



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

# IJIRSET

International Journal of Innovative Research in  
**SCIENCE | ENGINEERING | TECHNOLOGY**



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 10, Issue 10, October 2021

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

Impact Factor: 7.569

# Sustainable Development: Challenges and Opportunities

Mamta Bayla

Assistant Professor, Dept. of Economics, BCGCW Nangal Choudhary College, Haryana, India

**ABSTRACT:** Sustainable development is an approach to economic planning that attempts to foster economic growth while preserving the quality of the environment for future generations. Despite its enormous popularity in the last two decades of the 20th century, the concept of sustainable development proved difficult to apply in many cases, primarily because the results of long-term sustainability analyses depend on the particular resources focused upon. For example, a forest that will provide a sustained yield of timber in perpetuity may not support native bird populations, and a mineral deposit that will eventually be exhausted may nevertheless support more or less sustainable communities. Sustainability was the focus of the 1992 Earth Summit and later was central to a multitude of environmental studies. One of the most important areas of the law of sustainable development is ecotourism. Although tourism poses the threat of environmental harm from pollution and the overuse of natural resources, it also can create economic incentives for the preservation of the environment in developing countries and increase awareness of unique and fragile ecosystems throughout the world. In 1995 the World Conference on Sustainable Tourism, held on the island of Lanzarote in the Canary Islands, adopted a charter that encouraged the development of laws that would promote the dual goals of economic development through tourism and protection of the environment. Two years later, in the Malé Declaration on Sustainable Tourism, 27 Asian-Pacific countries pledged themselves to a set of principles that included fostering awareness of environmental ethics in tourism, reducing waste, promoting natural and cultural diversity, and supporting local economies and local community involvement. Highlighting the growing importance of sustainable tourism, the World Tourism Organization declared 2002 the International Year of Ecotourism.

**KEYWORDS:** sustainable, economic, development, environment, ecotourism, resources, laws

## I. INTRODUCTION

Although numerous international environmental treaties have been concluded, effective agreements remain difficult to achieve for a variety of reasons. Because environmental problems ignore political boundaries, they can be adequately addressed only with the cooperation of numerous governments, among which there may be serious disagreements on important points of environmental policy. Furthermore, because the measures necessary to address environmental problems typically result in social and economic hardships in the countries that adopt them, many countries, particularly in the developing world, have been reluctant to enter into environmental treaties. Since the 1970s a growing number of environmental treaties have incorporated provisions designed to encourage their adoption by developing countries. Such measures include financial cooperation, technology transfer, and differential implementation schedules and obligations. [1,2]



The United Nations Sustainable Development Goals

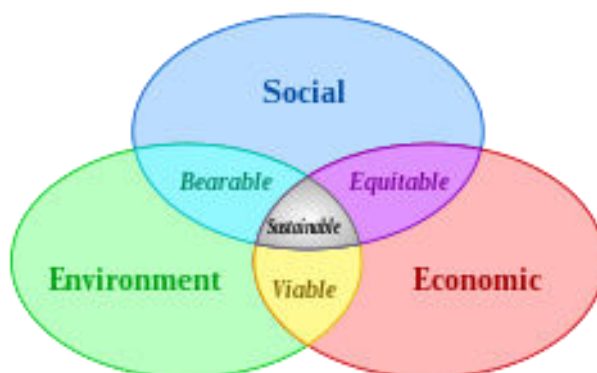
The greatest challenge to the effectiveness of environmental treaties is compliance. Although treaties can attempt to enforce compliance through mechanisms such as sanctions, such measures usually are of limited usefulness, in part because countries in compliance with a treaty may be unwilling or unable to impose the sanctions called for by the treaty. In general, the threat of sanctions is less important to most countries than the possibility that by violating their

international obligations they risk losing their good standing in the international community. Enforcement mechanisms other than sanctions have been difficult to establish, usually because they would require countries to cede significant aspects of their national sovereignty to foreign or international organizations. In most agreements, therefore, enforcement is treated as a domestic issue, an approach that effectively allows each country to define compliance in whatever way best serves its national interest. [3,4] Despite this difficulty, international environmental treaties and agreements are likely to grow in importance as international environmental problems become more acute. Many areas of international environmental law remain underdeveloped. Although international agreements have helped to make the laws and regulations applicable to some types of environmentally harmful activity more or less consistent in different countries, those applicable to other such activities can differ in dramatic ways. Because in most cases the damage caused by environmentally harmful activities cannot be contained within national boundaries, the lack of consistency in the law has led to situations in which activities that are legal in some countries result in illegal or otherwise unacceptable levels of environmental damage in neighbouring countries.[5,6]

This problem became particularly acute with the adoption of free trade agreements beginning in the early 1990s. The North American Free Trade Agreement (NAFTA), for example, resulted in the creation of large numbers of maquiladoras—factories jointly owned by U.S. and Mexican corporations and operated in Mexico—inside a 60-mile-(100-km) wide free trade zone along the U.S.-Mexican border. Because Mexico's government lacked both the resources and the political will to enforce the country's environmental laws, the maquiladoras were able to pollute surrounding areas with relative impunity, often dumping hazardous wastes on the ground or directly into waterways, where they were carried into U.S. territory. Prior to NAFTA's adoption in 1992, the prospect of problems such as these led negotiators to append a so-called "side agreement" to the treaty, which pledged environmental cooperation between the signatory states. Meanwhile, in Europe concerns about the apparent connection between free trade agreements and environmental degradation fueled opposition to the Maastricht Treaty, which created the EU and expanded its jurisdiction.[7,8]

## II. DISCUSSION

Sustainable development has its roots in ideas about sustainable forest management, which were developed in Europe during the 17th and 18th centuries. In response to a growing awareness of the depletion of timber resources in England, John Evelyn argued, in his 1662 essay *Sylva*, that "sowing and planting of trees had to be regarded as a national duty of every landowner, in order to stop the destructive over-exploitation of natural resources."



**Venn diagram of sustainable development: at the confluence of three constituent parts**

In 1713, Hans Carl von Carlowitz, a senior mining administrator in the service of Elector Frederick Augustus I of Saxony published *Sylvicultura economica*, a 400-page work on forestry. Building upon the ideas of Evelyn and French minister Jean-Baptiste Colbert, von Carlowitz developed the concept of managing forests for sustained yield. His work influenced others, including Alexander von Humboldt and Georg Ludwig Hartig, eventually leading to the development of the science of forestry. This, in turn, influenced people like Gifford Pinchot, the first head of the US Forest Service, whose approach to forest management was driven by the idea of wise use of resources, and Aldo Leopold whose land ethic was influential in the development of the environmental movement in the 1960s.[9,10]

Following the publication of Rachel Carson's *Silent Spring* in 1962, the developing environmental movement drew attention to the relationship between economic growth and environmental degradation. Kenneth E. Boulding, in his influential 1966 essay *The Economics of the Coming Spaceship Earth*, identified the need for the economic system to fit itself to the ecological system with its limited pools of resources. Another milestone was the 1968 article by Garrett



Hardin that popularized the term "tragedy of the commons". One of the first uses of the term sustainable in the contemporary sense was by the Club of Rome in 1972 in its classic report on the Limits to Growth, written by a group of scientists led by Dennis and Donella Meadows of the Massachusetts Institute of Technology. Describing the desirable "state of global equilibrium", the authors wrote: "We are searching for a model output that represents a world system that is sustainable without sudden and uncontrolled collapse and capable of satisfying the basic material requirements of all of its people." That year also saw the publication of the influential A Blueprint for Survival book.[11,12]

Following the Club of Rome report, an MIT research group prepared ten days of hearings on "Growth and Its Implication for the Future" in 1975 for the US Congress, the first hearings ever held on sustainable development. In 1980, the International Union for Conservation of Nature published a world conservation strategy that included one of the first references to sustainable development as a global priority and introduced the term "sustainable development".<sup>4</sup> Two years later, the United Nations World Charter for Nature raised five principles of conservation by which human conduct affecting nature is to be guided and judged. In 1987, the United Nations World Commission on Environment and Development released the report Our Common Future, commonly called the Brundtland Report. The report included what is now one of the most widely recognized definitions of sustainable development: Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: The concept of 'needs', in particular, the essential needs of the world's poor, to which overriding priority should be given; and



**Sustainable urban design and innovation: Photovoltaic ombrière SUDI is an autonomous and mobile station that replenishes energy for electric vehicles using solar energy.**

The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.[13]

— World Commission on Environment and Development, Our Common Future (1987)

Since the Brundtland Report, the concept of sustainable development has developed beyond the initial intergenerational framework to focus more on the goal of "socially inclusive and environmentally sustainable economic growth".<sup>5</sup> In 1992, the UN Conference on Environment and Development published the Earth Charter, which outlines the building of a just, sustainable, and peaceful global society in the 21st century. The action plan Agenda 21 for sustainable development identified information, integration, and participation as key building blocks to help countries achieve development that recognizes these interdependent pillars. Furthermore, Agenda 21 emphasizes that broad public participation in decision making is a fundamental prerequisite for achieving sustainable development.

### III. RESULTS

It has been suggested that because of rural poverty and overexploitation, environmental resources should be treated as important economic assets, called natural capital. Economic development has traditionally required a growth in the gross domestic product. This model of unlimited personal and GDP growth may be over. Sustainable development may involve improvements in the quality of life for many but may necessitate a decrease in resource consumption.[14]



#### Training on Education for sustainable development workshop in Kasese district Uganda

As early as the 1970s, the concept of sustainability was used to describe an economy "in equilibrium with basic ecological support systems". Scientists in many fields have highlighted The Limits to Growth, and economists have presented alternatives, for example a 'steady-state economy', to address concerns over the impacts of expanding human development on the planet. In 1987, the economist Edward Barbier published the study The Concept of Sustainable Economic Development, where he recognized that goals of environmental conservation and economic development are not conflicting and can be reinforcing each other.

A World Bank study from 1999 concluded that based on the theory of genuine savings (defined as "traditional net savings less the value of resource depletion and environmental degradation plus the value of investment in human capital"), policymakers have many possible interventions to increase sustainability, in macroeconomics or purely environmental. Several studies have noted that efficient policies for renewable energy and pollution are compatible with increasing human welfare, eventually reaching a golden-rule steady state.[15,16]

A meta review in 2002 looked at environmental and economic valuations and found a "lack of concrete understanding of what "sustainability policies" might entail in practice". A study concluded in 2007 that knowledge, manufactured and human capital (health and education) has not compensated for the degradation of natural capital in many parts of the world. It has been suggested that intergenerational equity can be incorporated into a sustainable development and decision making, as has become common in economic valuations of climate economics.

The ambitious climate change mitigation policies have created negative social and economical impacts when they are not aligned with sustainable development goals. As a result, the transition towards sustainable development mitigation policies has slowed down which is why the inclusivity and considerations of justice of these policies may weaken or support improvements on certain regions as there are other limiting factors such as poverty, food insecurity, and water scarcity that may impede the governments application of policies that aim to build a low carbon future.

#### IV. CONCLUSIONS



The four pillars of sustainability



The Sustainable Development Goals (SDGs) or Global Goals are a collection of 17 interlinked global goals designed to be a "blueprint to achieve a better and more sustainable future for all". The SDGs were set up in 2015 by the United Nations General Assembly (UN-GA) and are intended to be achieved by 2030. They are included in a UN-GA Resolution called the 2030 Agenda or what is colloquially known as Agenda 2030. The SDGs were developed in the Post-2015 Development Agenda as the future global development framework to succeed the Millennium Development Goals which ended in 2015. Education for sustainable development (ESD) is defined as education that encourages changes in knowledge, skills, values and attitudes to enable a more sustainable and just society for all. ESD aims to empower and equip current and future generations to meet their needs using a balanced and integrated approach to the economic, social and environmental dimensions of sustainable development. ESD is the term most used internationally and by the United Nations. [17,18]

## REFERENCES

- 1) EC, 2017, Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions 'White Paper on the future of Europe – Reflections and scenarios for the EU27 by 2025' (COM(2017)2025 of 1 March 2017) ([https://ec.europa.eu/commission/sites/beta-political/files/white\\_paper\\_on\\_the\\_future\\_of\\_europe\\_en.pdf](https://ec.europa.eu/commission/sites/beta-political/files/white_paper_on_the_future_of_europe_en.pdf))
- 2) EC, 2019, Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions 'Towards a sustainable Europe by 2030' (COM(2019)22 of 30 January 2019) ([https://ec.europa.eu/commission/publications/reflection-paper-towards-sustainable-europe-2030\\_en](https://ec.europa.eu/commission/publications/reflection-paper-towards-sustainable-europe-2030_en)) accessed 16 November 2019.
- 3) EEA, 2019, 'The European environment: state and outlook : knowledge for transition to a sustainable Europe', European Environment Agency .
- 4) Eurostat, 2019a, Sustainable development in the European Union – Monitoring report on progress towards the SDGs in an EU context, 2019 edition, Eurostat, Luxembourg (<https://ec.europa.eu/eurostat/web/products-statistical-books/-/KS-02-19-165>) accessed 16 November 2019.
- 5) Eurostat, 2019b, EU SDG Indicator Set, 8 January 2019, Eurostat, Luxembourg, accessed 16 November 2019.
- 6) Eurostat, 2019c, Sustainable development in the European Union – Monitoring report on progress towards the SDGs in an EU context – 2019 edition, Eurostat, Luxembourg <https://ec.europa.eu/eurostat/web/products-statistical-books/-/KS-02-19-165> .
- 7) Gottenhuber, S. and Mulholland. E., 2019, The Implementation of the 2030 Agenda and SDGs at the National Level in Europe – Taking stock of governance mechanisms, ESDN Quarterly Report 54, December 2019, European Sustainable Development Network, Vienna, Austria.
- 8) Niestroy, I., 2019, Europe's approach to implementing the Sustainable Development Goals: good practices and the way forward EP/EXPO/B/DEVE/2018/01, European Parliament, Policy Department, Directorate General for External Policies, Brussels, Belgium.
- 9) OECD, 2017, Measuring the Distance to the SDG Targets: An Assessment of Where OECD Countries Stand, Organisation for Economic Co-operation and Development, Paris, France (<http://www1.oecd.org/std/OECD-Measuring-Distance-to-SDG-Targets.pdf>) accessed 16 November 2018.
- 10) OECD, 2019, Sustainable Results in Development: Using the SDGs for Shared Results and Impact, Organisation for Economic Co-operation and Development, Paris, France (<http://www.oecd.org/development/sustainable-results-in-development-368cf8b4-en.htm>) accessed 17 December 2019.
- 11) Office of the Government of the Czech Republic, Department of Sustainable Development, 2017, Strategic Framework Czech Republic 2030, Government of the Czech Republic, Prague, Czechia ([https://www.vlada.cz/assets/ppov/udrzitelny-rozvoj/projekt-OPZ/Strategic\\_Framework\\_CZ2030.pdf](https://www.vlada.cz/assets/ppov/udrzitelny-rozvoj/projekt-OPZ/Strategic_Framework_CZ2030.pdf)) accessed 29 November 2018.
- 12) Sachs, J., et al., 2019, Sustainable Development Report 2019, Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN), New York, USA (<http://www.sdgindex.org/assets/files/2017/2017-SDG-Index-and-Dashboards-Report--full.pdf>) accessed 16 November 2019.
- 13) SDSN and IEEP, 2019, Europe Sustainable Development Report, Sustainable Development Solutions Network and Institute for European Environmental Policy, Paris, France and Brussels, Belgium (<https://www.sdgindex.org/reports/2019-europe-sustainable-development-report/>) .
- 14) SDSN, 2015, Getting Started with the Sustainable Development Goals, , Sustainable Development Solutions Network, New York, USA (<https://sustainabledevelopment.un.org/content/documents/2217Getting%20started.pdf>) .
- 15) UN, 2015, Transforming our world: the 2030 Agenda for Sustainable Development, United Nations, New York, USA ([http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)) accessed 16 November 2016



- 16) UN, 2017a, Resolution adopted by the General Assembly on 6 July 2017, United Nations, New York, USA (<https://undocs.org/A/RES/71/313>) accessed 16 November 2018
- 17) UN, 2017b, Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development, United Nations, New York, USA (<https://unstats.un.org/sdgs/indicators/indicators-list/>) accessed 29 November 2018
- 18) UN, n.d., 'High Level Political Forum on Sustainable Development – Voluntary National Reviews', United Nations, New York, USA (<https://sustainabledevelopment.un.org/vnrs/>) accessed 16 November 2018





**Impact Factor:  
7.569**



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 **9940 572 462**  **6381 907 438**  **ijirset@gmail.com**



[www.ijirset.com](http://www.ijirset.com)

Scan to save the contact details