

Globalization as A key Factor of Global Warming and Environmental Crisis

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Where globalization means, as it so often does, that the rich and powerful now have new means to further enrich and empower themselves at the cost of the power and weaker, we have a responsibility to protest in the name of universal freedom." - - By Nelson Madela.
Abstract: Globalization refers to how the world has become more connected economically, politically, socially and culturally over time. Through globalization Trade, ideas, people, technology, disease, services were shared across the world. The standard of living changed; countries became interdependent. Global environmental issues such as environmental degradation, climate change, and global warming have posed a threat to the global economy. The primary source of these problems is greenhouse gas emissions. These emissions are the result of human activity. The objective of the study was to investigate the symmetric and asymmetric relationship between globalization and greenhouse gas emissions. According to the results of impulse response functions, economic globalization has a significantly more relationship with greenhouse gas emissions than social and political globalization. A policy should be developed that allows only the positive effects of globalization while prohibiting the negative effects of globalization.

Keywords: Environmental degradation, Globalization, Greenhouse gas emissions, Environmental Education.

Introduction: Today's environmental problems mostly arise from human activities. Pollution and the depletion of natural resources, dwindling plant and animal biodiversity, the loss of wilderness, the degradation of ecosystems, and climate change are all the environmental concerns caused by humans (Cochrane, 2007). With the help of technology and science human has transformed and destroyed nature for centuries. However as a result of this destruction, serious environmental problems threaten the future of his own future. At this point technology is helpless to save the earth. The deterioration of the environment produced by technology is a technological problem for which technology has found, is finding, and will continue to find solutions. Hundreds of millions of dollars have been devoted to improve the quality of the environment and that much more will be spent in the future. Despite these intense efforts expended in 'saving the environment', it is questionable whether current scientific and technological approaches can be sufficiently

effective in solving numerous environmental crises. Globalization, which is partly synonymous with rising international trade, has fostered the rapid production, trade and consumption of material goods in unprecedented quantities. This has weighted the ecological footprint of human activities around the world. While it's still difficult to assess the impact of globalization on the environment, it's quite obvious in some areas. Today globalization's negative environmental effects are more apparent.

THE EFFECTS OF GLOBALIZATION ON THE ENVIRONMENT

1. Increased Transport of Goods-

One of the primary results of globalization is that it opens businesses up to new markets in which they can sell goods and source labor, raw materials, and components. Both of these realities mean finished products travel farther now than ever before—potentially halfway around the globe. In the past, products were more likely to be produced, sold, and consumed more locally. This increased transport of goods can impact the environment in several ways, including:

Increased emissions: The farther a product travels, the more fuel is consumed, and a greater level of greenhouse gas emissions is produced. According to a report by the International Transport Forum, CO2 emissions from transport will increase 16 percent by 2050. These emissions contribute to pollution, climate change, and ocean acidification around the world and have been shown to significantly impact biodiversity.

Habitat destruction: Transportation—especially when land-based—requires infrastructure like roads and bridges. The development of such infrastructure can lead to issues including habitat loss and pollution. The more ships that travel by sea, the greater the chances for major oil spills or leaks that damage the delicate marine environment.

Invasive species: Every shipping container and vessel presents an opportunity for a living organism—from plants to animals to fungus—to hitch a ride to a new location where it can become invasive and grow without checks and balances that might be present in its natural environment.

2. **Economic Specialization-**One oft-overlooked side effect of globalization is that it allows nations and geographical regions to focus on their economic strengths,

content in knowing they can turn to trading partners for goods they don't produce themselves. This economic specialization often boosts productivity and efficiency.

Unfortunately, overspecialization can threaten forest health and lead to serious environmental issues, often in the form of habitat loss, deforestation, or natural resource overuse. A few examples include:

Illegal deforestation in Brazil due to an increase in the country's cattle ranching operations, which requires significant land for grazing

Overfishing in coastal areas that include Southeast Asia, which has significantly contributed to reduced fish populations and oceanic pollution

Overdependence on cash crops, such as coffee, cacao, and various fruits, which has contributed to habitat loss, especially in tropical climates

It's worth considering that globalization has allowed some nations to specialize in producing various energy commodities, such as oil, natural gas, and timber. Nations that depend on energy sales to fund a large portion of their national budgets, along with those that note "energy security" as a priority, are more likely to take intervening actions in the market in the form of subsidies or laws that make transitioning to renewable energy more difficult.

The main by-product of these energy sources comes in the form of greenhouse gas emissions, which significantly contribute to global warming and climate change.

3. Decreased Biodiversity-Increased greenhouse gas emissions, ocean acidification, deforestation (and other forms of habitat loss or destruction), climate change, and the introduction of invasive species all work to reduce biodiversity around the globe.

According to the World Wildlife Fund's recent Living Planet Report, the population sizes of all organisms—including mammals, birds, fish, amphibians, and reptiles—have decreased 68 percent since 1970. Latin America and Africa—two rapidly developing regions important to global trade—have seen disproportionate levels of biodiversity loss, especially among environmentally sensitive fish, reptiles, and amphibians.

While this decrease in biodiversity has many causes, it's widely believed that the issues listed above have contributed in part.

4. Increased Awareness

While many of globalization's environmental effects have been negative, its increase has heightened environmental awareness worldwide.

Greater connectivity and higher rates of international travel have made it easier than ever for individuals to see the effects of deforestation, habitat loss, and climate change on the environment. This, in turn, has contributed

to new laws, regulations, and processes that limit negative effects.

5. THE ROLE OF MNCs.-

Globalization has allowed societies to enjoy many benefits, including increased global cooperation, reduced risk of global conflict, and lower commodity prices. Unfortunately, it also leads to serious negative effects on the environment.

Because globalization cannot be ended or reversed, the situation is likely to worsen unless nations, governing bodies and other bodies are forced to enact laws and regulations limiting the negative effects.

Businesses and industries operating globally are encouraged to take any voluntary action to reduce the likelihood of negative outcomes. Doing so not only gives the organization more control over its initiatives, but can also be a powerful marketing and communication tool.

Investing in renewable energy and packaging, adopting responsible land-use management and shifting the production of goods closer to the end customer are all potential options that businesses can and should consider. The challenge is to balance the desire to accept corporate social responsibility with the need to make a profit and run a successful business.

It has made so many changes in our lives that it is impossible to reverse them. The solution lies in developing effective mechanisms that can test the extent to which it can affect the environment. Researchers believe that the answer lies in the problem itself, which means that globalization itself can support the creation of better infrastructure that is economically feasible and environmentally friendly. Globalization is about competition, and if some privately owned companies can take the lead in becoming environmentally friendly, it will encourage others to follow suit.

In most cases it has been reported that developed countries use developing countries and underdeveloped countries to their advantage. For example, in these countries, the MNC's get cheap labour and availability of resources in abundance to increase their profits which lead to affect the developed countries because they have skilled labour and are available to them at the high price. So they look for labour available at low cost and make them skilled in the field.

We become interdependent through globalization so if the economic growth of one country affects the other then at the same time globalization has a huge impact

on the environment both positively and negatively. But globalization has helped to increase the environmental damage we are facing. Today, some national, international policies have been formulated to mitigate the effects of globalization on the environment.

6. Increased greenhouse gas emission

Climate change is a major environmental problem that has connectivity through greenhouse gas emissions – excessive maintenance of solar energy in the atmosphere due to the accumulation of certain gases, especially CO₂. The main source of CO₂ emissions is industrial production, transportation and deforestation but it is also considered as a source of development in the 20th century and especially in recent times.

7.Globalization encourages Deforestation

Logging and burning of trees reduces the amount of CO₂ converted to oxygen by plants. Converting rainforests / oxygen houses into farmland or concrete forests for the production of goods, and meeting the market demand in one way or another, almost twice the size of Paris per day for agricultural purposes, especially in developing countries. In Brazil, for example, a few years ago most of its farming was export-oriented. Brazil’s soybean exports to China increased from 15,000 to 6 million tons.

One of the reasons for the increase in the number of natural disasters like hurricanes, hurricanes, floods and earthquakes is also global warming; the melting of glaciers increases the sea level. Coastal areas are at high risk. Rising temperatures could soon lead to the extinction of living species, such as penguins, snow leopards, dolphins, whales, and polar bears, which are declared endangered. It feels bad to know that this cute animal will only have to pay for its life due to human activities and it will leave an incredible mark on the world ecosystem.

Data in a short table.

Country	Variables	Mean	Max	Min	STD	Skewness	Kurtosis	J-B
China	CO ₂	2.620	4.979	0.948	1.338	0.435	1.635	5.347
	Globalization	3.698	4.163	3.061	0.385	-0.182	1.478	4.995
The United States	CO ₂	0.539	0.909	0.276	0.186	0.478	2.149	3.345
	Globalization	4.261	4.410	4.075	0.112	-0.306	1.628	4.605
India	CO ₂	1.038	1.203	0.861	0.087	-0.077	2.264	1.154
	Globalization	3.718	4.130	3.382	0.288	0.323	1.391	6.136

Effect of Globalisation; Economic, Social, Political.

The process of globalization benefits economic growth by advancing economic, social, and political development within a country; however, globalization is also increasing CO₂ emissions, resulting in climatic change and environmental degradation . Consequently, the nexus between globalization and the environment is generating increasing levels of concern. Understanding this long-term relationship is essential for decision-makers striving to achieve sustainable development. To pursue such development, environmental, social, and economic factors must be considered .

Directly and indirectly, the process of globalization positively or negatively impacts the environment in three distinct ways: the income effect, the technique effect, and the composition effect . In the income effect, globalization results in CO₂ emissions as a consequence of increasingly open trade and foreign investment . In the technique effect, globalization assists countries in manufacturing eco-friendly products through the inflow of energy-efficient technologies, thereby reducing CO₂ emissions . However, the development of information and communication technology (ICT) does not reduce the consumption of energy during operations ; therefore, the greater the development of ICT, the higher the consumption of energy, which can result in more CO₂ emissions being ejected into the atmosphere. In the composition effect, globalization induces various forms of production depending on the comparative advantages for countries . Consequently, strict regulations to protect the environment in developed countries encourages enterprises to move their production activities and operations to developing countries where environmental regulations are weaker . This leads to the pollution haven effect, whereby polluting industries move from developed to developing countries . The composition effect also influences economic activity and CO₂ emissions, depending on the degree of pollution from agricultural, industrial, and services sectors within in a country. Economic activities generate fewer CO₂ emissions as a result of shifting from energy-extensive sectors to technology-intensive sectors . The fact that globalization is linked to different components of activities means that previous studies investigating the nexus of globalization and the environment have employed disparate approaches, leading to mixed results and diverse inferences.

Within globalization, the economic, social, and political aspects of activities, including the trade of goods and services, the arrival and departure of international tourists , ground processing and handling of aircraft , and internet usage can alter the environment. For example,

the United States introduced protectionist policies which impeded globalization during tariff wars in 1818. In the same year, China implemented environmental policies as ecological civilization is enshrined in its constitution. In 2020, tourism activities were reduced due to the emergence of the COVID-19 pandemic. Recently, the State Council in China released a report revealing its official aim to build an additional 160 airports, anticipating that 400 airports would be operational before the year 2035 . In India, environmental protection has become a challenge a new Draft Environmental Impact Assessment notification was released by officials which revealed that public consultation in several projects was lacking . Regional conflicts can be linked to economic and political circumstances at either a regional or global level. Since 2014, a conflict between Ukraine and Russia has been taking place; the Russian invasion of Ukraine in 2022 has altered the economic and political circumstances of the European region and the wider world. Specifically, the conflict has impacted political decisions, such as military deployment and action by the North Atlantic Treaty Organization, the United States, and China . In addition, it has caused chaos in the global supply chain. Disruption to supply from upstream suppliers is also affecting the production of goods because the region supplies natural gas, metals, and raw materials for the metal and technology industries worldwide . The above discussion reveals three aspects of globalization impacting the environment, highlighting the importance of decisions or events in a specific country.

*Represent significance level in 10%.

**Represent the levels of significance in 5%.

Alternative Energy Sources. The hazards caused by global warming are tremendous. Excessive use of fossil fuels such as coal, natural gas and oil play a part in it too. The usage of fossil fuels should be discontinued immediately. The most significant solution to put an end to this disaster is the use of alternative energy sources. They include wind, solar, bio mass, geothermal and hydro. The most noteworthy point in using these sources is their clean nature. They do not produce any sort of pollution or toxic gases that can lead to global warming. They are environmentally friendly and pose no threat to ecological balance. However, their high installation and setup costs may drive energy companies away from them at first but in the long run they are surely beneficial for everyone. Most importantly, fossil fuels will deplete one day and sooner or later, we have to turn to renewable energy sources for energy production. Thus, the eventual solution to end global warming is to use alternative energy sources.

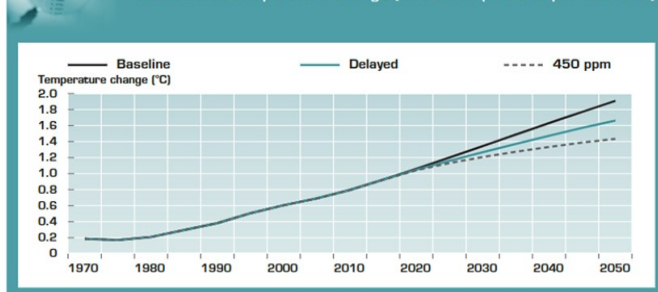
2. Environmental Education and Its Role in Solving Environmental Problems.

-In the 1960s, awareness of the negative impacts of mankind on the natural environment rose, and environmental policies and programmes worldwide were developed. People became more aware of their own impact on the environment in their everyday life and, in parallel, their influence on the way their local community is run. The idea emerged that a citizen could influence public decisions that impact ones quality of life (at least in democratic countries). That is when the need for environmental education emerged, covering two aspects: inform people of environmental systems and educate them so that they adopt a more responsible attitude towards the environment. The idea was not to dictate how to behave but to help people make informed choices.

Environmental Education (EE) is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivation, commitment, and skills to work individually and collectively toward solutions of current problems and the prevention of new ones (Matarasso and Dung, 2002: 4). In 1977, the goals of environmental education were agreed in the Tbilisi Declaration at the Intergovernmental Conference on Environmental Education held at Tbilisi. They were amended at UNESCO meetings in the Asia-Pacific region in order to capture the notion of sustainability.

The three goals of environmental education agreed upon are (Institute for Global Environment Strategies, 2004):

THE COST OF INACTION
Global mean temperature change (2050 compared to pre-industrial)



Global temperature will continue to increase until 2020. Then, everything will depend on the effectiveness and ambition of GHG emission-reduction plans. The baseline scenario reflects the possible development if nothing changes. The "450 ppm" scenario is the most ambitious of the three and presupposes the progressive establishment of a tax to limit long-term atmospheric concentrations of 450 parts per million (ppm) of CO₂ equivalent. This would result in emission reductions of about 40% in 2050 compared with 2000 levels.

Source: OECD (2008), *Environmental Outlook to 2030*, OECD Publishing, Paris.
SciLink <http://dx.doi.org/10.1787/888932780228>

WAY-OUT from GLOBAL WARMING.

- To foster clear awareness of, and concern about, economic, social, political and economic interdependence at local, regional, national and international/global levels;
- To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment;
- To develop and reinforce new patterns of environmentally sensitive behaviour among individuals, groups and society as a whole for a sustainable environment.

Saving rainforests is the key to saving our planet.

We are dedicated to putting conservation technologies into the hands of committed partners on-the-ground to help combat:

Deforestation which accounts for 17% of all global carbon emissions. ¹

The greatest species extinction crises since the time of the dinosaurs. ²

Historic droughts that affect upwards of 20 million people in major cities in South America such as Sao Paulo (directly related to the destruction of the Amazon rainforest). ³

The destruction of Indigenous Reserves which comprise 20% of the Brazilian Amazon rainforest, now increasingly targeted by illegal loggers and poachers because they are still intact.

Economic losses of GDP \$2-5 trillion per year attributed to downgrading rainforest to pasture and less productive land use.

Conclusion-This chapter explores research into the relationship between globalisation and the environment, looking at patterns and rates of growth in international trade and foreign direct investment. It provides a summary of knowledge of globalisation's indirect effects, focusing largely on current estimates of the size of the scale, composition and technique effects of globalisation. The chapter concludes with a brief discussion of the various direct effects of globalisation, notably transport-related emissions and biological invasions, and attempts to put these into the broader context of overall effects. The chapter concludes that, although recent evidence concerning trade and local pollution is encouraging, the evidence concerning carbon and other greenhouse gas emissions is less so. One explanation for the pessimistic assessments of trade's impact on greenhouse gas emissions is their global nature. Not only are the costs of CO₂ emissions shared with citizens abroad (who have no political

voice outside their own country), but many greenhouse emissions are associated with fossil fuel use, for which few economically viable substitutes have emerged to date. The income and technique effects that are largely responsible for reductions in local air pollutants do not seem to have the same force when the pollutant in question burdens the global population.

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