Impact of Globalization on Environment

Ganesh Ji
LLM (Corporate Law), Amity University, Rajasthan

Abstract **- Globalization allow human societies to rely on natural resources available both locally and in other regions of the planet. Thus, in a globalized world, multiple pools of the same resource are often harvested by multiple users through a network of interactions. It is not clear to what extent the interconnection, structure and modularity (that is, when subsystems of nodes exhibit stronger internal connectivity) of such a network may affect the flexibility of the system. Here, we develop a framework to investigate the impact of globalization on the environment.**

Index Terms **- Environment, Globalization.**

INTRODUCTION

Globalization—defined as the increased flow of goods, services, capital, people, and ideas across international boundaries—has brought many changes in its consequences. A large number of environmentalists who support this view base their arguments on the premise that globalization leads to an increase in global demand, resulting in increased production. This indirectly contributes to the exploitation of the environment and the depletion of natural resources.

The increased economic activity leads to greater emissions of industrial pollutants and more environmental degradation. The pressure on international firms to remain competitive forces them to adopt cost-saving production techniques that can be environmentally harmful. Some have been positive, such as increased international cooperation and less international aggression. Others have been negative, such as increased income inequality and substandard working conditions in developing countries that produce goods for wealthier nations.

One consideration that isn't often discussed about globalization is how it affects the environment. One thing, however, is clear: Globalization does impact the environment, and typically not in a positive way.

Globalisation is partly responsible for environmental damage. Globalisation, 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 globalisation on the environment, it's quite obvious in some areas. By increasing greenhouse gases emissions climate change is one of the main environmental problems, perhaps all the more worrying because it is impossible to predict exactly how it's going to develop and what the consequences will be. Its causes, however, are known. Climate change stems mostly from the greenhouse effect – meaning the excessive retention of solar energy in the atmosphere due to an accumulation of certain gases, particularly CO_2.

The main sources of CO_2 emissions are industrial production, transportation and, more indirectly, deforestation. These three human activities exist independently of globalisation, but their considerable development during the 20th century, and in particular in recent decades, is partly linked to accelerated globalisation.

GLOBALIZATION AND ITS IMPACT ON THE ENVIRONMENT

Globalization has allowed society to enjoy many benefits, including increased global cooperation, reduced risk of global conflict, and lower prices for goods and commodities. Unfortunately, it's also led to serious negative effects on the environment. Let's have a look over it:-

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 labour, 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. These emissions contribute to pollution, climate change, and ocean acidification around the world and have been shown to significantly impact biodiversity. As critical drivers of globalisation, transport systems have multiplied alongside international trade. Emissions from road transport (mainly cars and lorries) are of course very high, but more so within national borders. But the opening of some regional areas (such as the suppression of border controls among European Union countries) has given a strong boost to road freight transport. Despite some encouraging recent alternatives such as piggybacking (transporting lorries by train for part of the journey), transnational road transport is an important source of CO2 emissions. But the major mode of transport that has characterised globalisation in the past decades is the aeroplane. Between 1990 and 2004, Greenhouse gases(GHG) emissions from aviation increased 86%. Aviation is today responsible for 4-9% of total GHG emissions released into the atmosphere. Mean-while, sea transport swallows 2-4% of all the fossil fuels consumed by the planet every year. Some 70% of international transport of goods towards the EU and 95% of trade towards the United States is by sea. Improved energy technologies aren't enough to absorb the environmental impact of the 3% annual increase in shipping. That said, much of the environmental harm from transport is due to the increase in domestic traffic. In the case of aviation, Airbus and Boeing to cover new domestic travel needs. In other words, increased traffic on the highways of international trade, driven by the globalisation dynamic, isn't solely responsible for increases in transport-related CO_2 emissions. Globalisation indirectly promotes CO_2 emissions linked to industrial activity and consumption. While the Industrial Revolution was a vector of globalisation the growth in cross-border trade and investment in turn fostered industrial activity. This is often a major source of GHG emissions, as in the case of electricity generation, which still largely involves burning coal, oil and derivates. The intensification of globalisation, then, accentuated the greenhouse effect and global warming. For decades, developed countries – the pioneers of global industrialisation – were the world's biggest polluters, responsible for the lion's share of GHG emissions. Today, the United States is responsible for around 20% of global GHG emissions. But the very rapid development of emerging countries over the past several years has also led them to become major emitters of GHG. As we've seen, these countries developed largely thanks to globalisation, which fostered the industrialisation of the Asian giants – often at the expense of the environment. To quench its thirst for energy, China opens one new coal-fired power plant every week. Yet while coal is the cheapest and most abundant fossil fuel, it's also the most polluting. Add to that China's mushrooming transport fleet and galloping urbanisation and it became the world's largest emitter of CO_2, ahead of the United States, in 2007. Agreed, China has also embarked on drastic renewable energy programmes in recent years. But each day, emerging countries buy a little more into the logic of mass consumption linked to globalisation.

•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. It's worth noting that approximately 70 percent of all freight is transported by ship, according to a report by the International Transport Forum. 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. 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.

3.Globalisation encourages deforestation.
Deforestation is an indirect but very significant cause of the greenhouse effect. Clearing and logging reduce the volume of CO_2 that plants convert into oxygen. This translates into an equivalent increase in the volume of CO_2 in the atmosphere and thus adds to the greenhouse effect. And burning the cleared wood releases vast quantities of CO_2. In total, estimated emissions from deforestation represent some 20% of the increased concentration of GHG in the atmosphere. Between 1990 and 2005, the world lost 3% of its forests. Some 200 km2 of forest land – twice the size of Paris – disappears each day. Globalisation is often an ally of the chainsaw. Deforestation is mainly due to the conversion of forests into agricultural land, especially in developing countries. Take Brazil: for a little over a decade, much of its agriculture was export-oriented. Between 1996 and 2003, Brazilian soy exports to China rocketed from 15000 to 6 million tonnes. This dynamism involved deforestation and converting part of the rainforest into farmland. Like much of the damage caused to the environment, the impact of deforestation isn't only felt by nature itself, but also by people, in particular the most vulnerable. The poorest regions are the most affected by global warming. In the medium term, the UN doesn't rule out a poverty boom stemming from desertification and increasingly scarce water. By 2060, drought could render 90 million hectares in sub-Saharan Africa sterile. Some 1.8 billion people could lack water in the next 70 years. Central Asia, northern China and the Andes are particularly at risk. Furthermore, global warming may well be one of the causes of the increase in the number of natural disasters such as hurricanes, storms and floods in recent years. Approximately 262 million people worldwide were victims of natural disasters between 2000 and 2004. Add to this the fact that 20% to 30% of all living species could disappear if the mean global temperature were to rise by 3 °C and it becomes clear that nature didn't need this: apart from global warming, 20th-century human activity already left an indelible mark on the world's ecosystems

4. Rise in temperature
The years 1994, 2000, 2002 and 2003 saw the hottest temperatures in 500 years. The 2006 season was even worse. "The most plausible hypothesis is that temperatures will rise two to three degrees in the years to come". There's international consensus on the existence of global warming and its increase since the 1980s. The average atmospheric temperature is rising, particularly in the Northern hemisphere. While the scientific community is divided as to exactly how much humans are to blame for global warming, the vast majority nevertheless agree that it's very real. Most scientists – especially those working in the Intergovernmental Panel on Climate Change (IPCC) – believe that increases in emissions of carbon dioxide (CO_2) from human activity are the primary cause of global warming. Yet global warming isn't the only environmental problem. Industry, mass consumption and the increased energy needs of a growing global population are partly responsible for pollution, resource depletion and species extinction. Globalisation has occurred alongside and sometimes nurtured these developments.

5. Economic Specialization
One often 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 lead to serious environmental issues, often in the form of habitat loss, deforestation, or natural resource overuse. A few examples include:

- Illegal deforestation 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.

Is globalization bad for the environment?

Amid rising environmental concerns, an important question is whether deglobalization would have the opposite impact on the environment. Put differently, if globalization is harmful, then should we expect that the current deglobalization trend will be less harmful for the environment?

Deglobalization may worsen the emissions-But in fact, deglobalization may not necessarily translate into reduced emissions of harmful gases such as CO_2, SO_2, NO_2, but could actually worsen it. Through what's known as the technique effect, we know globalization can trigger environmentally friendly technological innovations that can be transferred from countries with strict environmental regulations to pollution havens.

Globalization doesn't just entail the movement of manufactured goods, but also the transfer of intermediate, capital goods and technologies. That means multinational corporations with clean state-of-the-art technologies can transfer their green know-how to countries with low environmental standards.

It's widely recognized that multinational firms use cleaner types of energy than local firms, and therefore have more energy-efficient production processes. Deglobalization could mean these environmentally friendly technologies aren't passed on to countries that are trying to go green.

The rise of anti-globalization forces also means less specialization in sectors in which countries have comparative advantages.

This can create an inefficient allocation of resources that leads to the dissipation of scarce economic and natural resources. If every country has to produce to meet its domestic demand, in other words, it could result in duplication in production processes and therefore an increase in local emissions.

Since some countries have weaker environmental standards than others, this could possibly worsen global emissions. A good example of this is Iran, which has been slapped with economic sanctions, making the country less integrated in the world economy. The result has been domestic production that's wreaked immense havoc on the environment. As result of import bans of crude oil, for example, Iran started refining its own crude oil that contains 10 times the level of pollutants of the oil it used to import.

Globalization has another benefit-it's been at the forefront of creating public awareness about labour and environmental standards through the platforms of international activities such as fair trade and eco labels.

The success of this environmental public awareness has resulted in consumer preferences evolving. Producers are therefore able to build their customer base by producing eco-friendly products.

Without international trade, consumers would have limited choices, and could be forced to purchase only domestic goods that may have been produced under lax environmental standards.

Globalization achieved through multilateral negotiations via the World Trade Organization has also demonstrated that although environmental protection is not part of the WTO's core mandate, it has spurred enthusiasm within its member countries for sustainable development and environmentally friendly trade policies.

There are several WTO trade-related measures that are compatible with environmental protection and sustainable use of natural resources. For instance, the green provisions of the WTO direct countries to protect human, animal or plant life and conserve their exhaustible natural resources.

Apart from the WTO, regional trade agreements, known as RTAs, are another feature of globalization that promote environmentally sustainable policies. As countries seek to join RTAs, they are also made to simultaneously embrace environmental cooperation agreements.

Many countries, including Canada and those in the European Union, have developed national policies that stipulate that prior to signing any trade agreement, environmental impact assessments must be carried out. That means that any country that signs trade agreements with those countries must also automatically sign environmental cooperation deals.

We've seen over the years how countries like China, once pollution havens, are making tremendous gains in reducing their emissions, especially after becoming more integrated into the world economy. Because of the incentives to increase global market access for its products, China has moved from the position of one of the world's top polluters into a global leader spearheading the fight against climate change and pollution. In 2017, China closed down tens of thousands of factories that were not complying with its environmental standards.

In contrast, we have seen a country like the U.S. slowly drifting away from the climate change fight in part because of the anti-globalization inclinations of Donald Trump. He pulled the U.S. out of the Paris Agreement on climate change in keeping with his anti-globalization rhetoric during the 2016 U.S. election campaign. Through its America First Energy Plan, the Trump administration has outlined its preference for polluting industries, the use of fossil fuels and the revival of the coal industry. This signals that deglobalizing countries may drift away from sustainable development practices towards industrial policies that are devastating to the environment.

So, if countries restrict international trade, the environment is likely at risk.

CONCLUSION

Deglobalization isolates countries, making them less likely to be responsible for the environment. The gains associated with globalization, on the other hand, can be used as effective bargaining strategies or an incentive to demand environmental accountability from countries hoping to benefit from global trading systems.

Because it isn't feasible for globalization to end or reverse, it's likely the situation will worsen until nations, governing bodies, and other organizations are compelled

to implement laws and regulations that limit negative effects.

Businesses and industries that operate globally have an incentive to take whatever voluntary actions they can to reduce the potential for negative consequences. Doing so can not only give an organization greater control over its initiatives, but also be a powerful marketing and communication tool.

Investing in renewable energy and packaging, embracing responsible land-use management, and shifting goods production to be closer to the end customer are all viable options businesses can and should consider.

Awareness has grown in recent years but is still not enough. It should be possible not only to reconcile globalisation and conservation of the environment, but also to act so that globalisation becomes a vector of green growth.

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