have a lot of negative environmental implications, including:

- Increased greenhouse gases: As goods travel longer, it utilizes more fuel and emits more greenhouse gases. Carbon gases significantly affect biodiversity while somehow increasing pollution, global warming, and acidification of the oceans throughout the world.
- Deforestation: Mobility necessitates infrastructure like roads and bridges, especially land-based transportation. Two issues that might occur because of such infrastructural development are habitat loss and contamination. It's important to remember that ships convey almost 70% of all material, as shown in a survey conducted by the International Move Forum. Therefore, the more ships that go by sea, the further likely there will be large oil spills or leaks, harming the delicate marine habitat.
- Invasive species: Every shipping container and vehicle is a potential home for a living organism. Such as a plant, animal, or fungus, to hitch a trip to a new site where it can become invasive and develop without the checks and balances that exist in its normal ecosystem.

Economic Strength

Among the most frequent advantages of globalization is that it allows nations and regions worldwide to focus on their best ways to generate, secure in the knowledge where they can rely on trade relations for goods they don't produce. In many circumstances, economic expertise boosts production efficiency. On the other hand, up to the value may result in serious environmental issues such as habitat destruction, deforestation, and resource misuse. Listed below are a few examples:

- Overfishing in coastal areas such as Southeast Asia has considerably contributed to diminished fish populations and marine pollution, owing to an expansion in the country's cow ranching activities, which need large acreage for grazing.
- Increased dependence on cash crops such as sugarcane, chocolate, and fruits and vegetables has aided habitat destruction, especially in tropical climates.

It is important to mention that globalization has enabled certain nations to pay attention to the quality of various energy products, such as oil, natural gas, and timber. The principal result of these energy sources is greenhouse gasses, which significantly influence climate change and global warming. Governments that rely significantly on energy revenues to fund their government finances and place a high priority on "energy independence" are more likely to cause problems in the industry through subsidizing or regulations that make the transition to sustainable energy more challenging.

Decreased Biodiversity

Increased carbon dioxide levels, ocean acidification, destruction (and other types of habitat loss or destruction), global warming, and endangered flora contribute to world biodiversity loss.

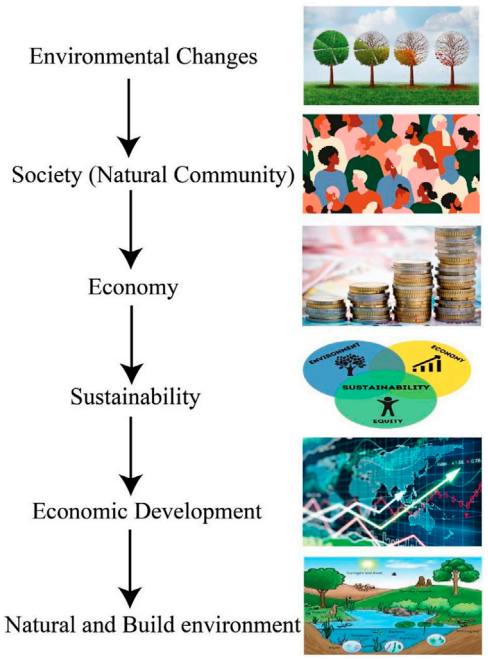

FIGURE 2 | Effect of environment on different parameters of life.

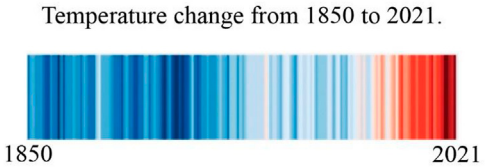

FIGURE 3 | Change in temperature of world climate from 1850 to 2021.

According to the World Wildlife Fund's newest Living Planet Report, the population sizes of all species, including mammals, birds, fish, amphibians, and reptiles, have plummeted by 68 percent since 1970. Biodiversity loss has been disproportionately large in Latin America and Africa, two fast-growing regions that were vital to global trade, particularly among environmentally fragile fish, reptiles, and amphibians. While numerous factors contribute to the decline of biodiversity, it is largely assumed that the challenges outlined above have had a role.

Increased Awareness

Even though many of globalization's environmental effects have always been negative, its growth has increased global environmental consciousness. Thanks to increased connectivity and rising interest rates in global tourism, people can now perceive the consequences of natural disasters, habitat loss, and environmental degradation on the ecosystem more readily than ever before. New laws, rules, and procedures have averted negative repercussions.

ENVIRONMENTAL CHALLENGES AND ENVIRONMENTAL REFORMS

Currently, the environment is troubled by many challenges, many of which appear to be getting worse with time, putting us on the verge of a full-fledged ecological calamity. As a result, it is becoming increasingly important to raise awareness of these issues and what can be done to mitigate their detrimental implications. Some important environmental issues are "Environmental degradation, global warming, overpopulation, waste disposal, ocean acidification, habitat destruction, forest deforestation, ozone depletion, acid rain, and human health risks." **Figure 2** shows different parameters of life that are affected due to environmental issues.

Climate change jeopardizes the green economy and long-term development. Climate change is no longer a looming menace on the horizon. Due to Global warming (2007): Synthesis Report is already here, and it is possibly the biggest problem of current times. International economic stability and security are threatened by climate change, ranging from rising global temperatures to glacier melt and rising sea levels. **Figure 2** depicts the impact of the environment on several aspects of life. Climate change also thwarts the U. N's sustainable development agenda, particularly the Millennium Development Goals (MDGs) (United Nations Millennium Development Goals (MDGs), which were set in (2000). The environmental sustainability targets were met using modern technology for green economic development (Abbas et al., 2020).

If companies and society continue to operate as they do today, climate change will harm economic and social progress, threatening health, safety, and livelihoods. Drought and severe weather have an indirect impact on the industry, jobs, and agricultural production; extreme temperatures and higher temperature waves affect human life, and fewer frost days have a consequence on the seasonal fruit sector. For example, Cape Town has experienced several disastrous droughts across its history; University of Cape Town (UCT) authors reported that drought risk has dramatically increased due to climate change. For example, the drought in Cape Town and the Western Cape from 2015 to 2018 was extraordinary, with both receiving the minimum rainfall since data became available. The provinces' tourist, gastronomy, and agricultural industries were severely damaged, with the tourism, hotel management, and agricultural sectors taking the brunt of the damage.

According to the NOAA's Annual Climate Report (2020), total land and ocean temperatures had already risen at an average rate of 0.13°F (0.08°C) every 10 years since 1880; moreover, the mean rate of change since 1981 (0.18°C/0.32°F) has become much more than twice that amount rate. Even though anthropogenic climate change is not consistent, the growing mean temperature trend indicates that more places are warming than cooling. Climatologist Ed Hawkins created the "warming stripes" depicted in **Figure 3** to depict global climate warming[1] throughout time.

Global climate change, described as the current warming of the planet's surface and Earth's atmosphere, is assumed to be the

[1]https://www.westerncape.gov.za

result of the greenhouse effect becoming stronger due to more than just the increased concentrations of greenhouse gases produced by man. The greenhouse effect is greenhouse gases absorb a process in which radioactive energy is emitted from a planet's surface in the atmosphere (Farooq et al., 2019). They carry this energy to other parts of the atmosphere, re-radiated throughout all directions, including back down to the ground. As a result of the energy transfer, the temperature at the surface and lower atmosphere are greater than it would be if direct solar radiation were the only warming source. The primary cause of the impact is this procedure. The primary cause of the impact is this procedure. Water vapors, carbon dioxide, methane, nitrous oxide, and ozone are the main cause of global warming gases in the stratosphere (Shahzad et al., 2021).

REPERCUSSIONS OF GLOBAL WARMING

1) Global temperature rise: If greenhouse gas emissions continue to climb at their current rate, the Earth's mean temperature is expected to rise by 1.5–5.5°C by 2050. Even if the lesser figure were used, the world would be warmer than in 10,000 years.
2) Rising sea level: Seawater expands as the global temperature rises. According to current projections, 3°C increase in average air temperature will raise global sea level by 0.2–1.5 m during the next 50–100 years. The melting of polar ice sheets and glaciers due to warming will cause a further rise in sea level. This will also disrupt several commercially significant spawning areas and likely increase storm frequency damage to lagoons, estuaries, and coral reefs. The Lakshadweep Islands may be vulnerable in India, with a maximum of 4 m above sea level.
3) Human health effects: Global warming would alter rainfall patterns in many places, influencing the spread of vector-borne illnesses such as malaria, filariasis, and elephantiasis, among others. Areas devoid of malaria, schistosomiasis, and others may become breeding grounds for disease vectors. Ethiopia, Kenya, and Indonesia are expected to be affected in this way. Warmer temperatures and more stagnant water would encourage the reproduction of mosquitoes, snails, and other insects, which serve as disease vectors. Respiratory and skin problems will be worsened or exacerbated by higher temperatures and humidity.
4) Agriculture Effects: There are a variety of viewpoints on the impact of global warming on agriculture. It might have a beneficial or negative impact on various crops in different parts of the world. Because the average temperature in these regions is already high, tropical and subtropical regions will be more affected. Even a 2°C increase might be disastrous for crops. Soil moisture will drop as evapotranspiration rises, posing a serious threat to wheat and maize output. Increases in warmth and humidity will encourage insect proliferation and the growth of disease vectors. Pests will be able to adapt to these changes faster than crops. Drought-resistant, heat-resistant, and pest-resistant types of plants have been developed to cope with the changing environment.

Control Measure of Global Warming

There are numerous ways to stop the consequences of global warming:

1) Stop contributing to deforestation and plant more trees: This is by far the simplest way to protect the world from the dangers of global warming. The large-scale accumulation of atmospheric carbon dioxide is to blame for global warming. On the other hand, planting trees can help absorb this toxic gas, regulate its quantity in the atmosphere, and reduce global warming by reducing the greenhouse effect.
2) Re-use and recycle commodities: Re-using and recycling numerous products that humans use daily may also help to contribute to the fight against global warming. For example, recycling paper will ensure that large-scale tree felling for paper production is halted, and these trees will, in turn, absorb the carbon dioxide in the atmosphere and reduce global warming.
3) Encourage the use of organic foods: One of the most effective strategies to combat global warming is to encourage organic foods. Organic soils have a far higher capacity to absorb carbon dioxide than conventionally farmed soils. According to estimates, switching to sustainable agriculture for food production might save us 580 billion pounds of CO_2 emissions.
4) Make efficient use of vehicles: Vehicles emit a significant quantity of carbon dioxide into the atmosphere, making them one of the primary sources of pollution. Humans can strive to reduce pollution significantly if there is the adaption of modern technologies such as less automobiles. However, it would be best to use public transit or other environmentally beneficial means of transportation, such as cycling, wherever possible.
5) Use of alternative energy sources: Switching to renewable energy such as solar and wind power is one of the most discussed global warming solutions. These natural resources may simply provide energy and replace fossil fuels. Simply eliminating fossil fuels would assist in reducing the massive quantity of carbon dioxide released into the sky every day.

DISCUSSION

Economic sustainability aims to improve manufacturing processes and useful ways of reducing resource consumption, pollution, and greenhouse gas emissions across the life cycle of products and processes, so even though economic growth relates to how resources have been used to produce a benefit to the community and attempt to decrease the global economic decline. Based on prior studies, **Table 1** demonstrates the relationship between green economy development, environmental challenges, and energy usage.

The constructive framework promotes sustainable development techniques, including passive mobilization, crisis management analysis, collaboration, participation, and resolution. Considering the essential demands of local community development, the above framework can achieve

social transformation (Baig et al., 2021). This also stresses the critical need to address and explain the systemic obstacles these individuals experience (Ramsbotham et al., 2011). The multidisciplinary mechanism explains the main five figures, and each plays an important part in the peaceful evolution of society. The functional analysis of the sources of economic growth, catastrophe approach, calamity relevancy, mitigation, and transformational processes are all depicted in these five figures (Crocker et al., 2005; Rome, 2010; Rahi, 2011; Orakzai, 2011).

The three primary areas of contemporary green economy effort are:

1) At the regional, sub-regional, and national levels, support a macroeconomic perspective to long-term economic progress.
2) Promote green economic strength, particularly in the areas of green finance, advanced technologies, and investments.
3) Support countries in mainstreaming production and economic growth to facilitate the clean energy future.

The green economy is a new strategy for development and advancement that strives to encourage economic growth and improvements in people's daily lives and environmental and long-term well-being. A sustainable resource plan should encourage the development and application of sustainable technologies. Society is impacted by the shift to a green economy, including technological transformation. As a result, it is vital to maximizing new technologies' performance, establish effective strategies, and comprehend and solve technological change's most fundamental distributional effects. All cultural changes have positives and negatives, and unless this is acknowledged and addressed, the desired green revolution may lack credibility among many critical groups. Incremental breakthroughs, such as increased energy and resource efficiency in current industrial processes, are crucial for the transition to a green economy. Finally, research that includes various effect assessments and methodological advancement in evaluation research should help accelerate the green economic revolution. This refers to analyses of the effects of major starting point trends, such as digitalization and automation, globalization versus state ownership, and so on, on environmental and distributional outcomes, as well as the prospects for green innovation collaboration and circular economy-inspired business practices.

The breadth and character of the social difficulties posed by climate and environmental threats are vast and varied. Diffuse emissions are notoriously difficult to track and regulate. Environmental authorities, for example, may aim to penalize inappropriate waste disposal for limiting chemical dangers. Nonetheless, such activity is usually undetectable. To address these sporadic environmental effects, society must develop new, more indirect methods of monitoring and regulation. This might result in efforts to end material cycles and promote a circular economy. The value of goods, materials, and resources is preserved to the greatest feasible European Commission Report (2015). This means a greater emphasis on virgin material reduction, recycling, and re-use (Heshmati, 2017). While promoting energy and material efficiency methods can help with the problem of widespread environmental implications, it can also be a mixed blessing. Such policies indicate that the economy can produce the same quantity of goods and services while using fewer materials and energy inputs, resulting in a rebound effect (Greening et al., 2000).

Resources are freed up due to increased productivity, allowing for more production and distribution of other items. To put it another way, efficiency improvements might be partially offset by increased consumption elsewhere in the economy. For example, suppose consumers choose fuel-efficient vehicles. In that case, they will travel more or spend more money to save by lower fuel use on other products, exploiting resources and leading to emissions.

Despite offering a thorough assessment and novel results, the current study has a few flaws worth mentioning. The conclusions of this article link creative activities to pollution management; however, the cost of new technology and laws are not considered. This essay does not investigate the ideal number of environmental concerns and creative activities for society. This study paves the path for further research on the impact of the green economy and environmental issues in reducing the ecological footprint and boosting economies. In the future, the influence of environmental concerns on many sectors of the economy, such as transportation, industry, automobiles, and so on, can be investigated.

Implications for Sustainable Growth and Environmental Issues

Lastly, the authors attempt to highlight productive suggestions for environmental concerns to improve the economy based on a complete assessment and evaluation of current material. First, the government and industry may take the necessary steps to replace non-renewable energy sources in the energy mix and industrial processing with renewable energy sources. Several emerging nations, like India, China, Saudi Arabia, Pakistan, and OPEC countries, have relied on fossil fuels (coal and oil) for energy generation. Second, governments in poor and developed nations can rewrite environmental legislation to allow carbon treatment facilities. Industries should replace outdated and inefficient technology with more environmentally friendly alternatives. As a result, there may be a large reduction in energy usage, lowering manufacturing costs even more and helping to maintain the green economy. Countries can accomplish their economic and development goals without compromising the environment's quality by enacting such measures (Soytas et al., 2007; Waheed et al., 2018, 2019; Hashmi and Alam, 2019; Mardani et al., 2019).

Third, emerging and developed nations should establish strategic goals for addressing environmental issues and implementing green technology. Depending on the industry, nations may standardize green and clean manufacturing criteria and establish rules to encourage green technology. Countries may stimulate the adoption of green technology in the renewable energy industry by creating environmental policies for a low-carbon energy system. Using this strategy, nations may implement industry-level policies that give incentives and subsidies to adopt environmentally friendly technology, resulting in sector-specific innovations to address climate change challenges. Fourth, governments dealing with climate change should recognize the need to balance greener growth

and economic gain. Developing and growing economies should similarly increase government efficiency for industrial structures and economic development initiatives. Governments in developing and developed nations can improve regulatory efficiency by attaining pollution reduction targets. Countries with higher pollutant emissions can also establish targets to improve climate change policy efficiency. The OECD nations and China have recently implemented pollution trading schemes, and the results are expected to be beneficial. Lastly, the relevant government authorities can raise funds for a cleaner environment by introducing new policies not to harm social life and economic development.

CONCLUSION

This study draws novel findings and fruitful implications to combat environmental challenges based on a large body of material review. It is important to mention that this poll is based on elements for country environmental protection (revenue, renewable and non-renewable energy, economic growth, urbanization, and commerce). Other elements, such as forests, technical breakthroughs, energy efficiency, industrial growth, economic openness, etc., may impact climate change. International commerce, technical development, and industrialization are all considered factors of energy-related greenhouse gas emissions in general. A future study might focus on these aspects to see how they affect environmental quality.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/Supplementary Material, further inquiries can be directed to the corresponding authors.

AUTHOR CONTRIBUTIONS

MX and LZ contributed equally to this work and should be considered as co-first authors; Huangxin Chen and Lin Zhang are co-correspondence authors. Conceptualization, LZ; methodology, LZ; software, HC; validation, LZ; formal analysis and language edit, YL and SC; investigation, MX; resources, LZ; writing—original draft preparation, MX; writing—review and editing, LZ, MX, and HC; supervision, LZ and HC; project administration, LZ and HC; funding acquisition, HC and LZ. All authors have read and agreed to the published version of the manuscript.

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