

## How Does Deterioration of the Environment affect the Economy as a Whole? From Indian Perspective

Dr. Ali Faran Gulrez<sup>1\*</sup>, Ms. Yusra Jameel, B.A.LL. B, LL.M<sup>2</sup>

<sup>1\*2</sup> Assistant Professor, Manipal Law School, Manipal Academy of Higher Education, Manipal, India –

### INTRODUCTION

Some people believe that the environment needs to be compromised in order to achieve economic growth due to poor management, a need for quick cash and short-term profits, and ideological rigidity. Others think sustainable economic progress is impossible because they think capitalism is bad and ultimately destroys the environment. In my opinion, we can use modern technology, sustainable management, and enlightened design to solve the real-world issues associated with ecologically economically sustainable growth. We can create and reside in sustainable cities and put an end to the ecological and climate catastrophes that currently seem so dire. Despite the fact that the primary mechanisms connecting the economy and the environment are fundamentally understood, evaluations of environmental policies are frequently complicated by an absence of reliable metrics to compare the costs and benefits of policy changes or by a general dearth of factual evidence.<sup>1</sup> The financial consequences of the biophysical and environmental effects of policy inaction, as well as the advantages of new policies that result from them, are frequently not calculated. As a result, the very obvious consequences of policy action frequently take centre stage in economic debate. Therefore, it is crucial to enhance the toolkits economists employ to evaluate the advantages of environmental policy.

Researchers in this paper examine the relationship between a properly managed natural environment and economic growth as well as the creation of a system of regulations that is both effective and efficient.

### How Environmental Policies Might Help To Maximise both Environmental Protection and Economic Growth

The rise of mass manufacturing, the study of social psychology, financial accounting, handling data, satellite and cellular communication, along the rise of globalisation and the current concern for the physical aspects of environmental sustainability were all absorbed by the area of management in the 20th century. In addition to overseeing an organization's marketing, strategy, finances, and operational procedures, sustainability managers also try to monitor how much energy, water, and other resources are being used, as well as work to eliminate waste and adverse environmental effects<sup>2</sup>. Sustainability workers, encouraged by EPA standards, strive to identify and decrease organisational practises that harm the environment, just as finance personnel, reinforced by SEC rules, trained to detect and reduce self-dealing, conflict of interest, and fraud.

Organisational managers seek to improve environmental sustainability on the production side, but customers are modifying their consumption habits to lessen environmental harm in addition to purchasing environmentally friendly products. Exercise, biking, and consuming vegetables are all activities that increase the GDP.<sup>3</sup> However, so do flying in a private jet to ones ski lodge, taking your SUV to the ski slopes, and dining on a steak.

The sustainability of the environment is not affected in the same way by all consumption patterns. The emergence of more environmentally friendly habits can be seen in consumption trends. Young generation, for instance, don't seem as interested in having cars as their parents and elder siblings did. The introduction of the smartphone has made ride-sharing, bike sharing, and other transit choices possible. However, taking an Uber or driving your own car are both considered economic activities for the purposes of calculating GDP.

These consumption patterns are often not the topic of policymakers because they are more influenced by shifting cultural norms than by governmental action. The only exceptions might be behaviour that directly harms other people, like drinking and driving or smoking in public. New technology can also lessen the impact of consumption on the environment. For instance, compared to the manufacturing, packaging, and shipping of movies and discs before they were consumed, streaming music and video has a significantly smaller environmental impact.

Ironically, certain ecologists and some doubters of global warming share the viewpoint that environmental protection and economic progress must be compromised. Both can and must be done<sup>4</sup>. Because most people in the industrialised world enjoy their way of life and won't give it up, we cannot stop investing in the development of the economy. Environmental supporters will fail politically if they make such a request. Even really poor individuals in developing nations may now see how we live thanks to the internet, desire it, and demand that their political systems assist them in realising their aspirations. Political unrest and the possibility of violence are caused by a lack of economic progress. Climate scientists frequently discuss how political instability is impacted by climate change, and the topic of climate refugees is well known.

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<sup>1</sup> (Walker 2008, p. 558)

<sup>2</sup> IRENA, Renewables: Global Energy Transformation Roadmap, 2019.

<sup>3</sup> Rajagopal 2003, Cummings 2017

<sup>4</sup> Ellen MacArthur Foundation, the Circular Economy Concept, 2013.

However, the route to climate mitigation is not through slower economic growth, but rather through economic growth that is directed away from needless environmental harm and towards environmental sustainability.

The internet has allowed even the most impoverished individuals in developing nations to see how we live, desire it, and demand that their political systems assist them in realising their aspirations. Political unrest and the potential for violence are consequences of economic stagnation. Climate scientists frequently discuss how climate change affects political unrest, and the topic of climate refugees is well known. However, directing economic growth away from needless degradation of the environment and towards environmental sustainability will lead to climate mitigation, not slowing it down. Urban developments might be created by people that would minimise rather than increase environmental impact.<sup>5</sup> Some people believe that the environment must be sacrificed in order to achieve economic growth due to poor management, a need for quick cash and short-term profits, and ideological rigidity. Others think sustainable economic progress is impossible because they think capitalism is bad and ultimately destroys the environment.<sup>6</sup> We can use modern technology, sustainable management, and enlightened design to solve the real-world issues associated with ecologically economically sustainable growth. We can create and reside in sustainable cities and put an end to the ecological and climate catastrophes that currently seem so dire.

Economic expansion is not what is causing the climate crisis; rather, the lack of efficient government policies meant to lower greenhouse gas emissions is to blame.<sup>7</sup> As long as regulations are in place to limit the environmental effects of the goods and services we produce and use, there is no conflict between capitalism and environmental conservation. With those regulations in place, consideration for ecological sustainability may and will be factored into every decision made by the private, non-profit, and governmental organisations from which we all benefit<sup>8</sup>.

### **How Environmental Degradation Impacts Economic Growth In India.**

Energy and economic development have always been tightly linked. The negative externalities related to the use of energy, however, have not been fully addressed during the process. One of the biggest obstacles to sustainable growth is negative externalities. The main obstacle to sustainable growth is without a doubt the climate change brought on by human-caused global warming. Global CO<sub>2</sub> concentration is rising mostly as a result of fossil fuel use and land use changes<sup>9</sup>. In 2017 the primary energy source used by the entire world was crude oil, which also produced 33% of the CO<sub>2</sub> emissions that year. The amount of CO<sub>2</sub> emissions in 2018 was at an all-time high of 33.1 Gt. Only ten nations accounted for about two-thirds of the world's emissions in 2011, with China (25.4%) and the United States (16.9%) contributing significantly more than the rest. These two nations alone generated 13.2 Gt of CO<sub>2</sub> in total.<sup>10</sup>

Around the world, authorities have been concerned about the connection between environmental deterioration and economic growth, particularly in emerging countries like India. Rapid urbanisation, industrialisation, and population expansion have put a great deal of strain on India's environment. Nonetheless, India's distinct problems and endeavours offer insightful information on the intricate relationships between environmental sustainability and economic development. In the context of India, this study examines the relationships, theoretical frameworks, and possible approaches for balancing environmental preservation with economic growth.

Natural resources have been crucial to India's economic progress and prosperity. The main energy sources used in the nation to meet its demands are natural gas, coal, and oil, all of which have a negative impact on the environment. Water resources are under extreme pressure resulting from infrastructure construction, city development, and expansion.<sup>11</sup> For instance, mining activities contribute to land degradation and water pollution in mineral-rich states like Jharkhand, Odisha, and Chhattisgarh.<sup>12</sup> All three have an adverse effect on the environment. Together with expanding agriculture, urban development, and infrastructure projects, these variables have also raised CO<sub>2</sub> emissions<sup>13</sup> and the loss of biodiversity.

Understanding how environmentally friendly a country's economic growth is crucial for developing nations like India, whose GDP growth rate and carbon emissions both climbed significantly between 1980 and 2013. India's GDP growth rate reached a peak of almost 10% in 2010 before gradually declining to about 7% by 2013.<sup>14</sup>

It is crucial to comprehend how environmentally friendly the economic development of the nation is. Over the years 1980 to 2013, India's Gross Domestic Product (GDP) and carbon emissions both grew steadily. India's GDP growth rate reached a peak of almost 10% in 2010, then gradually declined to about 7% by 2013. The real GDP of India and the emissions of carbon from petroleum use and overall consumption of energy are shown for the years 1980 to 2013. India's actual gross

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<sup>5</sup> Design with Nature, Ian L. McHarg, 1969.

<sup>6</sup> (Burnham et al. 2013, p. 245; Fisher 2015, p. 74).

<sup>7</sup> IPCC, Climate Change 2021: The Physical Science Basis, 2021.

<sup>8</sup> Ellen MacArthur Foundation, the Circular Economy Concept, 2013.

<sup>9</sup> IEA, Global EV Outlook, 2021.

<sup>10</sup> International Energy Agency Report, 2015, Outlook-India report. International Energy Agency.

<sup>11</sup> NITI Aayog, Composite Water Management Index, 2019.

<sup>12</sup> Centre for Science and Environment (CSE), India's Mining Sector: An Overview, 2019.

<sup>13</sup> Ministry of Environment, Forest and Climate Change (MoEFCC), India State of Forest Report, 2019

<sup>14</sup> Fastest growing economy in 2018 with a growth rate of 7.3%, ADB.

domestic product increased steadily from roughly US \$0.2 trillion in 1980 to roughly US \$1.48 trillion in 2013. The amount of carbon dioxide released from total energy consumption show a similar upward trend, rising from around 291 million metric tonnes in 1980 to about 1830 million metric tonnes in 2012. Similar to other countries, India had an increase in its carbon emissions from petroleum use, going from around 100 million metric tonnes in 1980 to about 435 million metric tonnes in 2012.

India is under increasing pressure to sign a binding pact to reduce CO<sub>2</sub> emissions. In these conditions, it is essential to investigate the effects of different sources of CO<sub>2</sub> emissions.<sup>15</sup> The effect of GDP on CO<sub>2</sub> emissions should be examined in this context.<sup>16</sup> The environmental Kuznets curve (EKC) is an inverted U-shaped link between environmental pollution and economic growth that has been theorised in economic literature.<sup>17</sup>

The amount of foreign direct investment (FDI) that flows into emerging nations is heavily influenced by their governments' policies. India received \$52 billion in FDI in 2019, ranking ninth among all recipients, according to the UN trade authority. Despite being a very modest portion of India's GDP, net FDI inflow has climbed from 0.02% in 1991 to 3.62% in 2008. The net flow of FDI reaches 1.76% by 2019. This surge in FDI inflow/outflow was caused by India's new economic policies of liberalisation, privatisation, and globalisation, which was enacted in 1991. Nevertheless, the fact that they put environmental standards below levels of effectiveness is one of the major motivations motivating foreign investment in emerging nations like India. International trade connects nations, and developing and undeveloped economies depend on knowledge transfer through FDI that could, in the long term, reduce pollution.

### **How Economic Growth Affects the Environment**

Real output growth (real GDP growth) is a measure of the growth of the economy. Therefore, it is likely that the environment will pay a price for increased output and consumption. The increased use of resources that aren't renewable, greater pollution levels, a rise in global temperatures, and the potential loss of environmental ecosystems are some of the environmental effects of economic expansion.<sup>18</sup>

Numerous issues and Challenges exist, such as an unequal allocation of both advantages<sup>19</sup> and expenses. For example, India must strike a balance between environmental sustainability and economic growth. A major issue is that disadvantaged people are disproportionately affected by environmental degradation, especially in rural and tribal regions. And also, the effects of climate change, such as droughts and floods, have serious repercussions for populations who depend on agriculture.

India's emphasis on quick economic development frequently results in short-term policies that put industrial growth ahead of environmental sustainability. Policies that prioritize short-term profits may potentially have long-term negative effects on the environment<sup>20</sup>. Although technological limits like renewable energy show promise, India faces substantial obstacles in implementing them because of infrastructural and financial constraints.<sup>21</sup> The Jevons paradox states that greater efficiency raises consumption, is a potential risk.<sup>22</sup>

But not all types of economic development harm the environment. People are better able to invest in environmental protection and reduce the negative consequences of pollution when real earnings rise<sup>23</sup>. Additionally, economic development brought on by technology advancements might lead to higher productivity with less pollution.

According to World Bank estimates, the output of emerging nations would be roughly five times higher by the year 2030 than it is today given current productivity trends and anticipated population growth<sup>24</sup>. Over the same time period, the output of industrialised nations would triple, but more gradually.<sup>25</sup> Serious environmental problems would arise if environmental contamination increased at the same rate. The earth would suffer grave and irreparable devastation, and tens of millions of people would get sick or die from environmental reasons.

Long-term goals of encouraging growth, reducing poverty, and safeguarding the environment may be beneficial to each other, but they are not always acceptable in the short term. Economic growth is therefore required to improve the environment because poverty is a key contributor to environmental degradation. However, poorly managed economic expansion has the potential to further endanger the lives of the poor and harm the environment. Timber is an effective short-term source of foreign exchange in many underdeveloped but still wooded nations. Indonesia started depleting its

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<sup>15</sup> Dasgupta, P., *Environmental Kuznets Curve and India: A Case Study*, 2018.

<sup>16</sup> Ibid

<sup>17</sup> (Department of Agriculture, Cooperation & Farmers Welfare 2019, p. 1). 2018–2019 (cf. Department of Agriculture and Cooperation 2014, p. 1).

<sup>18</sup> (Udmale et al. 2014).

<sup>19</sup> NITI Aayog, *Strategy for New India @ 75: Agriculture and Water*, 2018.

<sup>20</sup> CSE, *India's Industrial Growth vs. Environmental Sustainability*, 2019.

<sup>21</sup> MoEFCC, *India's Nationally Determined Contributions (NDCs) to the Paris Agreement*, 2015.

<sup>22</sup> Alcott, B., *The Jevons Paradox and the Myth of Resource Efficiency Improvements*, 2005.

<sup>23</sup> Tata Group, *Sustainability Report*, 2020.

<sup>24</sup> United Nations Framework Convention on Climate Change (UNFCCC), *India's Role at COP Conferences*, 2021.

<sup>25</sup> (Ghimire and Panday 2016, p. 272).

hardwood forests at unsustainable rates in order to obtain export cash when the demand for petroleum, the country's traditional commodities export, plummeted.

Competition can reduce time horizons in wealthy nations. Farmers are compelled to adopt short-term viewpoints in order to survive financially, for instance, by competitive factors in agricultural markets. In order to satisfy financiers and generate a profit on what they've invested in land, farmers have to sustain cash flow. So they start using high-yield crops, monoculture farming, more pesticides and fertilisers, salinizing irrigation techniques, and more aggressive ploughing methods that lead to erosion. Because of the concentration of wealth in industrialised nations, ecosystems in less developed nations can be exploited and destroyed<sup>26</sup>.

Making environmental policy is never as simple as just calculating how a given policy would affect the environment. However, economic instead of ecological repercussions are more frequently relied upon to establish policy due to scientific uncertainty regarding biophysical and geological relationships and a general inability to assess a policy's influence on the environment. The direct and indirect consequences of policies on ecological sustainability are frequently difficult for institutions and policymakers to understand, and they frequently have no idea how their actions will influence other areas outside of their direct control.<sup>27</sup>

### **How a stable environment and improvement in the environmental impact can coexist with economic expansion?**

- **Transitioning towards renewable energy from non-renewable sources:** According to a recent analysis, coal burning is becoming more expensive to produce than renewable energy, which has caused an 84% reduction in new construction starts since 2015 and a 39% drop since 2017.
- **Price at a social cost:** Economists claim it is socially advantageous to include the external cost in the price (for example, a carbon tax) if economic expansion results in external costs. A socially efficient outcome will result if the tax is equal to the total external cost, and there will be a significant incentive to encourage growth that minimises external costs<sup>28</sup>.
- **Consider the environment to be a shared good:** In theory, environmental policy that safeguards the environment through rules, public ownership, and caps on external costs can allow for economic growth that is based on safeguarding the environment's resources.<sup>29</sup>
- **Technical advancement:** It is conceivable to switch from gasoline-powered vehicles to those powered by renewable energy sources. This not only allows for an increase in productivity but also a decrease in the impact on the environment. There are several potential technical advancements that could lead to increased productivity, decreased prices, and less environmental harm<sup>30</sup>.
- **Statistics on the economy should also include indications of environmental quality:** Environmental economics contend that an expanded spectrum of quality of life + living standards + indicators of environmental health should be our primary targets rather than GDP. (For instance, the Genuine Progress Indicators GPI).

### **Conclusion**

Environmental deterioration and economic growth have a complicated and nuanced interaction. While environmental damage has historically been a result of economic expansion, new approaches and models are beginning to emerge that provide hope for reconciling sustainability with growth. As Human we cannot control our needs so we can aim to ensure that growth meets the needs of the present without compromising the ability of future generations to meet their own needs. This model seeks to balance economic progress with ecological integrity.<sup>31</sup> Using circular economy principles, shifting to renewable energy, and putting in place robust environmental governance are important tactics. The decisions that governments, corporations, and people make to strike a balance between the dual objectives of environmental stewardship and economic development will ultimately determine the course of the future<sup>32</sup>.

It could be feasible to separate economic growth from environmental deterioration by emphasizing sustainable development, technological innovation, and international collaboration, guaranteeing that both the economy and the earth flourish in the long run.<sup>33</sup>

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<sup>26</sup> UNEP, Global Waste Management Outlook, 2020

<sup>27</sup> (World Meteorological Department)

<sup>28</sup> Panayotou, T., Empirical Tests and Policy Analysis of Environmental Degradation at Different Stages of Economic Development, 1993.

<sup>29</sup> Brundtland, G., Our Common Future, 1987.

<sup>30</sup> IRENA, Renewable Energy Statistics, 2022.

<sup>31</sup> Stern, D. I., The Environmental Kuznets Curve, 2004.

<sup>32</sup> Arrow, K., et al., Economic Growth, Carrying Capacity, and the Environment, 1995.

<sup>33</sup> OECD, Decoupling Environmental Pressures from Economic Growth, 2011.